

UNIVERSITY OF MUMBAI

MASTER OF ARCHITECTURE AND URBAN CONSERVATION

PREAMBLE

Architecture and town planning education in India is faced today with the demands of a rapidly growing country involving changes in urbanization phenomenon. Issues that have so risen from rapid urbanization need immediate attention.

Rapid changes in a developing society often pose a threat to the conservation of universal values directly or indirectly. With the advent of modern movement in architecture, architectural education has ceased its links with the historical traditions. It is recognized that a sense of historical continuity is essential in the field of architecture and town planning.

India is richly endowed with natural and man-made assets that need to be conserved. The building and urban heritage often gets neglected and gradually erased under the impact of the process of indiscriminate and insensitive development. It is felt that by integrating old and new development within the composite framework of a living environment both development and conservation could become complementary. While recognizing the many facets of conservation, the course primarily focuses on architectural and urban conservation. The comprehensive nature of this course aims to highlight the need to improve core areas of historic towns and cities by conserving cultural properties, monuments and historical precincts.

Mumbai city has made a definite beginning in the field of conservation in the country. It is the first city to have conservation legislation for protection to listed heritage structures and where so many conservation projects have been implemented too. It is also the first city where MMRDA (Mumbai Metropolitan Regional Development Authority) have set up a heritage society, which financially supports conservation studies undertaken by professionals.

All this has been possible due to enlightened activists public and bureaucrats who realized the threats to the heritage of this commercial capital of the country.

It is now proposed to offer a regular three semester's course of studies leading to Master of Architectural and Urban Conservation. A Centre for Conservation Studies would also be setup with a view to conduct research and field study in conservation and also to develop intensive short-term courses for sponsored and non-sponsored candidates. The course will commence from the academic year 2001.

THE COURSE STRUCTURE

Art and Science of Conservation thus provides a multi-disciplinary field of study involving the fields of architecture, urban planning and design, art history, chemistry of building material, consolidation and structural degeneration of historical structures, urban conservation and legislation. The Course devised covers various theoretical and practical aspect of conservation and restoration of cultural properties through the study of individual buildings, historic areas, areas of architecture and historical values and centre of historic town covered under urban.

Ordinances, Regulations and Syllabus for the M. Arch in Architectural and Urban Conservation.

- O. 5033 A candidate for being eligible for admission to First Semester of M. Arch in Architectural and Urban Conservation must be a Graduate who has completed the Degree in Architecture of a recognized University or equivalent Academic qualification.
- O. 5034 The course leading to the M.Arch in Architectural and Urban Conservation shall be Four Semesters, full-time Course.
- O. 5035 There will be a Examination at the end of each Semester. The candidate obtaining M.Arch in Architectural and Urban Conservation will be required to pass all the Examinations held at the end of each Semester by the Competent Authority mentioned hereafter.
- O. 5036 The M. Arch in Architectural and Urban Conservation will not be conferred upon a candidate unless the candidate has passed in all the papers and completed the Sessional Work prescribed for each Semester Examination in accordance with the provisions relating to each Semester Examination.
- R. 4401 the total intake per batch will be a maximum 30 and minimum 5 student.
- R. 4402 Performance of students shall be evaluated by Sessional work, Sessional examination and final thesis.

SEMESTER I

- O. 5037 A candidate for being eligible for admission to First Semester in Architectural and Urban Conservation of this University must have passed the Degree/Diploma in Architecture of a recognized University.
- O. 4403 Given overleaf are the syllabi in various subjects of the First Semester Examination in Architectural and Urban Conservation.
- R. 4404 The candidate will be examined in the subjects as per the examination scheme for the First Semester Examination in Architectural and Urban Conservation, which will be conducted by the College, affiliated to the University.

