

BABU BANARASI DAS UNIVERSITY

**COURSE STRUCTURE
AND
SYLLABUS
FOR
MASTER OF ARCHITECTURE**

**M. ARCH.
(LANDSCAPE)**



School of Architecture, BBD University

School of Architecture, BBD University

NAME OF COURSE: MASTER OF ARCHITECTURE M. ARCH (LANDSCAPE) (Course structure)

Teaching Scheme			Contact Hrs. per week L: Lectures, T: Tutorials, P: Practical				Exam. Scheme Marks T: Theory, S: Sessionals				Exam Duration (Hrs)
S. No.	Sub Code	Course Title	L	T	P	Total	T	S	Viva	Total	
1st YEAR I SEMESTER											
THEORY SUBJECTS											
1.	MARL-103	Geology and Soil	2	-	1	3	50	50	-	100	3
2.	MARL-105	Elements of Botany and Plant Ecology	2	-	-	2	50	50	-	100	3
3.	MARL-107	Planting design-I	1	1	-	2	50	50	-	100	3
4.	MARL-109	Landscape Engineering-I	2	1	-	3	50	50	-	100	3
5.	MARL-111	Ecology in Landscape	2	-	-	2	50	50	-	100	3
PRACTICAL SUBJECTS											
5.	MARL-101P	Landscape Design Studio-I	1	-	6	7	-	100	150	250	-
6.	MARL-105P	Elements of Botany and Plant Ecology		1	-	1	-	-	50	50	-
7.	MARL-107P	Planting design-I			1	1	-	-	50	50	-
8.	MARL-109P	Landscape Engineering-I		-	1	1	-	-	50	50	-
Sub Total						22				900	

1st YEAR II SEMESTER											
THEORY SUBJECTS											
1.	MARL-104	Theory of landscape architecture	2	-	1	3	50	50	-	100	3
2.	MARL-106	Landscape Engineering-II	1	-	1	2	50	50	-	100	3
3.	MARL-108	Planting Design-II	1	-	1	2	50	50	-	100	3
4.	MARL-110	Climatology	2	-	-	2	50	50	-	100	3
PRACTICAL SUBJECTS											
5.	MARL-102P	Landscape Design Studio-II	-	-	6	6	-	100	150	250	-
6.	MARL-106P	Landscape Engineering-II	1	1	-	2	-	-	50	50	-
7.	MARL-108P	Planting Design-II	-	1	-	1	-	-	50	50	
8.	MARL-112P	Remote Sensing & GIS	1	-	3	4		50	50	100	
9.	MARL-114P/MARL-116P	Elective I	2	-	-	2	-	50	-	50	
Sub Total						24				900	

School of Architecture, BBD University

M. ARCH. - LS SEM- I MARL-101P Landscape Design Studio-I

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
1	-	6	7	100	-	150	250	No Theory Exam.

OBJECTIVE:

- Studio work shall deal with an appreciation of basic landscape design issues and elements.

CONTENT:

- Studio work dealing-site planning; elements of landscape design and landscape treatment in relation to the buildings; theme workshop to be conducted
- The design exercises will also incorporate use of plant material for defining and structuring the spaces, understanding the aesthetic qualities of the plant material and their associations.
- Introductory exercises in Art Architecture and Landscape.
- Urban and Rural Landscape appraisal.

APPROACH:

- Major Landscape Design exercises of small recreational or civic spaces.

SUGGESTED BOOKS:

- Landscape Design Today by Mostaedi, Arian
- Andrea Cochran: Landscapes by Mary Myers
- Landscape Architectural Research: Inquiry, Strategy, Design by M. Elen Deming and Simon Swaffield
- Landscape. by Martin. The Studio. Freeman (1931)
- Design for Human Ecosystems: Landscape, Land Use, and Natural Resources by John Lyle and Joan Woodward

Handwritten notes and signatures:
Wood PB L no
CA G Jm AP N

School of Architecture, BBD University

M. ARCH. - LS

SEM- I

MARL-103

Geology and Soils

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam, T	Exam P/V,V	Total	
2	-	1	3	50	50	-	100	3 Hours

OBJECTIVE:

- To understand the relationships between geology soils and vegetation
- To have a deep understanding of the properties of different soils.

