

**ANNA UNIVERSITY, CHENNAI**  
**UNIVERSITY DEPARTMENTS**  
**REGULATIONS – 2015**  
**CHOICE BASED CREDIT SYSTEM**  
**M.ARCH (LANDSCAPE ARCHITECTURE) FULL TIME**

**PROGRAMME EDUCATIONAL OBJECTIVES (PEOs) :**

- I. To provide students with a solid foundation of landscape design issues and elements – simple site planning and structuring the open spaces, landscape treatment in relation to the buildings, to develop concepts of landscape design as an interactive process of natural and man-made environment, understanding the aesthetic qualities of the plant materials and their associations.
- II. To prepare students to excel in – urban context, historical landscape, specialized landscape situations, industrial landscapes, recreational landscapes etc as well as get an understanding of ecologically sustainable development and familiarize the students to environmental legislation and its components and its role in checking the damage to the environment.
- III. To prepare students to excel in Landscape Architectural design by providing a strong foundation in the fields of geology, geomorphology, soil, hydrology and its link with various landscape processes and management.
- IV. To train students at micro and macro level Landscape design and to draw and detail out landscape elements.
- V. To prepare students to excel in research or to succeed in Landscape Architecture profession through rigorous post graduate education.
- VI. To educate the students on the various aspects of a Landscape design practice.

**PROGRAMME OUTCOMES (POs):**

On successful completion of the programme,

1. The graduate will have the ability to do Landscape Design involving site planning process and design, applications of planting design and other elements in practice.
2. The students will exhibit knowledge of landscape within urban areas and open spaces in urban context, of social and cultural influences on traditional landscapes, contemporary landscape and the manifestation in the western and Indian context.
3. The students will understand the broad range of contemporary and historic theories that influence design and planning and the link between culture and Landscape design.
4. The students will be able to apply ecological principles in a range of situations directed towards proposing design possibilities with minimum impact due to intervention, having knowledge of Environmental legislation and EIA.
5. The students will be able to use their knowledge of characteristics of landforms, soil characteristics, methods of analysis of soils, land and water management, climate and micro climate and their relationship to landscape elements during the design process.
6. The students will be able to draft technical drawings of landscape and site elements along with detailing of site elements like earthwork, soft and hard landscape and outdoor furniture.
7. The students will develop the skill to identify, decipher and interpret the issues relating to Landscape Architecture, based on research enquiry methods. And will be trained in collecting, critically analyzing and presenting information in a logical sequence.
8. The students will be exposed to landscape consultancy practice and other information relating to the profession.

Programme Educational Objectives	Programme Outcomes							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
I	✓							
II		✓	✓	✓				
III					✓			
IV	✓					✓		
V							✓	
VI								✓

			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	
YEAR 1	SEM 1	Geology and watershed management					✓				
		Site planning and microclimate	✓	✓			✓				
		Planting and horticultural practices	✓								
		Theory of Landscape Architecture		✓	✓						
		Landscape design studio-I	✓	✓			✓				
		Elective I									
	SEM 2	Urban landscape design			✓						
		Planting design	✓								
		Research Methodologies in Architecture								✓	
		Landscape construction and detailing							✓		
		Landscape design studio-II	✓	✓				✓			
		Elective-2									
YEAR 2	SEM 3	Professional practice of landscape architecture								✓	
		Landscape ecology and planning and EIA				✓					
		Advanced landscape design studio-III	✓	✓		✓	✓	✓			
		Dissertation								✓	
		Elective-3									
	SEM 4	Thesis	✓	✓			✓	✓			

**UNIVERSITY DEPARTMENTS**  
**ANNA UNIVERSITY, CHENNAI- 600 025**  
**M. ARCH (LANDSCAPE ARCHITECTURE) – FULL TIME**  
**REGULATIONS – 2015**  
**CHOICE BASED CREDIT SYSTEM**  
**I TO IV SEMESTERS OF CURRICULUM AND SYLLABI**

**SEMESTER I**

Sl. No.	Course Code	Course name	Category	Contact periods	L	T	P/S	C
<b>THEORY</b>								
1	LN7101	<u>Geology and Watershed Management</u>	PC	3	3	0	0	3
2	LN7102	<u>Planting and Horticultural Practices</u>	PC	3	3	0	0	3
3	LN7103	<u>Site Planning and Micro Climate</u>	PC	3	3	0	0	3
4	LN7104	<u>Theory of Landscape Architecture</u>	PC	3	3	0	0	3
5		Elective I	PE	3	3	0	0	3
<b>STUDIO</b>								
6	LN7111	<u>Advanced Landscape Design Studio I</u>	EEC	12	0	0	12	6
<b>TOTAL</b>				<b>27</b>	<b>15</b>	<b>0</b>	<b>12</b>	<b>21</b>

**SEMESTER II**

Sl. No.	Course Code	Course name	Category	Contact Periods	L	T	P/S	C	Pre-requisites	
<b>THEORY</b>										
1	LN7201	<u>Planting design</u>	PC	3	3	0	0	3	<b>Advanced Landscape Design Studio I</b> ----- <b>Pass in</b>	
2	LN7202	<u>Urban landscape design</u>	PC	3	3	0	0	3		
3	AA7251	<u>Research Methodologies in Architecture</u>	PC	3	3	0	0	3		
4		Elective II	PE	3	3	0	0	3		
<b>STUDIO</b>										
5	LN7211	<u>Landscape Construction &amp; Detailing</u>	EEC	6	0	0	6	3		
6	LN7212	<u>Advanced Landscape Design Studio II</u>	EEC	12	0	0	12	6		
<b>TOTAL</b>				<b>30</b>	<b>12</b>	<b>0</b>	<b>18</b>	<b>21</b>		

### SEMESTER III

Sl. No.	Course Code	Course name	Category	Contact Periods	L	T	P/S	C	Pre-requisites	
<b>THEORY</b>										
1	LN7301	<u>Landscape Ecology and Planning and EIA</u>	PC	3	3	0	0	3	<b>Advanced Landscape Design Studio II</b> ----- <b>Pass in</b>	
2	LN7302	<u>Professional Practice of Landscape Architecture</u>	PC	3	3	0	0	3		
		Elective-III	PE	3	3	0	0	3		
<b>STUDIO</b>										
3	LN7311	<u>Advanced Landscape Design Studio-III</u>	EEC	14	0	0	14	7		
4	LN7312	<u>Dissertation</u>	EEC	6	0	0	6	3		
<b>TOTAL</b>				<b>29</b>	<b>9</b>	<b>0</b>	<b>20</b>	<b>19</b>		

### SEMESTER IV

Sl. No.	Course Code	Course name	Category	Contact Periods	L	T	P/S	C	Pre-requisites
<b>STUDIO</b>									
1	LN7411	<u>Thesis</u>	EEC	22	0	0	22	11	<b>Pass in</b> ----- <b>Advanced Landscape Design Studio III</b>
<b>TOTAL</b>				<b>22</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>11</b>	

