

22-23_2.6.1_Course Outcomes and Program Outcomes

Vivekanand Institute of Technology's

Padmabhushan Dr. Vasantdada Patil College of Architecture,

Address: 274/2, 275/2, 282, Aditya Nisarg, at post Pirangut, Tal. Mulshi, Dist. Pune-412115, Maharashtra.

BACHELOR IN ARCHITECTURE (Academic Year 2022-23)

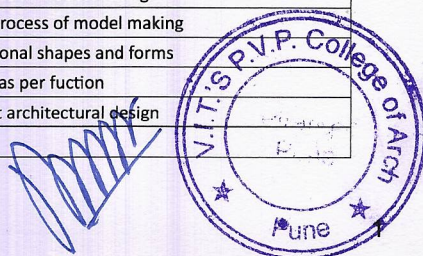
Program Outcomes

As defined by University :

- 1 **Knowledge** - Understanding about the role of various knowledge domains such as humanities, technology, and environment in design of built environment.
- 2 **Principles & Theory** - Knowledge of principles of architecture & theoretical knowledge and its application in design.
- 3 **Creativity** - Creative and design thinking ability.
- 4 **Practice** - Ability to understand the real life situation of Architectural Practice and to work with ethical and professional responsibilities.
- 5 **Collaborative Working** - Ability to communicate effectively and work in interdisciplinary groups.
- 6 **Inclusivity** - Sensitivity in design for inclusivity, equity, environment, diverse cultures, and heritage.
- 7 **Technological Knowhow** - Ability to review, comprehend and report technological developments in the profession of architecture and construction.
- 8 **Ability to choose Area of Specialisation or Practise** - Able to judge one's area of interest and accordingly choose the field of practice.

Course Outcomes

Sr. No	Subjects	Credits	CO Nos.	Course Outcomes
First Year B. Arch. (2019 pattern)				
1	Basic Design	10	CO 1 CO 2 CO 3 CO 4 CO 5 CO 6	Understand and develop hands-on skills Understanding basic elements and principles of design Gain the ability to adopt the principles in design To understand the form and geometry and its application in designing To analyse and decode the object wrt to the lifecycle of the object To grasp the multi-sensory aspects & explore experiential aspects
2	Building Construction and Materials I	7	CO 1 CO 2 CO 3 CO 4 CO 5 CO 6	To develop a basic understanding of the relationship of materials to construction systems. Understanding Foundations for Load bearing Construction with plinth Formation To develop understanding of techniques and methodology with specific reference to load bearing construction Understanding varied construction materials and their properties, tests etc. Understand Finishing techniques such as plastering & pointing in construction work Understand and study Bamboo as a material of construction with its application.
3	Theory of Structures I	2	CO 1 CO 2 CO 3 CO 4	To develop understanding of building/structure as a system of forces and transfer of forces/load from roof to foundation and soil. To develop understanding of various loads acting on a structure To develop understanding of behaviour of elements like walls, beams and columns subjected to tension, compression, shear and bending. To develop the understanding of load transfer & Practical Application of a support system
4	Architectural Graphics and Drawing I	3	CO 1 CO 2 CO 3 CO 4	To develop control over their hand and understand characteristics of each grade of graphite pencils while drawing lines. To enable students visualize 3-dimensional objects and represent them in two dimensional drawing Understanding basic principles of free hand sketching and developing hand and eye coordination through live sketching exercises Students should be able to communicate various ideas through Architectural Graphic representations including building plans and sections (drafting and sketching).
5	History of Architecture and Culture I	2	CO 1 CO 2 CO 3 CO 4	An understanding of architecture, including settlements, landscapes and buildings as a cultural product shaped by various factors from ancient civilizations to Hindu architecture An understanding of the formal, structural, and stylistic aspects of architectural development in the chosen period Analysis of place, form, materials from socio-cultural and architectural perspective Introduce students in the process of doing systematic research in documentation exercise of structures and to debate on the formation of those structures
6	Communication Skills	2	CO 1 CO 2 CO 3 CO 4	The student should be able to communicate fluently in the English language and also use tools of communication such as written and graphical for effective communication. Understanding importance and need for the Communication skill development Understand various modes of communication such as written, verbal and graphical communication Understanding technical writing and forms of writing in architectural discipline
7	Workshop I	2	CO 1 CO 2 CO 3 CO 4	To understand relevance of model making both in the process of design and as a Product Understanding different types of materials and its uses in model making Understanding tools used for cutting, joining in the process of model making Visualising and executing 2 dimensional to 3 dimensional shapes and forms
8	Architectural Design I	10	CO 1 CO 2 CO 3	Understanding Anthropometry and space utilization as per function Understanding form and function and its relation wrt architectural design Understanding experiential quality of space