CONTENT:

- **GEOLOGY:** The Earth - composition, structure, distribution of land and sea, outer zones of the Earth. Major geological cycles - external and internal processes, changes and effects such as earthquakes, volcanoes, folds, faults etc.
- Rocks formation, classification, physical and chemical properties.
- Based on geological resources and Man's interventions their impact on environment and landscape design. Economic impact of geological formations.
- **SOILS:** Soil forming processes
- Properties of Soils: Physical, chemical, Biological and Engineering practical application of this study.
- Soil survey and field mapping, land capability classification, soil capability study.
- Soil erosion: type, factors, conservation principles, methods for prevention, control and
- Classification of Indian soils, Agro climatic zones of India.

APPROACH:

- Field/ site-visits shall form an integral part of this course

SUGGESTED BOOKS:

- Engineering Geology: An Environmental Approach (2nd Edition) by Perry H. Rahn
- Foundations of Engineering Geology, Third Edition by Tony Waltham
- Soil Mechanics and Foundations by M. Budhu
- Handbook of Soil Acidity (Books in Soils, Plants, and the Environment) by Zdenko Rengel
- The Geology of Stratigraphic Sequences by Andrew D. Miall

Handwritten signatures and initials in blue ink, including 'TS', 'AD', 'PB', 'G', 'L', 'N', and 'M'.

School of Architecture, BBD University

**M. ARCH. - LS SEM- I MARL-105 & MARL-105P Elements of Botany
Plant Ecology**

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
2	-	-	2	50	50	50	150	3 Hours

OBJECTIVE:

- To have a deep understanding of different ecologies nomenclature of Botany

CONTENT:

- BOTANY: Classification of Plant Kingdom, Principles of nomenclature and identification.
- General study of plant morphology and anatomy to understand plant functions.
- Plant processes, plant- water- soil relationship, mineral nutrition, photosynthesis, and respiration. Stem, root & leaf relationship, growth & flowering.
- Plant multiplication & adaptations. Economic values of plant kingdom.
- PLANT ECOLOGY: Principles of plant climax, succession, seral stages of succession, relationship of plant communities & plant storeys.
- Critical survey of Vegetation types of India. Distribution of plant communities and plant associations in India and its regional distribution.

APPROACH:

- Field/ site-visits shall form an integral part of this course

SUGGESTED BOOKS:

- The Ecology of Plant Secondary Metabolites: From Genes to Global Processes (Ecological Reviews) by Glenn R. Iason, Marcel Dicke and Susan E. Hartley
- The Botany of Desire: A Plant's-Eye View of the World by Michael Pollan
- The Elements of Botany (Cambridge Library Collection - Life Sciences) by Adrien de Jussieu
- James Hewetson Wilson

Handwritten signatures and initials in blue ink:
A large signature on the left, followed by initials 'AD', a circled 'PB', a signature 'G', another signature 'N', and a final signature 'H'.

School of Architecture, BBD University

M. ARCH. - LS SEM- I

MARL-107 & MARL- 107P
Planting Design-I

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
1	1	1	3	50	50	50	150	3 Hours

OBJECTIVE:

- To be able to co-ordinate services and Landscape elements.

CONTENT:

- Relationship of soil composition, texture and pH; Light intensity, quality and duration; Temperature, water surface ground and atmospheric, air quality; wind microclimate factors on Growth of plants.
- Planting Design and ecology. Classification of plant material for various uses in landscape design.
- Physical attributes of plant-materials, use in landscape design (shape and form, structure, flower colour, foliage texture, size, habits, etc.)
- Criteria for selection of plant material for specific design applications. Regional geography and climate as factors affecting plant selection. Basic principles of planting design.
- The concept of nurse planting. Creating conditions for plant establishment; planting and transplanting trees and shrubs.

APPROACH:

- Review of Planting design exercises and/assignments.
- The exercises shall deal with individual sites and urban level developments. The study shall be supported by site-visits and vacation assignments.

SUGGESTED BOOKS:

- Landscape Architecture: Planting Design Illustrated (3rd Edition) by Gang Chen
- Planting Design by Theodore D. Walker
- Planting Design: Gardens in Time and Space by Piet Oudolf and Noël Kingsbury
- Planting Design by Brian Hackett

Handwritten signatures and initials in blue ink, including "no", "AP", "FB", "G", "Tord", and "X".

School of Architecture, BBD University

M. ARCH. - LS SEM- I MARL-109 & MARL-109P Landscape Engineering-I

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
2	1	1	4	50	50	50	150	3 Hours

OBJECTIVE:

- To be able to co-ordinate services and Landscape elements.