TOTAL NO OF CREDIT: 72

PROGRESS THROUGH KNOWLEDGE

**PROFESSIONAL CORE (PC)**

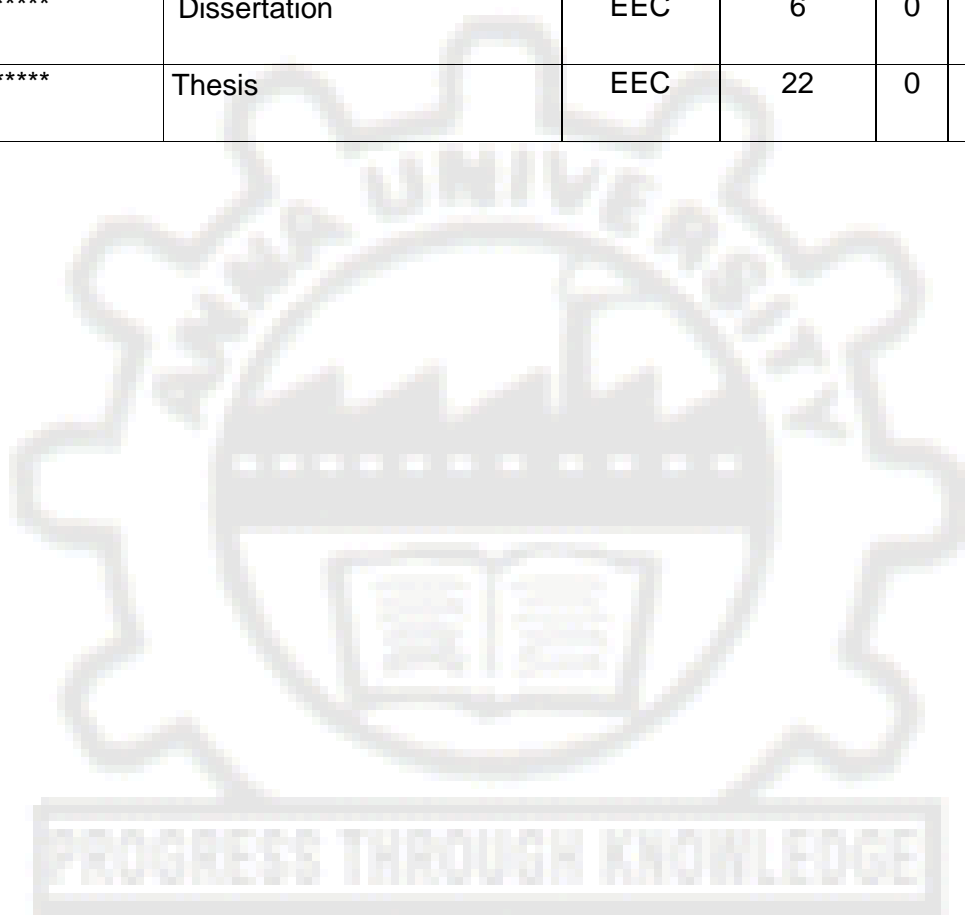
Sl. No.	Course Code	Course title	Category	Contact periods	L	T	P	C
1.		<u>Geology and Watershed Management</u>	PC	3	3	0	0	3
2.		<u>Site planning and Micro Climate</u>	PC	3	3	0	0	3
3.		<u>Planting and Horticultural Practices</u>	PC	3	3	0	0	3
4.		<u>Theory of Landscape Architecture</u>	PC	3	3	0	0	3
5.		<u>Planting Design</u>	PC	3	3	0	0	3
6.		<u>Urban landscape design</u>	PC	3	3	0	0	3
7.		<u>Research Methodologies in Architecture</u>	PC	3	3	0	0	3
8.		<u>Professional Practice of Landscape Architecture</u>	PC	3	3	0	0	3
9.		<u>Landscape Ecology and Planning and EIA</u>	PC	3	3	0	0	3

**PROFESSIONAL ELECTIVES (PE)**

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
1.	LN7001	<u>Application of GIS in Landscape Design</u>	PE	3	2	0	2	3
2.	LN7002	<u>Computer Applications and Management Information Systems</u>	PE	4	2	0	2	3
3.	LN7003	<u>Landscape Conservation &amp; Regional Landscape Planning</u>	PE	3	3	0	0	3
4.	LN7004	<u>Landscape Management</u>	PE	3	3	0	0	3
5.	LN7005	<u>Landscape Resources</u>	PE	3	3	0	0	3
6.	LN7006	<u>Sustainability and Energy Conservation in Landscape Architecture</u>	PE	3	3	0	0	3
7.	LN7007	<u>Traditional and Contemporary Landscapes</u>	PE	3	3	0	0	3

### EMPLOYABILITY ENHANCEMENT COURSES (EEC)

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C
1.	*****	Advanced Landscape Design Studio I	EEC	12	0	0	12	6
2.	*****	Advanced Landscape design Studio II	EEC	12	0	0	12	6
3.	*****	Landscape Construction and Detailing	EEC	6	0	0	6	3
4.	*****	Advanced Landscape design studio-III	EEC	14	0	0	14	7
5.	*****	Dissertation	EEC	6	0	0	6	3
6.	*****	Thesis	EEC	22	0	0	22	11



**OBJECTIVES**

This course introduces students to soil formation, characteristics and land formation and its influence on landscape.

- This course introduces gives detailed knowledge on the soils.
- Introduction of basic hydrology and its link with various landscape.

**UNIT I INTRODUCTION****6**

Geomorphic process: Epigenic or Exogenic process – Weathering, Erosion, Mass wasting, Fluvial cycle, Groundwater, Wind, Seas and Oceans, Glaciers. Major processes and associated landforms: Tectonic, fluvial, Aeolian, coastal, karst, glacial, and topography

**UNIT II GEOMORPHOLOGY****6**

Evolution of land forms: Land forms produced by geomorphic process Stratigraphy: principles, stratigraphy and geology of India Man's intervention into Ecology and Environment case studies in India, Suitability of land for various developments.

**UNIT III SOIL CHARACTERISTICS & ANALYSIS****12**

Soil properties soil classification, soils of India.

Soil use and Management: A) Soil survey and field mapping B) land capability classifications (a) Soil evaluation and land-use planning. (b) Soil and water conservation. (c) Soil fertility and plant nutrition. (d) Soil degradation control, remedial actions and reclamation techniques, Role of remote sensing in soil mapping

**UNIT IV HYDROLOGY****9**

Rainfall regime with specific reference to the Indian region .Characteristics and management of drainage basins: Introduction to watersheds Types of Flow: channel and over-land. Occurrence and movement of ground water .Water bearing properties of geological formation.

**UNIT V WATER MANAGEMENT****12**

Application of geological information in the interpretation of landscapes on maps and in the field. The relationships between geology, soil, hydrology and vegetation: Practical examples.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Characteristics of landforms, causes and effects.
- Soil characteristics, causes and effects and modifications.
- Methods of analysis of soils.
- Knowledge about water management

**REFERENCES:**

1. I.P. Abrol and V.V.Dhruva Narayana, Technologies for Wasteland Development, ICAR, New Delhi, 1990.
2. Arthur.V.Strahler, Physical Geography, Second edition, John Wiley and sons Inc.,1951.
3. William D. Thornbury

**OBJECTIVES:**

- Introduction to the characteristics of Plant materials, which are an important part of soft landscape, international nomenclature, used for plants and their associations.
- To promote understanding of the factors that regulate the growth and characteristics of plant.

**UNIT I CHARACTERISTICS OF PLANT MATERIALS 9**

Classification of plant kingdom, rules of nomenclature and identification. Plant processes, water relation, mineral nutrition, photosynthesis and respiration. Stem, root and leaf relationship, growth and flowering, response to stimuli and modification. Plant multiplication and adaptation.