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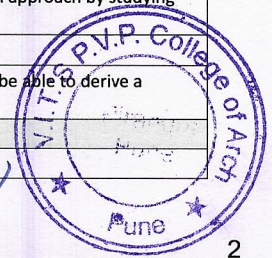
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8	Architectural Design I	10	CO 4	To design space with understanding of design process and the various stages of design.
			CO 5	Understand the role of art, socio-culture and geographical factors of the existing settlements.
			CO 6	Understand implementation of architectural elements with respect to climatic conditions.
9	Building Construction and Materials II	7	CO 1	To expand knowledge about earthquakes and earthquake resistant structures for load bearing structures
			CO 2	Understanding Timber construction and its jointing techniques
			CO 3	Understanding fundamentals of building elements such as roof, floor, staircase, doors and windows wrt timber construction
			CO 4	Understand the important aspects, parameters and scope of market survey in architecture.
			CO 5	To analyse and co-relate various timber components with construction technologies, using timber and timber derivatives
10	Theory of Structures II	2	CO 1	To develop understanding of effect of various forces in terms of various stresses and deflection for various structural members like beams and columns.
			CO 2	To develop understanding of truss as lattice construction and structural actions in its members.
			CO 3	To develop understanding of Load transfer in Load Bearing Structures.
			CO 4	To develop understanding of Load transfer in Framed Structures.
11	Architectural Graphics and Drawing II	3	CO 1	To comprehend and express composite solid geometry through sketches and drawings leading to comprehension of building components.
			CO 2	To represent set of solids or building components effectively in 3D using the techniques of perspective drawing and sciography
			CO 3	To explore different techniques of creating effective presentation drawings
			CO 4	To communicate various ideas through Architectural Graphic representations including building plans and sections (drafting and sketching).
12	History of Architecture and Culture II	2	CO 1	An understanding of architecture, including settlements, landscapes and buildings as a cultural product shaped by various factors with a focus on Islamic architecture and post Mughal architecture
			CO 2	An understanding of the formal, structural, and stylistic aspects of architectural development in the chosen period
			CO 3	Analysis of place, form, materials from socio-cultural and architectural perspective
			CO 4	Introduce students in the process of doing systematic research in documentation exercise of structures and to debate on the formation of those structures
13	Fundamentals of Architecture	2	CO 1	Introduce students to the profession of Architecture and its distinguishing characteristics with respect to other professions and disciplines
			CO 2	Equip students to understand concept of Shelter and introduction to various building typologies and their design concerns
			CO 3	Equip students to understand fundamentals of architecture -function , culture and environment and their integration into the architectural form
			CO 4	Equip students to understand factors affecting architectural design- site, context , circulation, structural system, materials and aesthetics.
14	Workshop II	2	CO 1	Getting hands on experience in handling material using balsa wood as model making
			CO 2	To be able demonstrate sufficient skills in making architectural models.
			CO 3	Understanding basic commands of 3D model making softwares in architecture
			CO 4	Exploring the 2D to 3D technique of form evolution using Sketchup as a tool
15	DEG	2	CO 1	To understand history of evolution of Democracy, structure of Indian Constitution through lectures and comprehending the same through lecture notes
			CO 2	To understand the process of Amendments to the Constitution with specific cases (73rd and 74th amendments) and their effects through lectures and comprehending the same through lecture notes
			CO 3	To understand the process of elections and formation of legislative bodies through lecture, discussions and comprehending the same through lecture notes
			CO 4	To understand process of governance and develop ability to identify the institutions of governance through lecture, discussions and comprehending the same through lecture