CONTENT:

- Landscape Construction: Factors related to construction of structures and systems for:
 - Circulation: Roads, Parkings and parks
 - Level Change: Wall, steps and ramps
 - Planting: Planters, beds, edges and terraces
 - Water retention structures: pools and water bodies
- Services: Basic principles of landscape lighting, types of fixtures BOTANY: Classification of Plant Kingdom, Principles of nomenclature and identification.
- Introduction to irrigation systems
- Co-ordination of services and Landscape elements and Working drawings
- Estimation of costs for civil works, lighting, irrigation, site drainage, site furniture
- Preparation of bill of quantities, specifications and tender documents

APPROACH:

- Site surveys and expert lectures

SUGGESTED BOOKS:

- Site Engineering for Landscape Architects by Steven Strom, Kurt Nathan and Jake Woland
- Landscape Engineering by YANG ZHI DE
- Landscape Irrigation: Design and Management by S. W. Smith
- Landscape engineering by John L Culley

Handwritten notes and signatures in blue ink, including the circled initials "FB" and other illegible scribbles.

School of Architecture, BBD University

M. ARCH. - LS SEM- I

MARL-111

Ecology in Landscape

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
2	-	-	2	50	50	-	100	3 Hours

OBJECTIVE:

- To establish the relationship of ecology with EIA (Energy Information Administration), regional landscapes and landscape conservation.

CONTENT:

- Fundamentals of Ecology: definition, scope, ecosystems and their functioning: nature and characteristics, Components: biotic and abiotic, major types, the biosphere and its functioning.
- Ecological Processes: energy flow-energy source, food chains and trophic structure, ecological pyramids, biogeochemical cycles hydrologic cycle nutrient cycles -carbon, nitrogen, sulphur, phosphorous, evolution - variation and selection, speciation.
- Ecology of growth, regulation, limits to growth, carrying capacity.
- Ecological communities: spatial structure, ecological niche and species diversity, succession.
- Limiting factors and their operations: climatic and atmospheric factors, soils, biotic factors, interaction of factors.
- Ecosystem inertia and resilience. Ecological balance and survival thresholds
- Ecological conditions of India, Eco systems and forest types of India.
- Human influences on ecosystems: historical overview, the rise of agriculture, civilizations, industrialization and concomitant urbanization, impacts on the environment: global perspective, national perspective - ecosystems of India: ecological issues.

APPROACH:

- Guest lectures by experts and site visits

SUGGESTED BOOKS:

- Perlman, D. and Milder, J., "Practical Ecology for Planners Developers and Citizens", Island Press.
- Platt, R.H., "The Ecological City: Preserving and Restoring Urban Bio diversity", N.Y.Academy of Sciences.
- Register, R., "Ecocities: Building cities in balance with Nature", New Society Publishers.
- Todd, N.J. and Todd, J., "Principles of Ecological Designs", North Atlantic Book.
- Paolo, S., "Arcology: The City in the Image of Man", Rev. Edn. MIT Press
- Voula, M., "Sustainable Development, Energy and the city: A Civilization of Concepts and Actions", Elsevier.

U G D P

m (P) H k asad

X

School of Architecture, BBD University

M. ARCH. - LS SEM- II MARL-102P Landscape Design Studio-II

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V,V	Total	
-	-	6	6	100	-	150	250	No Theory Exam.

OBJECTIVE:

- To create an understanding of ecologically sustainable development

CONTENT:

- The studio exercises will involve 3 or 4 of the following situations - urban context, historical landscape, specialised landscape situations, industrial landscapes, recreational landscapes, ecology and the city.
- Comprehensive design project that takes a landscape district and each student designs a part to form a cohesive status.

APPROACH:

- Continuous studio reviews by Studio faculty and presentation of studio exercises for evaluation by External Juries.

SUGGESTED BOOKS:

- Design for Flooding: Architecture, Landscape, and Urban Design for Resilience to Climate Change by Donald Watson and Michele Adams
- The Art of Landscape Detail: Fundamentals, Practices, and Case Studies by Niall Kirkwood
- The Living Landscape: An Ecological Approach to Landscape Planning by Frederick R. Steiner
- Sustainable Site Design: Criteria, Process, and Case Studies for Integrating Site and Region in
- Landscape Design by Claudia Dinep and Kristin Schwab

Handwritten signatures and initials in blue ink:
m, AD, CP, G, J, PB, K, N

School of Architecture, BBD University

M. ARCH. - LS SEM- II MARL-104 Theory of Landscape Architecture

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
2	-	1	3	50	50	-	100	3 Hours

OBJECTIVE:

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

CONTENT:

- An overview of the development of landscape design from prehistoric to present with an aim to understand the generative ideology, formulation of framework for the development of landscape design.
- History of Garden Planning in India – from early times till today. Impact of Rulers on Gardens/ Landscape design, Buddhist Gardens, Mughal Gardens, Colonial Gardens.
- Renaissance in Europe. Italian and French gardens. Evolution of the axial plan. Development during the Baroque period. England: Evolution of the English landscape style. Japan: Japanese landscape style. Landscape design in East Asia, China, Japan, Thailand.
- The 19th Century in Europe and USA; emergence of landscape architecture as a profession. The 20th Century: Development of urban landscape design; garden cities, suburbs, new towns, contemporary approaches in Landscape Architecture.