**UNIT II FLORISTIC REGIONS OF INDIA 9**

Different floristic regions and forest types of India. Dominant, endemic, occasional, prevalent species in select types.

**UNIT III PLANT PROPAGATION 9**

Nursery establishment and plant propagation. Establishment and maintenance of grass, Shrubs and trees with respect to ground preparation, planting and transplanting, Protection of plants during and after planting.

**UNIT IV HORTICULTURAL PRACTICE 9**

Plant nutrition and supplements. Fertilizers and Manures- types, methods of applications, advantages and disadvantages. Common plant pests, diseases and their control, insecticides and their application, weed control. Sustainable practices in pest management and weed control. Water budgeting.

**UNIT V LANDSCAPE MAINTENANCE 9**

Maintenance methodology, maintenance economics and maintenance details for all soft landscape. Equipment for landscape maintenance.

**TOTAL: 45 PERIODS****OUT COMES:**

- Knowledge of Binomial nomenclature of plants.
- Aspects of Plant growth and propagation, thereby understanding the Maintenance requirement of plants.

**REFERENCES:**

1. Raunkier.C., the Life forms of Plants and statistical plant geography, 1934.
2. Venkateswaralu.V.A., Text book of Botany, Vol III, Guntur.
3. Lawrence.H.M., Taxonomy of vascular plants, Oxford, IBH, 1964.
4. Rao.K.N.R. and Krishnamurthy.K.N., Angiosperms, S.Viswanathan Printers and publishers.
5. G.S.Puri, Forest types of India,1960.



**OBJECTIVES**

- To understand site planning process and its significance; establishing relationship between site characteristics and design requirements. Inventory, documentation and site planning checklist.
- To understand the issues, involved in micro and macro climate.
- To expose the students on Landscape design in various climate types

**UNIT I DESIGN OF LANDFORMS****9**

Contours – representation of landforms and landform design, interpolation of contours, slope analysis, uses and function.

Grading – symbols and abbreviations, basic grading exercises, grading alignment of Paths/roads, across/along contours, Basics of road alignment (horizontal and vertical) Angle of repose and use of retaining wall.

**UNIT II EARTHWORK FORMATION****10**

Earth works – principles of earthwork, cut and fill calculations – borrow pit method, Average end area method, average spot level method, precautions taken in cut and fill methods in relation to soil conditions, etc.

**UNIT III STORM WATER MANGEMENT& WATER RESOURCES PLANNING****8**

Drainage – surface drainage, calculation of surface run off, design of surface and storm water drainage, design of swales and gutters.

Water shed and their characteristics, urban storm water drainage systems, protection of natural water bodies, water retention structures, water harvesting techniques and devices.

**UNIT IV MICRO CLIMATE CONTROL****8**

The role of landscape components in modifying microclimate with respect to temperature, humidity, precipitation, air corridors, heat islands, wind speed etc., in cities. Study of vegetation, landforms and water as modifiers of microclimate.

**UNIT V EVALUATION OF MICROCLIMATE DATA****10**

Air pollution and Bio-meteorology; climatic comfort indices; heat transfer; meteorological instrumentation and plant injury; Types of air pollutants, sources and consequences. Air pollution and plants. Air pollution monitoring and quality criteria

**TOTAL: 45 PERIODS****OUTCOMES:**

- Techniques of drawing landscape and site elements.
- Detailing of site elements like earthwork, hard landscape and outdoor furniture.
- General understanding of climate and elements of micro climate and the relationship to landscape elements.

**REFERENCES:**

1. Strom Steven, Site engineering for landscape Architects, John wiley and sons Inc.,2004.
2. Charles.W.Harris & Nicholas T. Dines, Time saver Standards for Landscape Architecture, Mc. Graw Hill.
3. Michael Little wood, Landscape Detailing Volume I -IV, Architectural Press, 1993.
4. Robert Brown and Jenny J Gillespie, Micro climatic landscape design – creating thermal comfort and energy efficiency, John Wiley, N.Y, 1995.

**OBJECTIVES:**

- To understand a broad range of contemporary and historic theories that influence design and planning.
- To understand the outline of the chronology of development and evolution of landscape and garden design in relation to art, architecture and city planning from the earliest period to the present day.

**UNIT I ATTITUDE TO NATURE AND WORLD VIEW****9**

Changing perceptions of man's relationship with nature in various phases of history; responses and attitudes to nature and landscape resources as a function of this perception. Worldviews and their impact upon design (modernism and modernist design, postmodernism and its varied design manifestations)

**UNIT II SOCIAL AND CULTURAL DIMENSIONS OF LANDSCAPE****9**

Overview of social, behavioral, and cultural theories and writings as they are applied to. Environmental and Behavioral theories: Entropy, Prospect and Refuge, Defensible space etc. An introduction to social and cultural dimensions of landscape.

**UNIT III FORM, SPACE AND ORDER****9**

Place-making (sense of place theories, role of cultural geography research in design, regional issues). The comparative analysis of examples of landscape separated in time and space: siting, relationship to surroundings, use of landscape elements, function, scale, symbolism, etc. Illustrative range of examples from various geographic locations and periods, highlighting aspects of Form, Space and Order

**UNIT IV INERT MEANING OF LANDSCAPE****9**

Historic landscape preservation issues (cultural landscapes, adaptive reuse, restoration approaches, and management theories). Ancient traditions; siting of structures, complexes and cities; symbolic meanings and sacred value attributed to natural landscapes.

**UNIT V DEVELOPMENT OF LANDSCAPE DESIGN****9**

Development of landscape design and gardens till the early 19th century, Influences and linkages across cultures and traditions.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Development of an analytical approach to the study of theory and developing an attitude towards critiquing and evaluating choices for design decisions in varied contexts.
- Appreciation of scale in terms of landscape and nature.

**REFERENCES:**

1. Pregill, Philip, and Volkman, Nancy. Landscapes in History, Design and Planning in the Western Tradition, John Wiley & Sons, Inc. New York, 1999.
2. Swaffield, Simon. Theory in Landscape Architecture. Philadelphia: University of Pennsylvania Press. 2002.
3. Birnbaum, Charles A., and Robin Karson, editors, Pioneers of American Landscape Design, New York: McGraw Hill, 2000
4. Francis, Mark and Randolph T. Hester, Jr. 1993. The Meaning of Gardens. The MIT Press Cambridge.
5. Tishler, William H. American Landscape Architecture: Designers and Places. National Trust for Historic Preservation, American Society of Landscape Architects, Preservation Press. 1999
6. Boult, Elizabeth and Chip Sullivan. Illustrated History of Landscape Design, Hoboken, New Jersey: John Wiley & Sons. 2010.
7. Rogers, Elizabeth Barlow. Landscape Design: A Cultural and Architectural History. New York: Harry N. Abrams, Inc. 2001.

**OBJECTIVES**

The objective of this course is to introduce the students to Landscape design.

- Introductory exercises in Art, Architecture & Landscape
- Landscape Analysis and Site Planning for medium sized sites
- Landscape Design of small recreational or civic spaces.

Studio work shall deal with an appreciation of basic landscape design issues and elements – simple site planning and structuring the open spaces, landscape treatment in relation to the buildings, understanding the aesthetic qualities of the plant materials and their associations.