Candidates will be examined in the following subjects for Semester I examination of Master's degree in Conservation

SEMESTER I

| | | Scheme of Instruction per week | | | | Scheme of examination | | |
|--------|--|--------------------------------|-----|--------|-----------|-----------------------|--------------|-----------|
| Sr. No | Subject | Lec. | Lab | Studio | Hrs/ Week | Internal Assessment | Written Exam | Max Marks |
| 1 | Theory of Urban Planning And Design – I | 2 | - | 1 | 3 | 50 | 50 | 100 |
| 2 | Planning Techniques | 3 | - | - | 3 | 50 | 50 | 100 |
| 3 | Housing and Urban Sociology | 3 | - | - | 3 | 50 | 50 | 100 |
| 4 | Art, Architectural History Theory and Criticism | 2 | 1 | - | 3 | | | |
| 5 | Archaeology | 2 | 1 | - | 3 | | | |
| 6 | Seminar: Introduction to history of Landscape architecture | 2 | - | - | 2 | 50 | | |
| 7 | Design Studio – I | - | - | 12 | 12 | 450(300+150) | | |
| | | 14 | 7 | 13 | 29 | 750 | 250 | 1000 |

*Periodic Assessment=300 and final assessment = 150

The following are detail syllabi for various subject of Semester I of Master's degree in Conversation

THEORY OF URBAN PLANNING AND DESIGN-I

Marks (100)

Hrs/ Week -3

A review of the history and heritage of human settlements in India –from ancient times to date. A critical examination of current trends in contemporary architecture and planning in India.

Urban design as a fusion of architecture and planning principles.

Issues and objectives in Urban Planning and Design as related to land use planning and preparation of development plans in India and other countries.

Restructuring of urban areas in the context of historical growth parameters, functional and environmental consideration.

Focus on area level studies for design intervention and feedback to the growth and development of the city fabric.

A review of the new town development in India and the West.

Selected case studies of new towns, city centers and control area redevelopment projects.

PLANNING TECHNIQUE

Marks (100)

Hrs/Week –3

Planning Practice in India. An overview.

Survey Research Process primary and secondary sources of data, techniques of data collection, analyzing and presenting physical and socio-economic data, questionnaire design, administration of field surveys.

Methods of identifying urban and regional problems, setting of goals, objectives and priorities. Performance standards, spatial standards and standards for utilities.

Classification of regions, regionalization and delimitation technique for various types of regions. Cluster and factor analysis methods

Analysis for understanding structure of urban areas, land value and density patterns, locational attributes of activity areas and locational dimensions of population groups. Forces of concentration and dispersal. Social Area Analysis. Time Series analysis.

Preparation of urban and regional development plans: - various approaches, comprehensive planning, structure planning, systems approach to planning- case studies identifying use of techniques.

Aerial photography: Basic Principles and techniques of photogrammetry, photo-interpretation and remote sensing.

Collection of data by photo-interpretation and remote sensing techniques, analyzing and interpretation of these data and compilation of interpreted data for the metric maps.

Specific Applications in Urban and regional planning, traffic and transportation planning, housing, urban design and landscape analysis.

HOUSING AND URBAN SOCIOLOGY

Marks (100)

Hrs/Week –3

Social aspects of urbanization, housing and community development in India. The implication and limitations of neighborhood planning as a sociological concept in the Indian context. Comparative analysis of traditional and contemporary housing concepts. Crime, delinquency and contemporary housing concepts. Crime, delinquency and adolescence in urban areas as studies in urban anthropology.

Housing design and standards in the context of comprehensive socio-economic and physical planning.

Influence of socio-economic, climatic, physiological, technological and traditional factors in the design of developing units; clusters and housing layouts.

Design consideration in economic housing for developing countries- site and services and incremental housing programs.

A comparative study of housing design and performance standards in India and Western countries with specific reference to dwelling units' density standards, community facilities social and public spaces.

Selected case studies for a critical assessment of current housing development

ART, ARCHITECTURAL HISTORY, THEORY AND CRITICISM

Marks (100)

Hrs/Week 3

A] Examining of different periods of Architectural History and its contribution to the field of Art, Architecture and Urbanism.

B] Comparative study of Renaissance and the Development of Artistic traditions in India.

C] Review of Arts and Crafts Movement.