APPROACH:

- Assignments & Work Presentations

SUGGESTED BOOKS:

- Landscape Architecture Theory: An Evolving Body of Thought by Michael D. Murphy
- Theory in Landscape Architecture by Simon Swaffield
- Landscape Design: Theory and Application by Ann Marie VanDerZanden and Steven Rodie

Handwritten signatures and initials:
PB
AD
TSAD
CA G J
K
M
N

School of Architecture, BBD University

M. ARCH. - LS SEM- II

**MARL-106 & MARL-106P
Landscape Engineering-II**

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
2	1	1	4	50	50	50	150	3 Hours

OBJECTIVE:

- Study of landscape values of plant material through site visits, studio exercises and planting design exercises and visits to the site / vacation work.

CONTENT:

- The role of plant material in improvement of environment, (e.g. soil conservation, modification of microclimate). Planting for shelter – windbreaks and shelter belts.
- Planting for special purpose wind shelter, erosion control, wild life , land rehabilitation, the role of planting in watershed management. Design exercises in the urban, sub urban and rural context.
- The preparation of planting concepts, planting plans and plants schedule for various scales of project. Estimation of cost and bills of quantity.
- Maintenance and management as a factor in design with plants. Maintenance requirement of different categories of plant material.
- Study of landscape values of plant material through site visits, studio exercises and planting design exercises and visits to the site / vacation work.

APPROACH:

- Review of Studio work and term Paper.

SUGGESTED BOOKS:

- Landscape Irrigation: Design and Management by S. W. Smith
- Landscape engineering by John LCulley
- Constructed Wetlands in the Sustainable Landscape by Craig S. Campbell and Michael Ogden
- The Garden as Architecture: Form and Spirit in the Gardens of Japan, China and Korea by Toshiro Inaji and Pamela Virgilio
- Garden Pools. Fountains & Waterfalls: Design Ideas and Installation Techniques for Natural Looking Water Features (Sunset Books) by Editors of Sunset Books
- Landscape Architecture: Water Features by Alejandro Bahamon

Handwritten signatures and initials in blue ink, including "AD", "PB", "m", and "N".

School of Architecture, BBD University

M. ARCH. - LS SEM- II MARL-108 & MARL-108P Planting Design-II

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
1	1	1	3	50	50	50	150	3 Hours

OBJECTIVE:

- Study of landscape values of plant material through site visits, studio exercises and planting design exercises and visits to the site / vacation work.

CONTENT:

- The role of plant material in improvement of environment, (e.g. soil conservation, modification of microclimate). Planting for shelter – windbreaks and shelter belts.
- Planting for special purpose wind shelter, erosion control, wild life , land rehabilitation, the role of planting in watershed management. Design exercises in the urban, sub urban and rural context.
- The preparation of planting concepts, planting plans and plants schedule for various scales of project. Estimation of cost and bills of quantity.
- Maintenance and management as a factor in design with plants. Maintenance requirement of different categories of plant material.

APPROACH:

- Study of landscape values of plant material through site visits, studio exercises and planting design exercises and visits to the site / vacation work.

SUGGESTED BOOKS:

- The Planting Design Handbook by Nick Robinson
- Planting Design by Brian Hackett
- Elements of Planting Design by Richard L. Austin
- Planting the Landscape: A Professional Approach to Garden Design by Nancy A.
- Leszczynski and Nancy Leszczynski
- Horticulture Gardener's Guides: Design & Planting by Andrew McIndoe

cup G In
st 500 AD
PB
no N

School of Architecture, BBD University

M. ARCH. - LS SEM- II

MARL-110 Climatology

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
2	-	-	2	50	50	-	100	3 Hours

OBJECTIVE:

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

CONTENT:

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

APPROACH:

- Guest lectures by experts and site visits.