**OUTCOMES:**

- Exposure to the process of site study and analysis.
- Understanding the site planning process
- Landscape Design of small projects primarily involving site planning and design.

**TOTAL:180 PERIODS****REFERENCES:**

1. Swaffield, Simon. Theory in Landscape Architecture. Philadelphia: University of Pennsylvania Press. 2002.
2. Charles.W.Harris & Nicholas T. Dines, Time saver Standards for Landscape Architecture, Mc. Graw Hill.
3. 1. Nick Robinson, The Planting Design Hand book, Gower Pub., 1998

**OBJECTIVES:**

- This course discusses in detail about the various aspects of designing plants.
- It also emphasizes on the applications of planting design in the practice.

**UNIT I INTRODUCTION TO PLANTING DESIGN 9**

Introduction to planting design. Plants as living materials, landscape architect's view of plants. Plants as structural, functional and decorative elements. Structural characteristics of plants. Spatial functions of plants, ground level planting, below knee height, knee to eye level, above eye level planting, tree planting.

**UNIT II CREATING SPACES WITH PLANTS 9**

Experience of spaces, use of planting to manipulate spatial experience, elements of spatial composition – enclosure, dynamics and focus. Plant associations. Plant communities, Designing with canopy layers – 3 layers, 2 layers and single layer. Plants as a part of integral habitats.

**UNIT III VISUAL COMPOSITION IN PLANTING DESIGN 9**

Subjective and objective responses to plant material. A study on form, shape, colour, texture, growth characteristics and suitability to different environments. Principles of visual composition- harmony and contrast, Balance, Emphasis, Sequence, Scale, Unity and variety in planting design.

**UNIT IV PLANTING DESIGN FOR HABITAT CREATION 9**

Planting strategies and species for various types of habitats – wooded areas, grassland and meadows, wetlands, coastal edges, waterside and aquatic planting, slope retention, and plants for restoration of disturbed habitats.

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DIRECTORCentre For Academic Courses  
Anna University, Chennai-600 025.

**UNIT V APPLICATIONS IN PRACTICE****9**

Study of local plant materials, their botanical, common and regional names, growth characteristics and application in design. Visit to nurseries. Introduction to soft landscape working drawings, planting plans, specifications and estimation.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Basics of planting design
- Applications of planting design

**REFERENCES:**

1. Nick Robinson, The Planting Design Hand book, Gower Pub., 1998
2. Brian Hackett, Planting Design, McGraw hill, 1979.
3. Bose. T. K. and Choudhary, Tropical Garden Plants in Colour, Horticulture and Allied Publishers, 1991.
4. Iyengar Gopalaswamy, Complete Gardening in India, Gopalaswamy Partha sarathy,1991.
5. M.S. Randhawa, Flowering trees of India, National Book Trust , India, 1983.

**LN7202****URBAN LANDSCAPE DESIGN****L T P/S C  
3 0 0 3****OBJECTIVE:**

- To expand the students knowledge on landscape within urban areas and open spaces in Urban context.

**UNIT I INTRODUCTION****6**

City and pattern – hierarchy of streets and squares – spatial organization and land use – road net works and basic services. Open spaces with in urban environment.

**UNIT II URBAN SPACES****9**

Cultural, social and aesthetic value of urban spaces and its perception, Imageability, Townscape elements. Urban space enhancement.

**UNIT III OPEN SPACE SYSTEM****9**

Open space development in urban design context. Evolution of public park as a major component of urban landscape. Open space development in new towns. Park systems, water fronts. Green infrastructure. Urban ecology, urban water sheds.

**UNIT IV ELEMENTS IN URBAN LANDSCAPE****12**

Design of public parks, roads, green ways, parkways, promenade and plaza. Public art. Plant selection criteria, furnishings and lighting of public space, maintenance and management of public spaces and parks,

**UNIT V CASE STUDIES****9**

Contemporary urban landscape issues. Case studies-Study, understanding and analysis of known examples at the national and international levels.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Types, characteristics and elements of urban open spaces.
- Understanding of issues related to and design of Urban Landscape design.

**REFERENCES:**

1. Garden Cullen, The concise Townscape, Architectural press, London.
2. Kevin Lynch, Image of City, Cambridge, MA, 1961.
3. Henry F. Arnold, Trees in Urban Design, Van Nostrand Reinhold Company.
4. Matthew Carmona, Tim Heath, Public places – Urban spaces, Architectural press,2003.
5. Michael Hough, Cities and natural process, Routledge, 1995.

6. Donald Watson, Alan plattns, Roberta shibley, Time savers standards for urbandesign, McGraw hill, 2003.
7. Elements and total concept of urban landscape design, Graphic –sha publishing Co,2001.
8. Tom turner, city as landscape, Eand FN spon, 1996.
9. Cliff Tandy, Handbook of urban Landscape, Architectural Press, 1970.

**AA7251 RESEARCH METHODOLOGIES IN ARCHITECTURE L T P/S C**  
**3 0 0 3**

**OBJECTIVES**

- To introduce the students to the importance of critical inquiry as a way of gaining knowledge and adding to it through research.
- To expose the students to the various forms of research and research methodologies/ processes.
- To engage this understanding in the specific field of architectural research.

**UNIT I INTRODUCTION 9**

Basic research issues and concepts- orientation to research process- types of research: historical, qualitative, co-relational, experimental, simulation and modeling, logical argumentation, case study and mixed methods- illustration using research samples

**UNIT II RESEARCH PROCESS 9**

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

**UNIT III RESEARCHING AND DATA COLLECTION 9**

Library and archives- Internet: New information and the role of internet; finding and evaluating sources- misuse- test for reliability- ethics  
 Methods of data collection- From primary sources: observation and recording, interviews structured and unstructured, questionnaire, open ended and close ended questions and the advantages, sampling- Problems encountered in collecting data from secondary sources.

**UNIT IV REPORT WRITING 6**

Research writing in general- Components: referencing- writing the bibliography - developing the outline - presentation; etc.

**UNIT V CASE STUDIES 12**

Case studies illustrating how good research can be used from project inception to completion- review of research publications.

**TOTAL: 45 PERIODS**

**OUTCOMES**

- The student will develop the skill to identify, decipher and interpret issues relating to architecture based on research enquiry methods.
- The student will gain knowledge of different methods of conducting research and research writing.

**REFERENCES**

1. Linda Groat and David Wang; Architectural Research Methods – 2<sup>nd</sup> edition ‘,John Wiley & Sons Inc,Hoboken,New Jersey, US , 2013.
2. Wayne C Booth; Joseph M Williams; Gregory G. Colomb; ‘The Craft of Research’ , 3<sup>rd</sup> Edition; Chicago guides to writing, editing and publishing;2008
3. Iain Borden and Kaaterina Ruedi Ray ; The Dissertation: An Architecture Student’s Handbook; Architectural Press; 2006
4. Ranjith Kumar; Research Methodology- A step by step guide for beginners-3<sup>rd</sup> Edition ; Sage Publications;2011
5. John W Creswell; Research design: Qualitative, Quantitative and Mixed Methods Approaches; Sage Publications; 2011.
6. JA Smith, P Flowers, M Larkin -Interpretative Phenomenological Analysis: Theory, Method and Research (English) FIR Edition- Sage Publication -2009.