ARCHAEOLOGY

Marks(100)

Hrs/Week –3

A] Introduction to Archaeology [Visit to Excavation and field work]

B] History of Archaeology as a discipline

- Archaeology in India [overview]
- Interface with civilization
- Indian Archaeology[Primitive Period]
- City state up to Gupta period

C] Medieval Period [Archaeology]

Comparative study of Medieval Period with Renaissance

D] Scientific application to Archaeology

Archaeological Data/Resource Material

Documentation

Report [Project Assignment]

INTROUDUCTON TO HISTORY OF LANDSCAPE ARCHITECTURE

Marks (50)

Hrs/Week –2

Environmental and ecological factor in site planning. Demonstration through texts and case studies. Physical development of landforms in historical context.

Concepts and theories in landscape architecture/city planning urban design in the historical perspective, origin of forms, organization of space, relationship of activity with buildings/open space/built form.

Spatial organization of selected cities of past, emphasizing landscape assessment.

History of Urban Landscape in relation to topography.

Selected case studies of urban landscape and streetscape in relation to the city fabric of the historic period.

Contemporary landscape and the emergence of the natural system in relation with history.

Concepts for open space and park system in historical urban area.

Social implications of open space, development and pattern of space utilization in urban areas. Behavioral factors in urban landscape design.

Design vocabulary and its application to improve the physical settings for the city development process.

CONSERVATION STUDIO

Marks (100)

Hrs/Week-12

Morphological and image structure survey/analysis of a selected part of a traditional urban area with detailed studies of urban landscape and streetscape.

Formulation of outline land use and design structure proposals for the area. Evolution of a viable design program

Presentation of final proposals with three-dimensional models and sketches

STANDARD OF PASSING

SEMSTER I EXAMINATION IN MASTER'S DEGREE IN CONSERVATION

R. 4405 To pass the Examination candidate must obtain 50% of the full marks in Theory and 50% of the full marks in Sessional work. However, the candidate who has failed either in Theory or Sessional but has obtained the passing marks either in Theory or Sessional is at his own option, to be excused from appearing for Theory or Sessional in which he has passed and the Marks obtained in the Theory or Sessional in which he has passed shall be carried over to the subsequent examination.

Those successful candidates who obtained 55% of the total marks obtainable in the examination taken at one sitting only will be placed in the Second Class.

Those successful candidates who obtained 60% of the total marks obtainable in the examination taken at one sitting only will be placed in the First Class.

NOTE: The minimum attendance as per rules is compulsory

SEMESTER – II

- O. 5038 A candidate for being eligible for admission to Second Semester in Architectural and Urban Conservation of this University shall produce testimonials of having satisfactorily kept attendance in the First Semester and completed the required Sessional Work prescribed for the First Semester, to the satisfaction of the head of the college in which the candidate has been studying, and has passed the First Semester in Architectural and Urban Conservation Examination conducted by the prescribed Authority. In case of failure in the First Semester Examination the candidate will be permitted to join the Second Semester provided the candidate has obtained a minimum of 50% marks in the subject of Design Studio – I of Semester I examination.
- O. 5039 A candidate who has passed the First Semester Examination and has satisfactorily completed the course of Second Semester will be permitted to appear for the Second Semester Examination in Architecture and Urban Conservation.
- R. 4406 Over leaf are the syllabi in various subjects of the Second Semester Examination in Architectural and Urban Conservation.
- R. 4407 The candidates will be examined in the following subjects as per Examination scheme for the Second Semester in Architectural and Urban Conservation, which will be conducted by the College, affiliated to this University.

Candidate will be examined in the following subjects for Semester II of Master's degree of conservation

SEMESTER II

| Sr. No. | Subject | Scheme of Instruction/Week | | | Scheme of examination | | |
|---------|--|----------------------------|--------|----------------|-----------------------|--------------|-----------|
| | | Lec. | Studio | Total Hrs/Week | Internal Assessment | Written Exam | Max Marks |
| 1. | Heritage Management | 2 | - | 2 | 50 | 50 | 100 |
| 2. | Conservation Legislation | 2 | - | 2 | 50 | 50 | 100 |
| 3. | Current Trends in Conservation | 2 | 2 | 4 | 100 | 50 | 150 |
| 4. | Conservation Philosophy | 1 | 2 | 3 | 50 | 50 | 100 |
| 5. | Traditional techniques of Conservation | - | 2 | 2 | 50 | 50 | 100 |
| 6. | Conservation studio | - | 12 | 12 | (300+150) | - | 450 |
| | | | | 25 | 750 | 250 | 1000 |