SUGGESTED BOOKS:

- Contemporary Climatology (2nd Edition) by Peter Robinson and Ann Henderson-Sellers
- Climatology by Robert V. Rohli and Anthony J. Vega
- Time Series Analysis in Meteorology and Climatology: An Introduction (Advancing Weather and Climate Science) by Claude Duchon and Robert Hale
- CLIMATOLOGY by Bernhard and Austin, James M. Haurwitz

Handwritten signatures and initials:
Ciba G, AD, H, M, L, PB, N

School of Architecture, BBD University

M. ARCH. - LS

SEM- II

MARL-112 P

Remote Sensing & GIS

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
1	-	3	4	50	-	50	100	No Theory exam.

OBJECTIVE:

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

CONTENT:

- Introduction, development of remote sensing technology, advantages; Different platforms of remote sensing; EM spectrum, solar reflection and thermal emission remote sensing.
- Interaction of EM radiation with atmosphere including atmospheric scattering, absorption and emission. Interaction mechanisms of EM radiation with ground, spectral response curves.
- Photographic techniques in aerial and spaceborne remote sensing; Spectrozoal photography using various camera, film, filter combinations; Applications and limitations.
- Stereo aerial photography, principle of stereoscopy, elements of photogrammetric. Principles of image interpretation, digital image processing.
- Multi-spectral scanners and imaging devices; Salient characteristics of LANDSAT, IRS, SPOT, IKONOS, QuickBird, GeoEye sensors and their applications.
- Image characteristics and interpretation of different geological landforms, structures and major igneous, sedimentary and metamorphic rock types; Remote sensing as a fore-runner in all exploration programs.

LIST OF PRACTICALS:

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

SUGGESTED BOOKS :

- Remote Sensing and GIS by Basudeb Bhatta
- Remote Sensing for GIS Managers by Stanley Aronoff
- GIS and Remote Sensing Techniques by Manishika Jain

(PB)
AS
TS *DD* *ms* *AS* *CPG*

School of Architecture, BBD University

Teaching Scheme			Contact Hrs. per week				Examination Scheme				Exam Duration (Hrs)
			L	P/V	S/T	Total	T	S	Viva	Total	
S. No.	Sub.Code	Course Title									
2nd YEAR			III SEMESTER (AUTUMN)								
THEORY SUBJECTS											
1.	MARL-203	Landscape Resources	2	-	1	3	100	50	-	150	3
2.	MARL-205	Landscape Project Management and Professional Practice	2	-	1	3	100	50	-	150	3
3.	MARL-207	Landscape Economics, Management and Horticultural Practice	2	-	1	3	50	50	-	100	3
PRACTICAL SUBJECTS											
4.	MARL-201P	Landscape Design Studio-III	1	-	6	7	-	100	100	200	-
5.	MARL-209P	Dissertation - I			2	2	-	100	-	100	-
6.	MARL-211P/ MARL-213P	Elective II	1	1	1	3	-	50	50	100	-
7.	MARL-215P	Interdisciplinary Elective-I	1	1	1	3	-	50	50	100	-
Sub Total						24				900	

2nd YEAR			IV SEMESTER (SPRING)								
PRACTICAL SUBJECTS											
1.	MARL-202P	Dissertation - II (Contd from III sem)	-	-	6	6	-	450	450	900	-
Sub Total						6				900	

ELECTIVES			
1.	MARL-114P	Elective I	Research methodologies in Landscape Architecture
2.	MARL-116P		Communication techniques in Landscape Architecture
3.	MARL-211P	Elective II	Landscape Conservation and Regional Landscape Planning
4.	MARL-213P		Research Methodologies and techniques in Landscape Architecture
5.	MARL-215P	Interdisciplinary Elective-I	Environmental Impact Assessment

f
Jah
P
S
H
M

A
S
M
S

School of Architecture, BBD University

M. ARCH. -LS

SEM III

MARL-201P LANDSCAPE DESIGN
STUDIO-III

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
1	-	6	7	100	-	100	200	No Theory exam.

OBJECTIVE:

- To give an idea of site planning and deal with large scale landscape projects.