**OBJECTIVES:**

To train the students in the detailing and drawing of landscape elements – Hard and soft landscape elements

**UNIT I HARD LANDSCAPES****15**

Design and detail of hard landscapes – Roads, paving, barriers, edge conditions – functions, types, criteria for selection, design aspects, details.

**UNIT II OUTDOOR LIGHTING****20**

Definition of technical terms, types of electrical lighting, types of fixtures, auxiliary fixtures. Principles of design for outdoor illumination, design and type of effects with electrical lighting. Safety precautions and drawbacks of electrical lighting, electrical accessories and their installation. Solar energy and lighting.

**UNIT III PLAY AREA AND TERRACE LANDSCAPING****20**

Design of play areas -Totlots to play grounds. Design and detail of play equipments. Considerations, design and detail for terrace landscaping, concept of green roof - intensive and extensive green walls.

**UNIT IV WATER FEATURES****15**

Design of water features such as swimming pools, cascades, fountains etc., and their technical requirements. Consideration for design and detail. Water bodies and natural ponds.

Design of irrigation system – landscape area types, objectives and design, water needs and sources, application, methods of installation. Control systems, scheduling and maintenance.

**UNIT V OUTDOOR FURNITURE****20**

Criteria for the selection of materials and specifications for the street furniture in various environments. Design of signage and simple outdoor structures like pavilions, gazebos etc.

Use of waste materials in landscape, recycling and reuse of materials, their impact on landscape design. Preparation of working drawings for hard landscaping and services.

**TOTAL:90 PERIODS****OUTCOMES:**

- Detailing and drawing of landscape elements and features.
- Water management through landscape design.
- Detailing of site elements like earthwork, hard landscape and outdoor furniture.

**REFERENCES:**

1. David Sauter, Landscape Construction, Pelmer Thomson Learning, 2000.
2. Michael Little wood, Landscape Detailing Volume I-IV, Architectural Press, 1993.
3. Roger Narboni, Lighting the Landscapes- Art Design technologies, Birkhauser, Switzerland, 2004.
4. Strom Steven, Site engineering for landscape Architects, John wiley and sonsInc., 2004.
5. Charles.W.Harris & Nicholas T. Dines, Time saver Standards for Landscape Architecture, Mc. Graw Hill.
6. Jack E. Ingels, Landscaping – Principles & Practices , Pelmer Publishers Inc., 1992

**OBJECTIVE:**

- The objective of this course is to train students in landscape design in Relatively large scale exercise of analysis and proposals

The studio exercises will involve three or four of the following situations – Campus landscape, Group housing, urban civic spaces at urban design scale, and transportation and interchange systems and complexes.

**TOTAL:180 PERIODS****OUTCOMES:**

- Understanding the function and structuring of outdoor spaces would be the underlying theme

**REFERENCES:**

1. Swaffield, Simon. Theory in Landscape Architecture. Philadelphia: University of Pennsylvania Press. 2002.
2. Charles.W.Harris & Nicholas T. Dines, Time saver Standards for Landscape Architecture, Mc. Graw Hill.
3. Nick Robinson, The Planting Design Hand book, Gower Pub., 1998
4. Donald Watson, Alan Plattns, Roberta Shibley, Time savers standards for urban design, McGraw hill, 2003.
5. Jack E. Ingels, Landscaping – Principles & Practices , Pelmer Publishers Inc., 1992

**OBJECTIVES:**

- To understand that any developmental activity involves intervention in the natural processes and to minimize the impact due to this intervention.
- To outline the evolution of landscape planning, its premises and the process.

**UNIT I ECOLOGY****8**

Understanding the ecosystem and their functioning — components of ecosystem - natural process- Fundamentals of ecology - Ecological processes and dynamics– understanding ecological concepts like population growth, regulation, carrying capacity colonization and succession - stability and resilience of ecosystem – ecosystem degradation.

**UNIT II LANDSCAPE ECOLOGY****8**

Introduction to landscape ecology – formation of various landforms – landforms and landscape process – pattern and structure of landscapes– concepts of patch, corridor and matrix - landscape dynamics and function – topological and chorological process within landscape - concept of landscape metrics – understanding dynamic interaction between landscape structure and function – ecological services of landscape

**UNIT III LANDSCAPE PLANNING****8**

Relationship between man and nature – analytical aspect of landscape - the natural and cultural setting - evolution of landscape planning –concepts and projects of McHarg, Carl Steinite, Warren Manning, Augus Hills, Phil Lewis – Izank Zonneveld, Ervin Zube - landscape planning models – METLAND concept

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**UNIT IV PROCESS IN LANDSCAPE PLANNING****9**

The purpose of landscape planning – domain and context for landscape planning – principles of planning – procedure in landscape planning - problem defining, goal setting, inventory and analysis - basic of collecting and analyzing, projecting and presenting data in landscape planning, visual assessment and aesthetic dimension.– Suitability analysis – techniques for identifying preferences - Planning options – proposing landscape plan.

**UNIT V LANDSCAPE PLANNING & ENVIRONMENTAL LEGISLATION****12**

Reclamation and restoration of derelict landscapes - conservation and preservation of ecological fragile areas such as wetlands, creeks etc. - conservation ordinances. Case studies on landscape regional planning - policies and landscape.

Environmental Impact Assessment and the Environmental Impact Statement: Theory and Practice. Illustrative examples from India and elsewhere to demonstrate the degree of effectiveness. The role of Environmental Legislation and the Ministry of Environment and Forests.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Basics of Ecology and Landscape Ecology.
- Landscape planning history, evolution, process and case studies.
- Background and evolution of Environmental legislation.
- The various legislation concerned with the environment.
- EIA and its components

**REFERENCES:**

1. Richard T.T. Forman & Michel Godron, Landscape Ecology, John Wiley & Sons; 1986
2. Tom Turner, Landscape Planning and Environmental Impact Design, UCL Press, London, 1998.
3. Ervin H. Zube, Robert O Brush, Julios G.Y. Fabos, Landscape assessment – values, perceptions, 1975.
4. G. Tyler Miller Jr., Living in the Environment: Principles, Connections, and Solutions, Brooks / Cole publishers co., 2004.
5. William M. Marsh, Landscape planning – Environmental Application, John Wiley and sons Inc., 1997.
6. Michael Allaby, Basics of Environmental Science, Routledge, 2000.
7. Avjit gupta and Mukul.G. Asher, Environment and the developing world, John wiley and sons, Inc, 2000.
8. Larry W. Canter, Environmental Impact Assessment, McGraw – Hill, Inc, 1996
9. H.N. Tiwari, Environmental Law, Allahad law agency, 1997.
10. Rosencrany, a. Diwan, Noble.M, Environmental law and policy in India (Cases, Materials, and statutes), Tripathi Bombay, 1991.

**LN7302****PROFESSIONAL PRACTICE OF  
LANDSCAPE ARCHITECTURE****L T P/S C  
3 0 0 3****OBJECTIVE:**

- The objective of this course is to educate the students on the various aspects of a Landscape design practice.

**UNIT I THE PROFESSION OF LANDSCAPE ARCHITECTURE****6**

Brief history of profession, Professional career tracks, Registration and License, professional ethics and code of professional conduct.

