

DETAILED SYLLABUS

OF

THIRD YEAR B.ARCH

TO BE MADE EFFECTIVE FROM THE ACADEMIC

YEAR 2005-2006

UNIVERSITY OF PUNE
FACULTY OF ENGINEERING
BOARD OF STUDIES IN ARCHITECTURE
(FEBRUARY2005)
(TOTAL PAGES 1 TO 24)

UNIVERSITY OF PUNE
THIRD YEAR B. ARCH.

Subject Code	Name of Subject	TEACHING SCHEME (Periods of 45 Minutes Duration)			EXAMINATION SCHEME.		
		Lecture Periods	Studio Periods	Total contact Periods	Sessional / + Viva-voce	Paper	Total Marks
313435	Architectural Design. III	2	11	13	200	100	300
313436	Bldg. Construction & Materials III	2	4	6	150	100	250
313437	Theory of Structures III	3	1	4	50	100	150
313438	History of Arch. and Human Settlements III	3	-	3	100	-	100
313439	Building Services & Sciences II	2	1	3	100	100	200
313440	Quantity Surveying & Specification Writing	3	1	4	50	100	150
313441	Landscape Arch & Environmental Sciences	1	2	3	100	-	100
313442	Computers	-	2	2	50	-	50
	Total	16	22	38	800	500	1300

BACHELOR OF ARCHITECTURE

TABLE OF EQUIVALENCE

THIRD YEAR B.ARCH

TERM I

1997 SYLLABUS.

2003 SYLLABUS.

SUBJECT CODE	NAME OF SUBJECT	SUBJECT CODE	NAME OF SUBJECT
313421.	Architectural Design. III	313435	Architectural Design III.
313422	Bldg. Tech. & Mat. V.	313436	Bldg. Const. & Mat. III
313423	Engineering V	313437	Theory of Structures.III
313424	Building Science III	313439	Bldg. Science & Services. II
313425	Environmental Design I.	313441	Landscape Arch. & Environmental Science.
313426	Working Drawing I	-----	E emptied.

TERM II

SUBJECT CODE	NAME OF SUBJECT	SUBJECT CODE	NAME OF SUBJECT
313427.	Architectural Design. IV	313435	Architectural Design III.
313428	Bldg. Tech. & Mat. VI.	313436	Bldg. Const. & Mat. III
313429	Engineering VI	313437	Theory of Structures.III
313424	Building Science IV	313439	Bldg. Science & Services. II
313425	Environmental Design II.	313441	Landscape Arch. & Environmental Science.
313430	Working Drawing II	-----	E emptied.
313431	Seminar	-----	E emptied.

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SUBJECT CODE : 313435		ARCHITECTURAL DESIGN III	
TEACHING SCHEME		EXAMINATION SCHEME	
		Paper.	100
Lecture Periods.	2	Sessional (Internal)	75
Studio Periods.	11	Sessional (External)	75
Total Contact Periods. 13 per week		Viva-voce	50
		Total Marks:	300

OBJECTIVES:

Introduce students to site planning, i.e. campus design with more than one building accommodated in the same premises. Understanding of complex relationship between the form, function, structure and aesthetics in a building. Contextual Design, Management of a design project.

COURSE OUTLINE:

- 1 Introduction to Campus design with reference to design development of campuses developed in past.
- 2 Integrating function, structure and services in a building. Choice of structural system and resultant effect on visual form / aesthetics of building.
- 3 Development of building design program from client's or user's requirements and other social, economic and climate context.
- 4 Managing a design project. – Management of time, information, others and self.
- 5 Laboring the design process. Communicating the design.
- 6 Introduction to design philosophy.
- 7 Analyzing multiple buildings to be accommodated within a campus and understand their relationship with each other in context to continuity of form, construction and materials, design theme, climate, etc.
- 8 Analyzing activities around the buildings within a campus and understand the same in context to relation of built form and open spaces, elements of landscape, pedestrian and vehicular movement, their segregation, managing sloping sites, contours, etc.