Second Year B. Arch. (2019 pattern)

1	Architectural Design II	10	CO 1	To understand the aspects and complexity in the Design of a Dwelling and its effect on the lifestyle and people and understand what makes it personal for the users.
			CO 2	To document, analyse the site and derive hints for the formulation of a relevant design approach
			CO 3	To be able to decode the brief, programme and derive a relevant Design approach by studying the site, socio-cultural aspects and climatology
			CO 4	To study and understand anthropometry and proportions
			CO 5	To choose an appropriate construction technology and material and to be able to derive a character for the built mass.
			CO 6	To develop Communication skills via 2D Drawings, 3D models
			CO 1	Learning Soil Mechanics and types of foundation in various soil types.



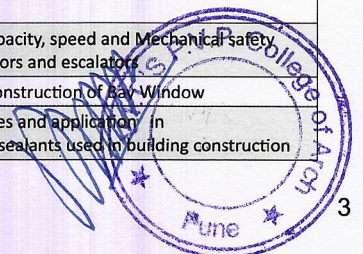
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2	Building Construction and Materials III	7	CO 2	Understanding concrete as a material alongwith all its properties and behaviour and also study of the ingredients of concrete
			CO 3	To understand RCC frame structure for smaller spans generally applicable to residential structures, along with earthquake resistant features, reference of a RCC drawing R.C.C structural details up to plinth viz. footings, external and internal plinth beams, with plinth formation, with details for toilet block at plinth level.
			CO 4	To understand Construction of columns, beams for various types of end conditions R.C.C floor slab details, viz. one-way, two-way slabs with different end conditions, column beam-slabjunction with details for toilet block, also lintel & weather-shed
			CO 5	To Study of non-timber windows with materials like Steel-framed, aluminum, UPVC and their construction details
			CO 6	Learn and explore Different flooring & paving types and its applications
3	Theory of Structure III	2	CO 1	The understanding of the concepts of Fixity, Continuity and Torque
			CO 2	The Skills to Design small spanned Wooden Beams
			CO 3	The Skills to Design Small Spanned R.C.C Structure w.r.t Slabs, Beams and Columns and use it for his B.C.M and W.D. subjects
			CO 4	To understand wood and concrete as a material and as a structural material.
4	Computer Aided Drawing and Graphics	2	CO 1	To be able to communicate using non-verbal forms of communication
			CO 2	To express and communicate the characteristics od a Space through sketching and color medium.
			CO 3	To communicate various ideas through architectural graphic representations (drafting and sketching).
			CO 4	To understand AutoCad as a 2D drafting computer aided tool to prepare, compose & plot Architectural drawings, graphics & information. Exploring the overall AutoCad interface & learning various commands required in making a 2D drawing.
5	History of Architecture and Culture III	2	CO 1	To understand the development of European architecture through the historical period till 17th century AD.
			CO 2	To understand the relationship of religion and society with architecture
			CO 3	To understand the drivers of change, revival, and evolution of architecture
			CO 4	To use drawing analysis as a tool for application of above learning and continuation of research process through documentation of structures - such as churches or any other relevant site
6	Building Services I	3	CO 1	To understand principles and techniques of water supply, requirement storage and distribution.
			CO 2	Understand the various types of taps, valves, faucets, Pipes and their networking system and their installation applications.
			CO 3	To understand Systems of hot water supply using conventional and non-conventional energy sources.
			CO 4	Study of drainage and sewage system and their working application.
7	Climatology	2	CO 1	To understand climate as a determinant of architectural design and to enable the students to evolve climate responsive design.
			CO 2	To understand the design of various building elements / spaces as a response to the climatic condition of the region / site.
			CO 3	To understand and apply passive design strategies at various scales using the various tools like sun path, bioclimatic chart, site analysis matrix etc that are used to study sun movement, wind and comfort in buildings.
			CO 4	Students should be able to make communicative drawings to explain the idea.
8	Architectural Design III	10	CO 1	To understand principles of Cluster or campus design for a project whose built up area is in the range of 1,000sq.m.
			CO 2	To prepare a site layout which provides good circulation, natural light and ventilation
			CO 3	To develop an appropriate response to climate and use derive a relevant massing scheme for the building
			CO 4	To understand inter-relationships between multi-functional building
			CO 5	To use appropriate building materials, technology to derive a relevant character for the built masses.
			CO 6	To be able to use 2D drawings and 3D model to communicate the ethos/ spirit of the design
9	Building Construction and Materials IV	7	CO 1	To study types of special concretes, lightweight concrete, ready-mixed concrete, including ferrocement etc; study of its ingredients viz. along with storage of materials on site, understanding good quality material and field & lab tests involved
			CO 2	To understand causes of dampness and reasons for damp- & water-proofing, different methods or treatments of damp- & water-proofing
			CO 3	To understand R.C.C structural details for balcony slabs, canopies and construction of various types of precast and in-situ RCC stairs, along with earthquake resistant features, reference of a RCC drawing
			CO 4	Study of elevators, escalators, conveyors – types, size, capacity, speed and Mechanical safety methods, provisions in civil work for installation of elevators and escalators
			CO 5	Study of Various types of sliding and folding doors and Construction of Bay Window
			CO 6	Study Glass and Plastic as Building material, its types, uses and application in building industry. Study Different types of adhesives and sealants used in building construction