*Periodic Assessment=300 and final assessment = 150

The following are detail syllabi for various subjects of Semester II of Master's degree in conservation

HERITAGE MANAGEMENT

Marks (100)

Hrs/Weeks –2

- Overview and introduction to basic concepts of Heritage Management
- Case Studies.
- Heritage Tourism and Pilgrimage Tourism & the Management.
- World Heritage Sites and its Management.
- Urban Heritage and its Management
- Architectural Heritage & the Management

CONSERVATION LEGISLATION

Marks (100)

Hrs/Weeks –2

- International Charters.
- National policy for conservation
- Review of existing bylaws and conservation laws in the city country
- Case studies of bylaws across the world.
- Incentives in conservation planning
- Sensitive development guidelines
- Do's and don'ts – Architectural conservation
- Review of existing laws of ASI. Town planning bylaws etc.

CURRENT TRENDS IN CONSERVATION

Marks (150)

Hrs. Weeks-4

- Various Agencies and their role in conservation
- Issues related to conservation like less properties rent control act, D.C. rules, CRA. Etc
- Encounters with present practices internationally in urban and Architectural research
- Architectural conservation in practice
- Urban conservation in practice

CONSERVATION PHILOSOPHY

Marks (100)

Hrs./Week-3

- Different schools of thoughts of different countries cultural specific ness
- Eastern and Western approaches to conservation

- International charter and changing trends.
- What and why to conserve

TRADITIONAL TECHNIQUES

Marks (100)

Hrs./Week-2

- Importance of tradition in conservation
- Master craft person and his role in conservation
- Ancient wisdom of traditional techniques – time tested
- Traditional techniques versus modern interventions
- Case studies

CONSERVATION STUDIO

Marks (450)

12 Hrs/Week

- Conservation projects on selected sites.

STANDARD OF PASSING

SEMESTER II EXAMINATION OF MASTER'S DEGREE IN CONSERVATION

R. 4408 To pass the Examination candidates must obtain 50% of the full marks in Theory and 50% of the full marks in Sessional Work. However, the candidate who has failed either in Theory or Sessional but has obtained the passing marks either in Theory or Sessional is at his own option to be excused from appearing for Theory or Sessional in which he has passed and the marks obtained in the Theory or Sessional in which has passed shall be carried over to the subsequent Examination.

Those successful candidates who obtained 55% of the total marks obtainable in the Examination taken at one sitting only will be placed in the Second Class.

Those successful candidates who obtained 60% of the total marks obtainable in the Examination taken at one sitting only will be placed in the First Class.

NOTE: The minimum attendance as per rules is compulsory

SEMESTER III

- O. 5040 A candidate for being eligible for admission to Third Semester in Architectural and Urban Conservation of this University shall produce testimonials of having satisfactorily kept attendance in Second Semester and completed the required Sessional Work prescribed for the Second Semester, to the satisfaction of the head of the college in which the candidate has been studying, and has passed the Second Semester Urban Design Examination conducted by the prescribed Authority. In case of failure in the Second Semester Examination, the candidate has obtained minimum of 50% marks in the subject of Design Studio II
- O. 5041 A candidate who has passed the Second Semester Examination and has satisfactorily completed the course of Third Semester will be permitted to appear for Third Semester Examination in Architecture.
- O. 4410 The candidates will be examined in the given subjects as per the Examination scheme for the Third Semester Examination in Architecture, which will be conducted by the College affiliated to the University.

Candidates will be examined in the following subjects for Semester III of Master's degree of Conservation.