**UNIT II PRINCIPLES OF PROFESSIONAL PRACTICE****9**

The client- different kinds of clients and projects, general concept for engaging the services of landscape architect. The extent and variety of services performed by landscape architect, terms and conditions.



**UNIT III PROFESSIONAL RELATIONSHIPS****9**

Interface with other consultants and contracting agencies. Prime consulting, Multiple direct-consulting, Sub consulting relationships. Relationship between the Landscape architect and Clients, Allied professional, contractor, General public.

**UNIT IV PROFESSIONAL APPROACH****12**

Methods of working – surveys, preparation of policy and design proposals. Reports, contents and production techniques. Types and contents of Drawings prepared in a landscape architect's office. Contracts- Definition and terminologies, Contract documents. Preparation of tender documents. Different types of tender.

**UNIT V PROJECT MANAGEMENT****9**

Planning, and organizing the project. PERT and CPM. Project supervision, coordination between different agencies, monitoring a project during execution and preparation of site reports.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Knowledge about landscape consultancy practice.
- Understand code of conduct
- Understand the process and role of an architect in project execution.

**REFERENCES:**

1. Walter Rogers, The Professional practice of landscape architecture, Van nostrand Reinhold, 1997.
2. John.L.Motloch, Introduction to Landscape design, 2001.
3. Jack.E.Ingels, Landscaping, Principles and Practices, Delmar publishersinc, 1992.
4. W.F.Hill, Landscape handbook of Tropical Landscape, Garden Art Press, 1995.

**LN7311****ADVANCED LANDSCAPE DESIGN STUDIO– III****L T P/S C  
0 0 14 7****OBJECTIVE:**

- The objective of this course is to train students in advanced landscape design involving complex situations that require handling of multiple information and contexts.

Understanding of ecologically sustainable development would be the underlying theme.

**TOTAL: 210 PERIODS****OUTCOME:**

- Training in developing ecologically sustainable design.

**REFERENCES:**

1. Swaffield, Simon.Theory in Landscape Architecture. Philadelphia: University of Pennsylvania Press. 2002.
2. Charles.W.Harris & Nicholas T. Dines, Time saver Standards for Landscape Architecture, Mc. Graw Hill.
3. Nick Robinson, The Planting Design Hand book, Gower Pub., 1998
4. Richard T.T.Forman & Michel Godron , Landscape Ecology, John Wiley & Sons; 1986
5. Tom Turner, Landscape Planning and Environmental Impact Design, UCL Press, London, 1998.

**OBJECTIVE:**

- To promote research in Landscape architecture. In addition, this course will also train the students in collecting, critically analyzing and presenting information in a logical sequence.

Topics related to various aspects of Landscape Architecture could be chosen in consultation with faculty members, comprehensively researched and findings presented in a series of seminars by individual students. The materials would be documented and formally presented as a dissertation at the end of the semester.

**TOTAL: 90 PERIODS****OUTCOMES:**

- Research on a chosen topic.
- Expertise in collecting, processing and presenting relevant information.

**REFERENCES:**

1. Iain Borden and Kaaterina Ruedi; The Dissertation: An Architecture Student's Handbook; Architectural Press; 2000
2. Ranjith Kumar; Research Methodology- A step by step guide for beginners; Sage Publications; 2005

**OBJECTIVE:**

- The objective of this course is to train the students to work individually on projects.

Thesis will be an individual project dealing with complex problems of landscape architecture including site planning and landscape planning and seeks to develop concepts of landscape design as an interactive process of natural and man-made environment.

**TOTAL: 330 PERIODS****OUTCOME:**

- A comprehensive understanding in handling a major Landscape design independently.

**REFERENCES:**

1. Geoffrey and Susan Jellicoe, The landscape of Man, Thames & Hudson Publication, 1995
2. Strom Steven, Site engineering for landscape Architects, John Wiley and sons Inc., 2004.
3. Littlewood, Landscape Detailing Volume I-IV, Architectural Press, 1993.
4. Swaffield, Simon. Theory in Landscape Architecture. Philadelphia: University of Pennsylvania Press. 2002.
5. John.F.Benson and Maggie.H.Roe, Landscape and sustainability, John Wiley Publication, New York, 2000.
6. Charles.W.Harris & Nicholas T. Dines, Time saver Standards for Landscape Architecture, Mc. Graw Hill.
7. Nick Robinson, The Planting Design Hand book, Gower Pub., 1998
8. Richard T.T.Forman & Michel Godron, Landscape Ecology, John Wiley & Sons; 1986
9. Tom Turner, Landscape Planning and Environmental Impact Design, UCL Press, London, 1998

**OBJECTIVES:**

- GIS is being increasingly used worldwide for landscape planning and restoration projects.
- The objective of the course is to train the students in the application of GIS in Landscape design.

**UNIT I INTRODUCTION****9**

Classification of Spatial and non-spatial data - spatial relationships among elements / activities – fundamentals of topological relationship - spatial data and their representation in maps - raster and vector based system to representing spatial objects - objective and functions Geographical Information System – GIS software in general - over view of GIS map components.

**UNIT II MAP PREPARATION AND DISPLAYING****15**

Basics of GIS maps preparation – digitization of spatial data - concept of point, line and polygon features - fundamental of coordinate system – map layers and georeferencing – displaying spatial features – adding attribute values to the features – preparing and displaying thematic layers and maps - selecting and editing spatial features and attribute data - preparing Grid surfaces form point, line and polygon features.

**UNIT III SPATIAL ANALYSIS USING GIS****12**

Spatial joining - concept of geo processing – union, intersect, clip and merge – features to raster - preparing surfaces - creating TIN surfaces and contours - surface analysis –spatial joining of geographic features.

**UNIT IV APPLICATIONS OF GIS IN LANDSCAPE ARCHITECTURE****9**

Overlaying features and analyzing using overlay function – feature selection – buffering – table joining and analysis - manipulating attribute data – classification and reclassifications - GIS modeling – 3D display.

**UNIT V LANDSCAPE PLANNING AND GIS****15**


Introduction to landscape GIS model - Case problem on landscape analysis – suitability analysis using GIS – preparing land-use maps – landscape impact analysis using GIS - landscape suitability analysis – application of GIS in assessing Landscape Ecological.

**TOTAL: 60 PERIODS****OUTCOMES:**

- Techniques of Map preparation and analysis using maps.
- Application of GIS in Landscape Architecture.

**REFERENCES:**

1. Brail K.R (1990) Integrating GIS into Urban Regional Planning, Alternative approaches for developing countries, regional development Dialogue, Vol.11, No.3 UNCRD, Japan, 1990.
2. Karen C.Hanna, GIS for Landscape Architects, ESRI press, 1999.
3. Andy Mitchell, GIS Analysis Volume 1. Geographic patterns and Relationships, ESRI Press 2005.
4. David Maquire and Michael Batty (Editors) GIS, Spatial Analysis and Modeling, ESRI Press, 2005.
5. Cynthia A. Brewer, Designing Better Maps: A Guide for GIS Users, ESRI Press

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**OBJECTIVE:**

- To aid the students in gaining understanding of the various computer programs that can be used by them in their presentations.

**UNIT I INTRODUCTION**

12

The use of computer software (Photo-Shop and Illustrator) for the processing of words and images. Issues, ideas, themes of representation and imaging in digital media using some of graphic material.