CONTENT :

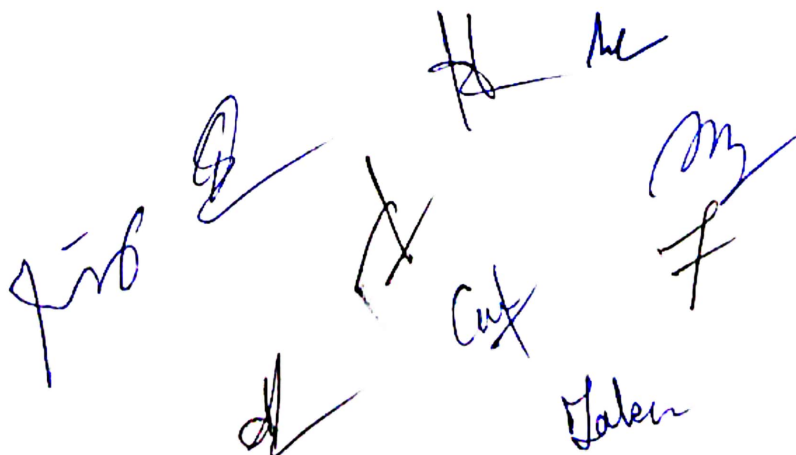
- Relatively large scale exercise of analysis and proposals related to Landscape of:
- Institutional Campuses
- Urban civic spaces at urban design scale
- Transportation and interchange systems and complexes
- Eco-Tourism projects.

APPROACH:

- Through understanding of open space development.
- Changing concepts of space and the relationship of landscape architecture illustrated through study of selected works of modern Masters.
- Artistic sensibility in Landscape Architecture and land art, landscape inventory and conservation of historical landscape.
- Understanding Land Economics and Management practices through site visits to Botanical gardens Nurseries and well established landscapes.

SUGGESTED BOOKS:

- Landscape Architecture, Fourth Edition: A Manual of Land Planning and Design by John and Barry Starke
- Site Engineering for Landscape Architects by Steven Strom, Kurt Nathan and Jake Woland
- Infrastructure: A Field Guide to the Industrial Landscape by Brian Hayes
- Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life by Stephen R. Kellert, Judith Heerwagen and Martin Mador
- Great Public Squares: An Architect's Selection by Robert F. Gatje



School of Architecture, BBD University

M. ARCH. -LS

SEM III

MARL-203 LANDSCAPE RESOURCES

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
2	-	1	3	50	100		150	3 Hours

OBJECTIVE:

- Overview of landscape resources at the national level.

CONTENT:

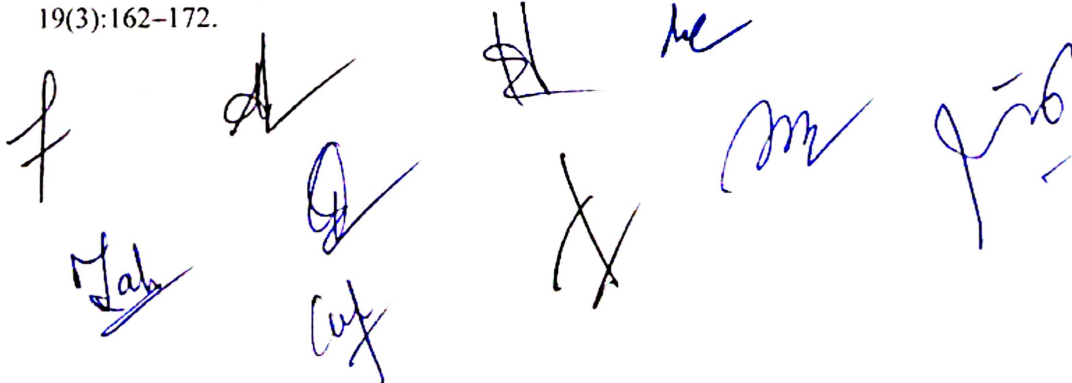
- Settlements and Landscape: Siting and evolution of cities in relation to regional landscape resources.
- The role of landform, water systems, climate and vegetation. Illustrative studies of cities in India and elsewhere.
- Microclimate: Definition and characteristics. The role of landscape components in modifying microclimate with respect to temperature, humidity, precipitation, air corridors, heat islands, wind speed etc., in cities.
- 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: for example: religious centers, historic cities, coastal or port cities, hill station etc.
- 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.
- The rural landscape: agriculture and forestry as competing uses, the impact of industry and power generation.
- Forest types of India; introduction to Forest Policy and management of forest resources. Conservation
- Wetlands: definition, wetland values and conservations. Wastelands management. Land reclamation and rehabilitation.

APPROACH:

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

SUGGESTED BOOKS:

- Conrad, J. M. (1999). Resource Economics. Cambridge University Press.
- Field, B. C. and Field, M. K. (2006). Environmental economics. McGraw-Hill/Irwin.
- Solow, R. M. (1993). An almost practical step toward sustainability. Resources policy, 19(3):162-172.