- 9 Designing of progressively complex spaces and buildings together with site planning. Complexes of low rise and medium rise nature, e.g. – Shopping Mall, Nursing homes/ Hospitals with residences, Educational campus for schools, Auditoriums for Cinema/ performing arts, Museum, Small industrial complexes, Medium scale hotels and resorts, etc.
- 10 Study of Theme town environment – Visit to nearby town developed around a specific activity such as pilgrimage, tourism, regional market, transport hub, administrative center, etc. to study the anatomy of its work/ market districts. Study of public spaces, Study of effect of composition of the work force as different from that of a general town. Study of built form in general and the changes effected because of central activity.

SESSIONAL WORK:

- 1 At least two long duration (Twelve weeks) projects to cover the topic. One project shall be related to Town studied. Two short duration projects of not more than one-week duration.
- 2 Working drawing of one design project or its part shall be prepared as part of sessional work.
All Architectural Design Assignments and submissions shall lay emphasis on designing Earthquake Resistant Structures, which will be worked out in consultation with the Teacher of Structures and the submission work will reflect various technologies adopted.
3. Construction and services details of the project of which working drawing is not prepared shall be worked out as part of sessional work.
Stress should be given on three-dimensional studies through sketch perspectives and models prepared at various stages of design process. Campus planning should be studied particularly in detail.
4. Stress shall be given on three-dimensional studies through sketch perspectives and models prepared at various stages of design process. Campus planning should be studied particularly in detail.

All Architectural Design Assignments and submissions shall lay emphasis on designing Earthquake Resistant Structures, which will worked out in consultation with the Teacher of Structures and the submission work will reflect various technologies adopted.

NOTE: In order to have parity in nature and complexity of Design Projects it is suggested that teachers from all the Colleges teaching the subject of Architectural Design shall meet at the beginning of First and

Second Term and finalise broad outline of the subject topics , its extent and complexity and also the submission requirements.

RECOMMENDED READING:

1. Campus design in India. - Kanvinde & Miller.
2. Campus Planning. - Richard Dober.
3. Urban Design: The Architecture of towns and cities. – Paul Spreirengen.
4. Exterior design in Architecture. – Ashihara Yoshinibu.
5. Modern Language of Architecture. – Bruno Zevi.
6. Modern Movements in Architecture. – Charles Jencks.
7. Language of Post-modern Architecture. – Charles Jencks.
8. Complexities and contradictions in Architecture. – Robert Venturi.
9. Architectural Composition. – Rob Krier.
10. Pattern Language. – Christopher Alexander.
11. Town Design. – Fredrick Gibberd.
12. Various monographs and periodicals.

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SUBJECT CODE: 313436		BUILDING CONSTRUCTION & MATERIALS III	
TEACHING SCHEME		EXAMINATION SCHEME	
		Paper.	100
Lecture Periods.	2	Sessional (Internal)	50
Studio Periods.	4	Sessional (External)	50
Total Contact Periods. 6 per week		Viva-voce	50
		Total Marks:	250

COURSE OBJECTIVES:

- To explore students to more advanced and complex structural systems in R.C.C. and steel having medium to large spans.
- To study more complex foundation systems suitable for soils having less bearing capacity , mass and R.C.C. retaining walls, basement construction.
- To study more about doors and windows in steel, wood, aluminum and p.v.c. etc.
- To study modular co-ordination and prefabricated and pre-cast building construction
- To study interior working details of false ceilings, paneling, cladding and simple joinery in wooden furniture.
- More about finishing materials for internal and external application.

COURSE OUTLINE:

Note: Portion covered in Third Year out of following topics shall be taught with special reference to Earthquake Resistant Detailing with local practices and regional responses.

- Foundations, Soil Stabilization, Retaining Walls. Plinth Filling.
- Flooring, Walls, Openings.
- Roofs, Parapets, Terraces. Boundary Walls
- Underground and Overhead Tanks.
- Staircases and isolation of structures.