**UNIT II APPLICATION OF COMPUTERS IN THE DESIGN PROCE**

12

Various projection and graphic techniques. Developing skills in visualization and eidetic representation using the computer as tool for developing design projects. Advanced work with Photo-Shop and Illustrator, and in particular techniques with AutoCAD.

**UNIT III COMPUTERS AND DESIGN PRESENTAIONS**

12

Means for integration of fundamentals and techniques. The interactive realm of 3D modeling and animation using primarily FORM-Z modeling programs.

**UNIT IV NON LINEAR PRESENTATION ( FLASH AND DIRECTOR)**

12

Importing files using standard and linking options. Using scripts and behaviors, understanding stage, cast and time line, using cast library, Tweening, using swf movie, presentation using voice over and presentation demos, creating auto run cd roms.

**UNIT V CASE STUDIES**

12

Exploring the various design media as they relate to form, image, sequence, movement, and animation through a series of weekly exercises.

**TOTAL: 60 PERIODS****OUTCOMES:**

- Knowledge about computer software that can be used for presentations
- Application of these programs in producing their design presentations.

**REFERENCES:**

1. J.Jeffcoate, Multimedia in Practise: Technology and Applications, Prentice hall, New jersey, 1994.
2. Apple computer Inc., Multimedia demystified – a guide to the world of multimedia, Random house, New Media, Newyork, 1994.
3. Kirk, Ross and Hunt, Andy, Digital Sound Processing for music and multimedia, Focal press, Oxford, 1999.
4. S.Robert Tannenbaum, Theoretical foundations of Multimedia, Computer Science Press, New york, 1998.
5. Mark Von Wodtke, Mind over media: creative thinking skills for electronic media, McGraw hill, Newyork, 1993

## LN7003 LANDSCAPE CONSERVATION & REGIONAL LANDSCAPE PLANNING

L T P/S C  
3 0 0 3

### OBJECTIVES:

- To understand the different types Landscape Assessment techniques and conservation
- To accommodate the knowledge of Landscape resources during planning.

### UNIT I INTRODUCTION

9

The concept of Landscape Planning and Landscape Conservation. Landscape Assessment techniques; Basic quantitative methods of collecting, analysing, projecting and presenting data for Landscape Planning.

### UNIT II LANDSCAPE CONSERVATION

9

Landscape Conservation: Policies and Programmes. National parks and other protective designations. Biodiversity and Biosphere reserves. Endangered landscapes. Aspects of watershed management.

### UNIT III LANDSCAPE PLANNING TECHNIQUES

9

The application of landscape planning techniques to large scale developments such as infrastructure and power projects, extractive and manufacturing industry, new towns and urban extensions, and developments for tourism and eco-tourism.

### UNIT IV LANDSCAPE ASSESSMENT

9

Landscape perception, visual assessment and the aesthetic dimension of landscape planning.

### UNIT V COST AND BENEFITS & LANDSCAPE MANAGEMENT

12

Cost and benefits related to open space development; Tangible costs of development; capital and maintenance costs: intangible costs, depletion of natural resources, modification of ecological systems rehabilitation cost, social and cultural changes. Unit cost of development of open space. Landscape management at the regional scale in relation to soil conservation, water management, grassland management, forestry and agriculture.

**TOTAL: 45 PERIODS**

### OUTCOMES:

- Understanding of Landscape Planning and Landscape Conservation with proper assessment results and cost benefit analysis.
- Knowledge on Landscape management at the regional scale.

### REFERENCES :

1. Kevin Gutzwiller ,Applying Landscape Ecology in Biological Conservation , Springer Science & Business Media, 2002.
2. IUCN, 01 Landscape Conservation Law: Present Trends and Perspectives in International and Comparative Law : Proceedings of a Colloquium Commemorating the 50th Anniversary of IUCN, The World Conservation Union, 30 October 1998, Palais Du Luxembourg, Paris
3. Martin Dieterich, Jan van der Straaten Cultural Landscapes and Land Use: The Nature Conservation-Society Interface, Springer Science & Business Media
4. Götz Schroth, Agro forestry and Biodiversity Conservation in Tropical Landscapes, Island Press,
5. Tom Turner, Landscape Planning and Environmental Impact Design, UCL Press, London, 1998.
6. Ervin H. Zube, Robert O Brush, Julios G.Y.Fabos, Landscape assessment – values, perceptions, 1975.
7. Conrad, J. M. Resource Economics. Cambridge University Press. Field, B. C. and Field, M. K.Environmental economics. McGraw-Hill/Irwin. 1999.
8. Kolstad, C. D. Environmental economics. Oxford university press, 2003.
9. Solow, R. MAn almost practical step toward sustainability. Resources policy, 19(3):162–172. 1993.

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**OBJECTIVES:**

- To introduce the students to Landscape management is an integral part of Landscape planning and design
- This course elaborates on the various techniques for assessment and valuation of natural resources and their management.

**UNIT I INTRODUCTION****9**

Fundamentals and concepts in Environmental Economics– Ecosystem Services and Valuation - natural capitals and their benefits to the society– externalities and public goods – non renewable resource depletion and their social costs - intangible cost associated with social and cultural changes – Economics of global climate change – Kyoto protocol – pollution control and Carbon trading - Economic definitions of sustainability - Ecological vs. Economic sustainability.

**UNIT II ENVIRONMENTAL 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**

Assessing the landscape value – landscape quality – aesthetic, heritage and sensitivity values. – Landscape Perception - Evaluating natural process, pattern and elements of landscape. Classification and ranking of landscape. Basic quantitative methods of collecting and analyzing, projecting and presenting data for landscape planning, visual assessment and aesthetic dimension.

**UNIT IV MODELS IN LANDSCAPE ASSESSMENT****9**

Models for assessing landscape resources – land use impact assessment models – model to assess the ecological values – Land Evolution and Site Assessment model (LESA) – Ecological modeling – GIS models in landscape assessment.

**UNIT V 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.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Knowledge of Landscape Assessment techniques and valuation of natural resources.
- Case studies of Landscape management

**REFERENCES:**

1. Conrad, J. M. Resource Economics. Cambridge University Press. Field, B. C. and Field, M. K. (2006). Environmental economics. McGraw-Hill/Irwin., (1999).
2. Hanley, N., Shogren, J. F., and White, B. Environmental economics in theory and practice. Oxford university press, New York., (1997).
3. Kolstad, C. D. Environmental economics. Oxford university press. (2003).
4. Solow, R. M. An almost practical step toward sustainability. Resources policy, 19(3):162–172. (1993).
5. Varian, H. R. Intermediate microeconomics: A modern approach. W. W. Norton & Company. (2007).
6. Daly, H. E. and Farley, J. Ecological Economics: Principles and Applications. Washington, D.C.: Island Press, 2004.

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**OBJECTIVES:**

- To understand the different types of Landscape resources, the threats they are facing and the different means of conservation.
- To apply the different techniques for regional planning.

**UNIT I SETTLEMENTS AND LANDSCAPE****6**

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.

**UNIT II LANDSCAPE RESOURCES****9**

Landscape resources specific to distinctive city types: for example: religious centers, historic cities, coastal or port cities, hill station etc. The urban forest: Its ecological social and environmental dimensions. Ways of studying urban vegetation. Its role in the urban landscape.