School of Architecture, BBD University

**M. ARCH. -LS SEM III MARL-205 : LANDSCAPE PROJECT
MANAGEMENT AND PROFESSIONAL PRACTICE**

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V,V	Total	
2	-	1	3	50	100		150	3 Hours

OBJECTIVE:

- To familiarize students with the Regulations and Legal Aspects in Landscape Architecture.
- To give the idea of Construction administration, Implementation process, Construction documents and Professional Practice in Landscape Architecture.

CONTENT:

- Regulations and Legal Aspects
- Codes, Standards, Bye laws and planning regulations applicable to building and landscape development. The role of statutory and regulatory bodies such as the
- Municipal Corporation, N.D.M.C, D.D.A and Urban Art commission etc.
- Construction administration , Implementation process
- Sequence of activities from inception to completion: agencies involved at each stage, their professional relationships and obligations. Co-ordination of agencies and activities on site. Practical examples .
- Construction documents
- Contract Procedure; Criteria for selecting contractors: the process of calling tenders.
- Comparison of various kind of tenders with regard to objectives, utility and appropriateness.
- Professional Practice
- . Types of client: Private, Government, Corporate etc. The scope and meaning of professional services.
- Landscape Design Competitions: Types, Guidelines

APPROACH:

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

SUGGESTED BOOKS:

The Professional Practice of Landscape Architecture: A Complete Guide to Starting and Running Your Own Firm by Walter Rogers.

Project Management for Design Professionals by William G. Ramroth .

Tab
Fay *Q* *dh* *me* *mm* *dh*
Q *dh*

School of Architecture, BBD University

**M. ARCH. -LS SEM-III MARL- 207 Landscape Economics,
Management and Horticultural Practice**

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
2	-	1	3	50	50		100	3 Hours

OBJECTIVE:

- To familiarize students with the Landscape Economics, Management and Horticultural Practice in Landscape Architecture.

CONTENT:

- Economics: 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.
- Management: Landscape management at the regional scale in relation to soil conservation, water management, grassland management, forestry and agriculture.
- Management practices related to urban ecology and urban habitats, such as urban forests, river banks, regional parks and green belts: ecological, economic and administrative issues. Management models.
- Horticulture Practice: Nursery establishment and Plant propagation. Establishment and maintenance of grass, shrubs and trees with respect to: ground preparation, planting and transplanting, pruning.
- Horticulture practice and maintenance. Common plant pests, diseases and their control; manures and insecticides and their application. Protection of plant material. Water Budgeting.
- Equipment for landscape maintenance.

APPROACH:

- The internal evaluation shall be conducted through class test/quiz and term paper as per requirement of the concerned teaching staff.

SUGGESTED BOOKS:

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

Handwritten signatures in blue ink: Hab, Chaf, R-6, H-le, M, N, G

School of Architecture, BBD University

M. ARCH. -LS SEM-III MARL- 213P Elective -II Research Methodologies and techniques in Landscape Architecture

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
1	1	1	3	50	-	50	100	No Theory exam.

OBJECTIVE:

- To train students in research design and methods.

CONTENT:

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

APPROACH:

- Guest lectures by experts and case studies.

SUGGESTED BOOKS:

- Knight, A. and Ruddock,L., "Advanced Research Methods in Built Environment", John Wiley & Sons. 2008
- Groat, L. and Wang D., "Architectural Research Methods", John Wiley & Sons. 2002
- Gibbs, J.P., "Urban Research Methods", (rev.ed.) Von Nostrand. 1988
- Khanzode, V.V., "Research Methodology -Techniques and Trends", APH Publishing. 1995
- Kothari, C.R., "Research Methodology- Methods and Techniques", New Age International. 2004
- Ross, R., "Research: An Introduction", Barnes and Noble Books. 1974

[Handwritten signatures and initials in blue ink at the bottom of the page]

School of Architecture, BBD University

M. ARCH. -LS SEM-III MARL- 215 P Environmental Impact Assessment

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
1	1	1	3	50	-	50	100	No Theory exam.

OBJECTIVE:

- To learn and understand principles, process, and necessary techniques for environmental impact assessment, mitigation and monitoring. Analysis impact on resources and environment as well as evaluate impact from development projects .