SEMESTER III

| Sr. No | Subject | Scheme of Instruction/ Week | | | | Scheme of examination | | |
|--------|---|-----------------------------|------|--------|----------------|-----------------------|--------------|-----------|
| | | Lec. | Lab. | Studio | Total Hrs/Week | Internal Assessment | Written Exam | Max Marks |
| 1 | Introduction to the Art and Science of conservation | 1 | 1 | - | 2 | 25 | 25 | 50 |
| 2 | Inventor/Technique and Documentation | 1 | 1 | - | 2 | 25 | 25 | 50 |
| 3 | Techniques of Conservation | 2 | 1 | - | 3 | 50 | 50 | 100 |
| 4 | Analysis of Historical Structures (Seminar) | 1 | 1 | - | 2 | 25 | 25 | 50 |
| 5 | Chemistry of Building Material | - | 2 | - | 2 | 25 | 25 | 50 |
| 6 | Urban Conservation | - | 2 | - | 2 | 25 | 25 | 50 |
| 7 | Design Studio – III | - | - | 12 | 12 | (325 + 325) | | 650 |
| | | 5 | 8 | 12 | 25 | 500 | 500 | 1000 |

- Periodic assessment = 325 and final assessment = 325

The following are detail syllabi for various subjects of semester III of Master's degree in Conservation.

INTRODUCTION TO THE ART & SCIENCE OF CONSERVATION

Marks (50)

Hrs./Week –2

Overview and introduction to the basic concept of conservation

Values attitudes and principles judging the heritage traditions.

Evaluation techniques of built heritage, domestic and civic architecture. Artistic and traditional values.

Comparative overview of conservation movement in Europe, U. K. and Italy during 19th and 20th century.

Role of conservation architecture and revival of interest.

Archaeological report and their interpretation as related to the field of architecture and urban conservation documentary mapping of field study.

INVENTORY TECHNIQUE AND DOCUMENTATION

Marks (50)

Hrs/Week –2

Detailed investigation is undertaken followed by inspection report under the subject title Con – I and Con – II. Structural survey reports analysis and synthesis for historical and architectural intervention in the structure listing of faults, repair and alterations.

Effects of temperature and humidity on the structure.

Natural decay and an affect of biological factors such as air pollution and deterioration.

TECHNIQUES OF CONSERVATION

Marks (100)

Hrs/Week –3

Analysis of structures in terms of their efficiency and functions causes of decay.

Recording and diagnosis measures for control and treatment against repair and decay.

Structural survey, inspection and report.

Analysis of historical, architectural, masonry techniques.

Introduction to Photogrammetry & its application. Aerial photography and photo-interpretations exercise.

ANALYSIS OF HISTORICAL STRUCTURES

Marks (50)

Hrs/Week –2

Documentation, analysis and investigation of existing condition [surveys, inventory and analysis] in terms of historical, architectural and conservation.

Technical analysis.

Demographic and sociological analysis.

Analysis of urban functions and evaluation of structural conditions.

Critical analysis of the structures and its adaptation for appropriate usages.

Summary of methodological procedure for urban and architectural realization.

Restoration, retrieval, conservation plans and its implementation for revitalization.

CHEMISTRY OF BUILDING MATERIAL

Marks (50)

Hrs./Week –2

Analytical studies and behaviour of materials for the use of repairs, restoration and consolidation works of historical and architectural archaeological structures.

Analysis of mortar.

Behaviour of salts and porous materials.

Analysis and use of historic material for decorative art works such as Terracotta, tile works and rendering.

Laboratory exercises for water absorption, salt crystallization and microscopic analysis of the materials.

URBAN CONSERVATION

Marks (50)

Hrs./Week –2

Analysis of development proposals for conservation based on the synthesis and finding of the investigation of a selected projects study with focus for rehabilitation/ conservation and redevelopment plans.

Legal and administrative aspect of conservation

Archaeological acts/ charters pertaining to conservation.

Review of conservation acts.

Socio economic development and conservation.

Detailed investigations are undertaken for their economic and social implication for any equitable development due to conservation.

DESIGN STUDIO

Marks (650)

Hrs/Week –12

Studio projects are based on selection of a site or an area where excavation and conservation works are in progress or the area have been earmarked for such a study.

Evaluation and transformation of such area through different phases of development and the role of conservation for revitalizing the areas potential studio project will be confined to a medium size town, a part of an area which may be termed as historic zone.