PART I

Foundation:

- 1.0 Soil types & its behavior under different loading conditions.
- 2.0 Foundation on weak strata.
 - 2.1 Raft Foundation.
 - 2.2 Pile Foundation
- 3.0 R.C.C. stub columns and stanchion fixing details (Sketches and notes.)

PART II

Super Structure:

- 1.0 More about R.C.C. framed construction,
 - Insitu cast concrete frame structure with specific studies of stairs, balconies and canopies with special reference to earthquake resistant detailing.
 - In situ cast external wall.
 - Concrete box frame.(Approx. 2 Drgs.)
- 2.0 Steel structure using built-up sections, medium span roof trusses, lattice construction, castellated beams, connection details and cladding details, rain water disposal, etc. An industrial structure will be studied in detail.
(Approx. 2 Drgs).
- 3.0 Retaining walls and its terminology, mass retaining wall in bricks, stones, etc. and cantilever retaining wall in R.C.C
(Sketches and notes).
- 4.0 Reinforced brickwork including reinforced brick walls, piers of different thickness, reinforced brick lintols, reinforced brick slabs.
(Sketches and notes)
- 5.0 Decorative Brick work for Jalis, Screen etc.
(Sketches, notes etc.)

PART III

Roofs & Floors:

- 1.0 Introduction and basic concepts of various structural systems for Flooring and Roofing in Steel, R.C.C. and Pre stressed Concrete for medium to large spans including proprietary details.
(Sketches, notes, models etc).
- 2.0 Modular co-ordination.
pre-cast building components and systems developed by C.B.R.I and their application (e.g. small residential building / primary school building / Arch Design Project etc)
(Approx. 2 Drgs)

PART IV

Doors & Windows :

- 1.0 Sliding & sliding-folding doors in wood and bay windows in wood.
- 2.0 Aluminium Doors, Aluminium Windows, PVC Doors, PVC Windows.
(Two Drgs)

PART V

Furniture & Interior Construction:

- 1.0 Simple joinery in wood
- 2.0 Paneling
- 3.0 Space dividers using wood, aluminium ,and steel skeleton and various finishing materials such as Veneers, Fiber Boards, Gypsum Board, Metal Sheets, Plastic extruded section etc. Single skin & double skin
(One Drg.)
- 4.0 Suspended ceiling in teak wood with A.C. sheets, Gypsum Boards, Fiber Boards, etc. as finishing material. Proprietary systems for suspended ceiling.
(One Drg)
- 5.0 Simple Furniture units in wood or wood derived boards.
Simple residential furniture like Divan, Bed, Dinning Table, Storage Cabinet, Kitchen Cabinet, etc. Shall be studied. (Any 4 items)
(Two Drgs)

PART VI

Special Construction:

Basement Construction, Water Proofing details, etc.
(Sketches, notes etc.)

PART VII

Misc. Constructions:

- 1.0 Setting out of structures.
- 2.0 Escalator & Elevators: General construction details.
(One Drg)

PART VIII

Materials:

(Sketches, notes, collecting material samples, brochures, visits to sites, manufacturer's place etc.)

- 1.0 Light weight Concrete
- 2.0 Guniting
- 3.0 Water Proofing, cement based and chemical based, bituminous and other proprietary systems.
- 4.0 Glass & Glass products applicable in building industry.
- 5.0 Metal alloys and stainless steel & their application in building industry.
- 6.0 Polishing of wood.
- 7.0 Painting, External & Internal surfaces of bricks, stones, concrete, plaster, etc. and painting of wood & steel.
- 8.0 Specialized internal & external renderings.

RECOMMENDED READING:

To understand basic fundamental principles in construction following books are recommended.

1. Elements of Structures by MORGAN.
2. Structures in Architecture by SALVADORI To Study standard building construction
3. Building Construction by MACKAY WB. Vol.1 to 4
4. Construction of Building by BARRY Vol. 1 to 5
5. Construction Technology by CHUDLEY R. Vol. 1 to 6
6. Building Construction illustrated by CHING FRANCIS D.K.
7. Elementary Building Construction by MITCHELL.
8. Structure and Fabric by EVERET

To study building materials.