CONTENT:

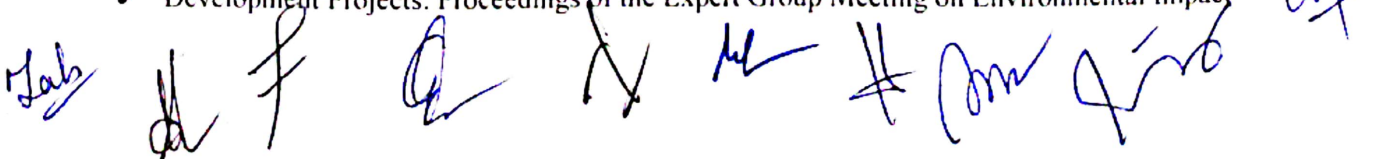
- Definition and history of environmental impact assessment, related law necessary for EIA
- Process for EIA, TOR, IEE Components of EIA Reports
- Tools for assess environmental impact: Checklist, Network, Matrices, Overlays,
- Mathematical Modeling, Adhoc committee
- Environmental Impact Assessment for air and noise
- Environmental Impact Assessment for soil and land use
- Environmental Impact Assessment for water quantity and quality
- Environmental Impact Assessment for biological: terrestrial ecology forest and wildlife
- Environmental Impact Assessment for biological aquatic ecology: plankton, nekton, benthos and importance coastal habitat
- Environmental Impact Assessment for human use
- Environmental Impact Assessment for quality of life, socio- economic
- Mitigation and Monitoring process for environmental impact assessment.

APPROACH:

- Guest lectures by experts and case studies.

SUGGESTED BOOKS:

- Canter L.W. 1977. Environmental Impact Assessment. McGraw- Hill, Inc. Printed in the United States of America. 331pp.
- Eccleston, H.C. 2000. Environmental Impact Statements. John Wiley & Sons, Inc. Canada. 346 pp.
- Environmental Impact Evaluation Division. Office of Environmental Policy and Planning. 1998. Environmental Impact Assessment in Thailand. Bangkok. 43 pp.
- Hutacharoen R., L. Thong- Nop and S. Choowaew. 1990. Environment impact assessment in practice. Faculty of Environment and resources Studies, Mahidol University, Nakhon Pathom.
- Lee, N. and C. George (editors). 2000. Environmental Assessment in Developing and Transitional Countries. John Wiley & Sons Ltd, England. 290 pp.
- United Nations. 1988. Environmental Impact Assessment: A Management Tool for Development Projects. Proceedings of the Expert Group Meeting on Environmental Impact



School of Architecture, BBD University

M. ARCH. -LS

SEM-III

MARL – 209 P

DISSERTATION -I

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
-	-	2	2	100	-		100	No Theory Exam

OBJECTIVE:

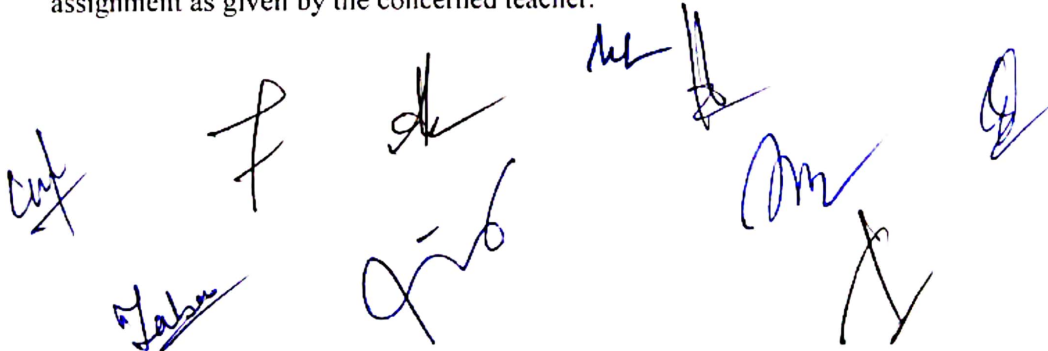
- To do the research in any subject related to landscape architecture and submit it in the form of Report .

CONCEPT

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

APPROACH :

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



School of Architecture, BBD University

M. ARCH. -LS

SEM-IV

MARL – 202 P

Dissertation- II

Scheme of Teaching				Scheme of Examination				Duration of Examination
L	P/V	S/T	Total	S	Exam. T	Exam P/V.V	Total	
-	-	6	6	450	-	450	900	No Theory Exam

OBJECTIVE:

- To do the live design project in any subject related to Landscape architecture and submit it in the form of report.

CONTENT:

Landscape Architecture dissertation will consists of two parts:

- (a) Research oriented towards establishing a strong theoretical background for the chosen subject.
- (b) Application to a Landscape Planning or Landscape Design proposal with appropriate details.

APPROACH:

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