STANDARD OF PASSING
SEMESTER III EXAMINATION OF MASTER'S DEGREE IN CONSERVATION

R. 4408 To pass the Examination candidates must obtain 50% of the full marks in Theory and 50% of the full marks in Sessional Work. However, the candidate who has filed either in Theory or Sessional but has obtained the passing marks either in Theory or Sessional is at this own option to be excused from appearing for Theory or Sessional in which he has passed and the marks obtained in the Theory or Sessional in which has passed shall be carried over to the subsequent Examination.

Those successful candidates who obtained 55% of the total marks obtainable in the Examination taken at one sitting only will be placed in the Second Class.

Those successful candidates who obtained 60% of the total marks obtainable in the Examination taken at one sitting only will be placed in the First Class.

NOTE: The minimum attendance as per rules is compulsory

SEMESTER IV

- O. A candidate for being eligible for admission to Forth Semester in Urban Design of this University shall produce testimonials of having satisfactorily kept attendance in Third Semester and completed the required Sessional Work prescribed for the Third Semester, to the satisfaction of the head of the college in which the candidate has been studying, and has passed the Third Semester Examination in Urban design conducted by the prescribed Authority. In case of failure in the Third Semester Examination, the candidate will be permitted to join the Forth Semester provided the candidate has obtained a minimum of 50% marks in Urban Design.
- O. A candidate who has passed the Third Semester Examination and has satisfactorily completed the Course of Forth Semester will be permitted to appear for Forth Semester Examination in Urban Design.
- R. Given overleaf are the syllabi in various subjects of the Forth Semester Examination in Urban Design.
- R. The candidates will be examined in the given subjects as per the Examination scheme for the Forth Semester Examination in Architecture, which will be conducted by the University.

Candidates will be examined for the following subjects for Semester IV examination in Conservation.

SEMESTER IV

| Subject | Scheme of Instruction Week | | | | Scheme of examination | | |
|-----------------------|----------------------------|------|--------|----------------|-----------------------|--------------|-----------|
| | Lec. | Lab. | Studio | Total Hrs/Week | Internal Assessment | Written Exam | Max Marks |
| Conservation Research | - | - | 2 | 2 | 50 | - | 50 |
| Conservation Seminar | - | - | 2 | 2 | 100 | - | 100 |
| Profession Practice | | | | | | | |
| Placement | | | | | | | |
| Thesis | - | - | 15 | 15 | (300+550) | - | 850 |
| | | | 19 | 19 | 450 | - | 1000 |

Periodic Assessment = 300 and final assessment = 550

The candidate will be examined by one external jury appointed by University alongwith the internal guide for 550 marks.

The following are detailed syllabi for various subjects of Semester IV of Masters Degree of Architectural and Urban Conservation.

CONSERVATION RESEARCH

Marks (50)

Hrs/Week – 2

Independent research studies in historical preservation, restoration and conservation.

CONSERVATION SEMINAR

Marks (100)

Hrs/Week – 2

Based on the architectural, historical and archaeological findings, detail investigations are conducted by the students on selected subjects of studies. The findings of their studies are presented through a class seminar alongwith a documented report.

THESIS (CONSERVATION STUDIES)

Marks (850)

Hrs/Week – 15

Town conservation plans and future prospect.

Renewal and rehabilitation programme in the core/ inner city areas.

Towns retrieval and conservation and regulatory control.

Zoning studies and procedures for implementation in historic districts and land mark designation.

STANDARD OF PASSING SEMESTER IV EXAMINATION

To pass the Examination, candidate must obtain 50% of the full marks in Theory and 50% of the full marks in Sessional Work. However, the candidate who has filed either in Theory or Sessional but has obtained the passing marks either in Theory or Sessional is at his own option to be excused from appearing for Theory or Session in which he has passed and the marks obtained in the Theory or Sessional in which ha has passed shall be carried over to the subsequent Examination.

That successful candidate who has obtained 55% of the total marks obtainable in the Examination taken at one sitting only will be placed in the Second Class.

That successful candidate who has obtained 60% of the total marks obtainable in the Examination taken at one sitting only will be placed in the First Class.

Candidates will be examined for the following subject for Semester IV examination in Conservation.

NOTE: The minimum attendance as per rules is compulsory for both year.