- 10: Engineering Materials by Chaudhary
- 11: Building Construction –Materials by M.V. NAIK.
- 12: Civil Engineers Hand Book by KHANNA.
- 13: Vastu Rachana by SHIRI. Y. S. SANE
- 14: National Building Code and I.S.I. Specifications.
- 15: Materials and Finishes by EVERET.
- 16: A to Z Building Materials in Architecture by HORNBOSTLE.

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SUBJECT CODE : 313437		THEORY OF STRUCTURES III	
TEACHING SCHEME		EXAMINATION SCHEME	
		Paper.	100
Lecture Periods.	3	Sessional (Internal)	50
Studio Periods.	1	Sessional (External)	Nil
Total Contact Periods. 4 per week		Viva-voce	Nil
		Total Marks:	150

Note: While teaching the subject of Theory of Structures Limit State Method shall be adopted instead of Working Stress Method.

Course Outline:

1. Soil Mechanics: Introduction to soil Mechanics , trial pits bearing capacities of common soils, various limits, Foundation problems at site. Bulb of pressure etc.
2. Retaining Walls.
 - i) Active & passive pressures of soil.
Ranking's theory of Earth pressure.
 - ii) Masonry retaining walls.
 - iii) R.C.C. cantilever retaining wall
 - iv) Counterfort type retaining wall – concept and general detailing of counterforts
3. R.C.C. columns with Eccentric loading – introduction only. No calculations.
4. Staircases: Types, loading and design. Detailed design of simply supported staircases.
5. R.C.C. Foundations: detailed design of isolated footing.
6. Combined footing
7. Detailed design of rectangular combined footing
8. Introduction to following,
 - a. Masonry and R.C.C. underground water storage tanks.
 - b. Elevated water towers.
 - c. R.C.C. and steel portal frame
 - d. Steel columns

- e. Steel plate girders and Crane girder
- f. Steel castellated girder

(Introduction not to include calculation of any of the elements but the selection criteria, placement of main reinforcement, fabrication procedure etc.)

9. Introduction to:
 - Trapezoidal footing
 - Raft footing
 - Pile foundation
 - Pile cap
10. Pre stressed concrete
 - Definition, difference between R.C.C. and pre stressed concrete, advantages and disadvantages, types and methods of pre stressing, simple problem on calculation of resultant stresses of external forces etc.
11. Ultimate load theory:
 - Definition and explanation why this theory was developed, difference between working stress block, calculation of balanced rectangular simply reinforced section, area of steel required for this μ to develop working load factor (simple problems on beams only)
- 12: Limit state analysis: Introduction to concept only and I.S. requirements
13. Compound Stanchions:
 - Simple problems
 - Lacing: Finding spacing and size of lacing
 - Battens: Finding spacing and size of battens
 - No detail design

Design and detailing of a factory building including detailed design and drawings of purlins, trusses and N girders.
(Drawing on A2 size sheets)
- 14) **Earthquake Resistant Structural Detailing:
Seismic Design and detailing of R.C and Steel Buildings:**
 - **IS:1893-2002.IS:13920-1993, IS:456-2000, IS:800-2004.**
 - **Special reinforcing and connection details in structural drawings.**

Recommended readings

1. Structure in Architecture Salvadori and Heller
2. Design of steel structures- Vazirani and Rathvani
- 3 Elements of Structures – Morgon

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SUBJECT CODE : 313438		HISTORY OF ARCHITECTURE & HUMAN SETTLEMENTS III	
TEACHING SCHEME		EXAMINATION SCHEME	
		Paper.	Nil
Lecture Periods.	3	Sessional (Internal)	50
Studio Periods.	Nil	Sessional (External)	50
Total Contact Periods. 3 per week		Viva-voce	Nil
		Total Marks:	100

Objectives:

- To understand and learn History of Architecture and Human Settlements, from the point of view to appreciate Building as a process rather than simply as a product.
- To focus Architecture as reflection of cultures and environment of various societies, economic systems, values and aesthetical perceptions and last but not the least scientific and technological advances of the society.
- To understand concurrent happenings in various parts of the world at a given time thereby appreciating inter cultural exchange and comparative study of growth of various civilizations.
- To teach the students to respect architecture from value point of view rather than function alone.
- To study and understand different aspects of a civilization such as environment, social history, philosophy, art, landscape design, town planning, and also their influences on one another.
- To provide insight about the globalization all around the world with parallel strands of neo vernacular movements taking place.