**UNIT III RESOURCES AT THE NATIONAL LEVEL****12**

Overview of landscape resources at the national level. National Environment Policy. Developmental and Environmental issues associated with particular landscape regions: mountain and hill areas; deserts and wastelands; river and aquatic systems, coastal and estuarine regions, etc.

**UNIT IV THREATS TO URBAN LANDSCAPE RESOURCES****9**

Threats to urban landscape resources; urban environmental issues such as solid waste management, air quality, conservation of water resources and vegetation cover. The rural landscape, the impact of industry and power generation. Agricultural practices and the formation of traditional rural landscape. Illustrative examples from different climatic and geographic regions.

**UNIT V POLICIES AND DEVELOPMENT CONTROLS****9**

Introduction to Forest Policy and management of forest resources. Conservation Forestry, Agro-Forestry and Social Forestry. Significance of biodiversity, urban biodiversity, and wildlife conservation. City development Plans, Zonal Plans and structure plan. Development controls and their role in the conservation and creation of urban landscape.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Understanding of resource management from macro to micro level.
- Knowledge on resource conscious Landscape design and planning

**REFERENCES :**

1. John Lyle, Design for Human Ecosystems: Landscape, Land Use, and Natural Resources, Island Press, 1999.
2. O.R.Gray, Landscape Planning for Energy Conservation
3. Jianguo Liu, William W. Taylor, Integrating Landscape Ecology Into Natural Resource Management, Cambridge University Press
4. Götz Schroth, Agroforestry and Biodiversity Conservation in Tropical Landscapes, Island Press
5. John A. Bissonette, Ilse Storch, Landscape Ecology and Resource Management: Linking Theory with Practice, Island Press
6. Tom Turner, Landscape Planning and Environmental Impact Design, UCL Press, London, 1998.
7. H.N.Tiwari, Environmental Law, Allahad law agency, 1997.
8. Rosencrany, a.Diwan, Noble.M, Environmental law and policy in India (Cases, Materials, and statutes), Tripathi Bombay, 1991.

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**OBJECTIVES:**

- To expose the students on the issues of sustainability at the global level.
- To focus on the energy conservation landscape and sustainability at the micro level.
- Sustainable landscape design for various climates of India.

**UNIT I INTRODUCTION TO SUSTAINABILITY****10**

Need and concept of sustainability, Brundtland report, World Commission on environment and development, sustainable development, sustainable growth, sustainable economy and sustainable use. Visions of sustainability. Source and ethics of sustainability. Sustainability and Climate Change.

**UNIT II SUSTAINABLE SITE****7**

Sustainable site – LEEDS, BREEM, rating erosion and sedimentation control, site selection, urban development, landscape and exterior design etc., Green Building in the context of sustainability. Ecology and sustainability. Eco-City.

**UNIT III INTRODUCTION TO ENERGY CONSERVATION IN LANDSCAPE****9**

Energy conservation and sustainability, principles of energy systems, energy and global environment, scope for energy conservation in landscape.

**UNIT IV ENERGY CONSERVATION METHODS IN LANDSCAPE ARCHITECTURE -CASE STUDIES****10**

Various methods of energy conservation in landscape architecture, energy conservation techniques in various climates- hot and humid, hot dry, etc. Energy efficient site planning and landscape development. Energy efficient planting design. .

**UNIT V SUSTAINABLE LANDSCAPE PRACTICES****9**

Sustainable landscape maintenance and management, Sustainable planning and city form. Sustainable urban landscape, landscape sustainability at the national and regional level.

**TOTAL: 45 PERIODS****OUTCOMES:**

- Understanding of sustainability from macro to micro level.
- Knowledge on Energy conscious Landscape design

**REFERENCES:**

1. John.F.Benson and Maggie.H.Roe, Landscape and sustainability, John Wiley Publication, New York, 2000.
2. O.R.Gray, Landscape Planning for Energy Conservation,
3. Anne Simon Moffat and Marc Schiller, Landscape design that saves energy, William Monow and co.,Inc., New York, 1981.
4. Publications of Centre for science and environments, TERI, New Delhi

**OBJECTIVES:**

- To study the social and cultural influences on traditional landscapes through analysis of form and space, sitting principles of each period with examples.
- To study contemporary landscape and the manifestation in the western and Indian context.

**UNIT I EASTERN TRADITIONS AND ISLAMIC LANDSCAPES****15**

Early traditions and beliefs about landscape and environment in east. Ancient Indian traditions – Vedic, Jainism, Buddhism and later Hindu movements. Symbolic meanings and sacred value of natural landscapes.



Transfer of concepts through Buddhism to China –Chinese landscape development – gardens of China – Pre Buddhist Japanese landscapes – impact of China on Japanese gardens – Japanese gardens.

Nomadic culture of central Asia – advent of Islam – concept of Paradise as a garden – spread of Islamic traditions to the West and East. Eastern expression of Islam – Samarkhand and Mughul India – Tomb and pleasure garden – Mughul concepts of site planning. Western expression of Islam – Spain Alhambra and Generalife, Granada.

**UNIT II RENAISSANCE AND THE EVOLUTION OF NEW THOUGHTS 6**

Development of the enclosed garden in the Middle ages. Renaissance – Italy, France and England, Romanticism. Influences and linkages across cultures. Study of the western landscapes till the nineteenth century.

**UNIT III THE EVOLUTION OF THE MODERN LANDSCAPE 9**

Industrialization and urbanization – impacts and development of the concept of public open spaces, open space development in new towns, parks movement. Open space development and its urban design and planning context, Early industrial towns and the garden city movement. Public park as a major component of urban landscape, the works of F.L.Olmstead, and other pioneers. Open space development and Close conceptual relationship between Town planning, urban design and landscape architecture. Examples.

**UNIT IV THE MODERN MOVEMENT, CONTEMPORARY CONCEPTS AND CONCERNS 9**

Changing concepts of space and the relationship of architecture to landscape. Study of selected works of modern architects and landscape architects. Postwar development in Europe. The influence of Ian Mcharg on Landscape architecture. The works of Jellicoe, Burle Marx and others. Concept of sustainable landscape development, Cultural landscapes their definition, identification, characteristics, policies, Artistic sensibility in landscape architecture and land art, New development in urban Landscape design

**UNIT V INDIAN CONTEXT 6**

Issues in contemporary India, Analysis and understanding of philosophies of contemporary landscape works in India, case studies.

**TOTAL:45 PERIODS**

**OUTCOMES:**

- Relationship between culture and Landscape design.
- Perception of open spaces in different cultures

**REFERENCES :**

1. Geoffrey and Susan Jellicoe, The landscape of Man, Thames & Hudson Publication,1995
2. Robert Holden, New landscape Design, Lawrence king publishing, UK, 2003
3. Penelope Hill, Contemporary history of garden design, Birkhauser publishers,2004
4. Elizabeth Barlow Rogers, Landscape Design – A Cultural &Architectural History,Hary & Abram inc. publishers, 2001.
5. Phillip Pregill & Nancy Volkman, Landscapes in History, Van Nostrand publishers, 1993.
6. Jonas Lehrman, Earthly Paradise- Garden and courtyard in Islam, Thames and Hudson, 1980.
7. G.B.Tobey, A history of American Landscape architecture, American Elsevier Publishing Co.,NY, 1973.
8. Pieluigi Nicholin, Francesco Repishti, Dictionary of today's landscape designers, Skira Editores P.A, 2003.