COURSE OUTLINE:

The focus of teaching shall be upon the time span from 17th century onwards till today. The geographical location under study shall be referring to the following salient events/important milestones,

A: The Indian Sub-continent.

- Regional influences and approaches.
- Colonial Architecture.
- Pre independence architecture developments with special focus on Maharashtra. (Maratha/Peshwa)
- Post independence and new concepts.
- Colonial, PWD.
- Ideologies of Gandhi and Nehru.
- Modern Architecture.
- Regional influences and approaches.

B: West Asia.

- Turkish empire breaks.
- Post war: Israel.

C: East Asia.

- Opium war in China.
- Colonization of Japan.
- Post war :Japan.
- Emergence of South East Asian countries in the global context.

D: Africa.

- Colonial and contemporary architecture.
- Architecture of Hassan Fathy.

E: Europe.

- Neo classical.
- Industrial Revolution.
- Revivalism.
- Pre war contemporary movements: Art and crafts, art nouveau, expressionism, werkbund, De stijl, constructivism, Bauhaus.
Post war contemporary movements: international style.
Late movements: post modern, Deconstruction.

F: America.

- U.S.Civil war.
- Chicago School, Organic Architecture.
- Post war development.
- New towns in America.
- Late 20 th century architecture.

Sessional Work:

1. Hand written journal with sketches and photographs covering the above mentioned syllabus (50 % weightage)
2. One measured drawing (topic related to history covered in all three years.) Minimum one imperial size sheet per student. (25 % weightage)
3. One seminar cum paper presentation approximately 1000 to 1500 words in Aerial Font, 12 size point, 1.5 line spacing, along with power point presentation.(25 % weightage). The seminar topic shall be based on the Third Year HAHS Syllabus only.

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SUBJECT CODE : 313439		BUILDING SCIENCE & SERVICES II	
TEACHING SCHEME		EXAMINATION SCHEME	
		Paper.	100
Lecture Periods.	2	Sessional (Internal)	50
Studio Periods.	1	Sessional (External)	50
Total Contact Periods. 3 per week		Viva-voce	Nil
		Total Marks:	200

Objective:

To introduce students to,

- A.** Advanced building services pertaining to natural and mechanical ventilation, and their application to built form.
- B.** Architectural acoustics and its application to built form.
- C.** Fire- fighting methods, rules, regulations and equipment.

Course Outline:

1. Natural Ventilation (passive.)
 - Factors affecting comfort conditions.
 - Functions, requirements, mechanism and design factors.
2. Mechanical Ventilation (active.)
 - Introduction to the need for mechanical ventilation.
 - Study of systems and components involved.
3. Introduction to architectural acoustics, study of basic problems and design criteria for good hearing conditions in enclosed and open spaces.
4. To study causes of fire, its passive and active control systems, fire protection, safety rules and regulations.

Sessional Work:

Adequate sessional work as prescribed by teachers pertaining to 1,2,3,4 as above.

Detailed Study of:

1. Natural ventilation (passive.)
 - Ventilation functions and requirements.
 - Physical mechanism of ventilation.
 - Design factors affecting ventilation.
2. Mechanical ventilation. (active.)
 - a) Forced ventilation – Types of fans used, simple calculations to decide no. Of fans required.
 - b) Air conditioning (heating and cooling.)
 - Air distribution.
 - Air conditioning equipment.
 - Costing data and space requirements.
3. Acoustics.
 - Brief history of architectural acoustics.
 - Characteristics of sound.
 - Study of classification of acoustical materials and their applications.
 - Acoustical treatment to various enclosed spaces.
 - Noise control.
 - Sound amplification systems.
 - At least one live case study in detail.
3. Fire fighting.
 - Cause and spread of fire, combustibility of building materials, structural elements and their fire resistance.
 - Passive control-fire protection in a building, safety codes, rules and regulations prescribed for buildings.
 - Active control – fire fighting using fixed and portable fire fighting equipment.

Marking of sessional work:

a)	Natural and Mechanical Ventilation.	
	Journal- sketches and notes-	10 marks.
	Detail study- drawings, calculations -	15 marks.
	Total-	25 marks.
b)	Acoustics and Fire Fighting.	
	Journal sketches and notes.	10 marks.
	Detail study, drawings, and calculations.	15 marks.
	Total-	25 marks.

Recommended readings:

- 1) ABC of air conditioning - Ernest Tricomi.
- 2) Heating and air conditioning of buildings.
- 3) Environmental science - Smith, Philips and Sweeney
- 4) Environmental Acoustics – Doelle Leslie
- 5) Acoustical designing in architecture – Knudsen and Harris.
- 6) Acoustics in building design – K.A. Siraskar.
- 7) Architectural Acoustics – F.R. Watson.
- 8) National Building Code

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SUBJECT CODE : 313440		QUANTITY SURVEYING & SPECIFICATION WRITING	
TEACHING SCHEME		EXAMINATION SCHEME	
		Paper.	100
Lecture Periods.	3	Sessional (Internal)	50
Studio Periods.	1	Sessional (External)	Nil
Total Contact Periods. 4 per week		Viva-voce	Nil
		Total Marks:	150

Examination Scheme:

Paper	:	100 Marks (Quantity Surveying-70 Marks+ Specification Writing -30Marks)
Sessional Internal	:	50 Marks. (QS-30Marks +S.W.20 Marks.)
Sessional External	:	Nil

OBJECTIVES:

- To train students in computing quantities of various building items for simple load bearing structures and acquaint them with various types of estimates including mode of measurements as adopted by I.S.1200.
- To train students in computing quantities of various building items of R.C.C. framed structure, steel structure, building services such as water supply, sanitation and drainage, electrical installations and acquainting them with rates of various building items.
- To acquaint students with methodology of writing specifications with reference to building trades, materials, workmanship and performance of different items of work and introducing the students to specifications as an integral part of contract document for building projects.

QUANTITY SURVEYING:

COURSE OUTLINE.

1. Introduction to the definition, aim and scope of "Quantity Computation"
2. Study of different types of estimates.

3. Study of mode of measurements as stipulated in I.S.1200.
4. Methods of computing quantities for load bearing type of structure and preparing abstract and bills of quantities including units of measurements.
5. Computing quantities of various building items for r.c.c. framed structure, steel structure and building services such as plumbing and water supply. Preparing bills of quantities for estimation and tendering purposes.
6. Study of composition of rates of various building items, percentage distribution in the rates of materials, labour, tools and plant, contractor's profits and overheads etc.
7. Analysis of rates of main items of building work with reference to prevalent market rates of materials and labour wages.
8. Preparation of indent of various building materials for r.c.c. framed structure.
9. Measurements of completed items for payment to contractor's interim and final certificate.
10. Introduction to use of computer for computation of quantities of various building items.

SESSIONAL ASSIGNMENTS.

Hand written Computation and Bills of Quantities shall be prepared of following

1. Load bearing structure of total plinth area between 15 to 25 sq.mts.
2. Load bearing structure having total built-up area between 100 to 150 sq.mts. Including staircase and toilet block.
3. R.C.C. framed structure comprising of Ground and First Floor having total built-up area between 100 to 150 sq.mts. including staircase and toilet block.
4. Computing quantities of single storied steel framed factory building or workshop having total built-up area between 100 to 150 sq.mts including m.s.trusses, purlins and sheet roofing.
5. Working out rate analysis of routine civil items.

SPECIFICATION WRITING:

COURSE OUTLINE:

1. Specifications as part of contract document, definition, need and importance, its relationship with working drawings, bill of quantities and schedule of rates.

2. Types of specifications, open, closed, restricted, prescriptive, performance based, or combination of above types. Use of manufacturers guide etc
3. Specification writing method to include master list, sectional formats, page formats, general material items, tests, performance, mode of measurements etc.
4. Methodology of writing detailed specifications including methods and forms of writing descriptive notes on materials and workmanship based on working drawings.
5. Collection of catalogues and technical information on various materials, products and specialized items.
6. Preparation of checklist for writing detailed specifications.
7. Study of different building trades, their scope and contents.
8. Introduction to writing specifications for building services and checklist for services such as Water Supply, Drainage, Electrical and HVAC installations.

SESSIONAL ASSIGNMENTS:

1. A journal shall be prepared which will cover notes on the portion mentioned above.
2. Specification writing shall be studied in conjunction with working drawings and the first assignment of Load bearing structure of 15 to 25 sq.mt plinth area will be covered by preparing specifications for common building materials and trades.
3. Technical literature on various specialized items and manufacturer's catalogues shall be collected.

Recommended Reading.

1. Indian Standard Specifications.
2. C.P.W.D. Specifications and schedule of rate analysis.
3. Specification Writing for Architects and Engineers. By Donald A.Watson.
4. Specification Writing for Architects and Surveyors by Arthur J Willis.
5. Professional Practice by R.H.Namavati.
6. Estimating and Costing by Rangawala and B.N.Dutta.
7. Civil Engineering Contracts and Estimates by B.S.Patil.
8. I.S.I.Handbook of measurements of building works.

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SUBJECT CODE : 313441		LANDSCAPE ARCHITECTURE & ENVIRONMENTAL SCIENCES	
TEACHING SCHEME		EXAMINATION SCHEME	
		Paper.	Nil
Lecture Periods.	1	Sessional (Internal)	50
Studio Periods.	2	Sessional (External)	50
Total Contact Periods. 3 per week		Viva-voce	Nil
		Total Marks:	100

PREAMBLE:

The scope of landscape architecture ranges from micro level landscapes to complex site planning issues, to macro level issues such as regional landscape planning and ecological conservation. However the scope of this subject at the architectural curriculum would be restricted to micro level and site planning level and to landscape issues closely related to architectural design, thereby extending the scope of design at schools of architecture, beyond the building envelope to outdoor spaces and site ecology.

OBJECTIVES:

- a. Evolving understanding of the site and its context while designing and sitting of buildings.
- b. Creation and design of open space structure on the site, and further achieving aesthetical, functional and environmental goals.
- c. To know and use landscape elements both to create and enhance exterior spaces and to achieve passive climatic control at the building and site level.
- d. To introduce the concepts of environment friendly architecture, conservation of natural resources and energy and incorporate them in the site and building design.

THE COURSE OUTLINE:

1. Introduction to Landscape Architecture.
 - 1.1 Scope of landscape architecture.
 - 1.2 Role of a landscape architect.
 - 1.3 Comparing landscape design with architectural design.
2. Introduction to the landscape elements (landform, water, vegetation, architectural elements). Understanding the visual (color, form, texture) / non-visual (smell, touch, sound) attributes of these elements and their usage and application in design.
3. Integration of indoor and Outdoor spaces.
4. History of Landscape Architecture: To study of various principles and philosophies of landscape design through out the world from ancient to contemporary times.
5. Plant selection criteria in landscape based upon visual, functional, micro-climatic and ecological aspects. Also understanding effect of time on planting design.
6. Site analysis and Site planning.
7. Introduction to landscape services such as outdoors lighting, surface water drainage, irrigation.
8. Execution of landscape proposal.
9. Landscape constructional details of the following- pavings, curbs, steps, roof garden, retaining walls.
10. Introduction to Environment and its components.
11. Application of landscape design to conserve the environment.
12. Microclimatic control using landscape elements.
13. Introduction to the concepts of energy conservation, non-conventional energy sources, conservation of natural resources (land, water, vegetation), alternative building materials, water harvesting (roof water harvesting, recharging ground water, etc.), solid waste management (vermiculture pits, compost pits, degradable, non degradable waste).

SESSIONAL WORK:

Part A)

Studio exercises: (weightage 65% of total marks) this would be submitted in the form of drawings for the final assessment.

- A.1** One site and campus planning project of a magnitude similar to third year architectural design, involving complex issues such as contour analysis, multiple functions etc. To cover following aspects:
- i. Site analysis, zoning and site planning.
 - ii. Building program analysis.
 - iii. Preparation of landscape master plan showing hard and soft areas, levels, landform modifications, etc.
 - iv. Site sections.
 - v. Planting structure and concept.
- A.2** Detailed landscape design projects (minimum two) in which students should evolve a rationale behind the treatment of open spaces based upon functional aspects, micro climatic analysis including building shadow analysis, visual and spatial character desired etc. and then develop a design for which they should give details of various civil work items like paving, walls, planters, lighting, planting etc.

Part B)

Various theory topics included in the above course outline should be presented by the students in form of notes, sketches, case studies, site visit reports, seminar etc. based upon individual research and study and submitted for final assessment in a hard copy. The weightage for this work would be 35% of the total marks.

RECOMMENDED READINGS:

01. Geoffrey and Susan Jellicoe, "The Landscape of Man", Thames and Hudson.
02. John L. Motloch, "Introduction to Landscape Architecture", Van Nostrand Reinhold, New York.
03. Geoffrey and Susan Jellicoe, Patrick Goode, Michael Lancaster, "The Oxford Companion to Gardens".
04. Garrett Eckbo, "The Urban Landscape Design".
05. Simonds, "Landscape Architecture".
06. Ian Mcharg, "Design with Nature", John Wiley Pub.
07. Botkin and Keller, "Environmental Sciences: Earth as a living planet".
08. M.S. Randhawa, "Flowering Trees", National Book Trust, New Delhi.
09. Gopalswamienggar, "Complete Gardening in India".
10. Pratibha Trivedi, "Beautiful Shrubs".
11. P.S. Ramakrishnan, "Ecology and Sustainable Development", National Book Trust of India, 2001.
12. Sutherland Lyall, "Designing the New Landscape".

University of Pune

Third Year B.Arch.

SUBJECT CODE : 313442		COMPUTERS.	
TEACHING SCHEME		EXAMINATION SCHEME	
		Paper.	Nil
Lecture Periods.	Nil	Sessional (Internal)	50
Studio Periods.	2	Sessional (External)	Nil
Total Contact Periods. 2 per week		Viva-voce	Nil
		Total Marks:	50

Objective:

To acquaint the students in operations of various softwares and office automation tools used in general administrative work of any professional office.

Course Outline:

- 1) Preparation of text or documents by using word processor software. e.g. MS WORD ,LOTUS WORDPRO. etc.
- 2) Analysis of collected data in the form of spreadsheets and its presentation through graphs, pie charts etc. e.g. MS EXCEL, LOTUS 123 etc.
- 3) Preparing advanced presentations by making slide show using presentation software. e.g. MS POWERPOINT , MACROMEDIA DIRECTOR etc.
- 4) Creating and using databases in computers using database management softwares. e.g. DBASE, FOXPRO etc.
- 5) Introduction to concepts of LAN, WAN, Internet and Intranet and the applications like Internet Browser, mail client etc.
- 6) Introduction to Project management softwares like MS PROJECT.

Sessional work:

- a) Journal (A4 size) incorporating all the relevant theories of soft wares, as mentioned in course outline.
- b) Tutorials based upon all the topics mentioned in course outline.

Recommended Readings:

'Computer Essentials': Textbook recommended for MS-CIT examination of Govt. of Maharashtra. (Published for MKCL.)