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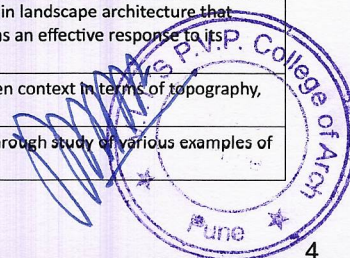
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10	Theory of Structures IV	2	CO 1	The understanding of supporting Balconies and Staircases
			CO 2	The Understanding of Dividing Larger Rooms in Smaller One Way or Two Way Slab Units
			CO 3	The Understanding of Steel as a Material and Various Steel Sections and their use.
			CO 4	The understanding of using Steel Girders and Stanchions
11	Environmental Science	2	CO 1	To enable students to grasp the interdisciplinary nature of environment science and its interdependence on development and society.
			CO 2	To encourage students to think holistically about environment when taking architectural design decisions
			CO 3	To generate awareness in students regarding various environmental impacts and issues created by the construction industry in order to enable them to devise creative and sustainable solutions.
			CO 4	To familiarize students with various legislative provisions with regards to environment.
12	History of Architecture and Culture IV	2	CO 1	An understanding of architecture as a product shaped by various factors like technological developments, colonization, globalization, economy, and urbanization.
			CO 2	To develop students' ability to take visual notes objectively of key lecture and talks
			CO 3	An understanding of different Movements in Architecture
			CO 4	Develop reading and reviewing critical literature in Modern Architecture
13	Building Services II	3	CO 1	To understand basic principles of daylight and artificial lighting and develop an ability to design a lighting plan for a space.
			CO 2	To be able to calculate the energy requirement of building electrical systems.
			CO 3	Students should be able to identify space requirements and integration of these systems in architectural design.
			CO 4	To introduce students to Building Services in low, medium and high rise buildings and inculcate in them the understanding of integration of services in architectural design.
14	Site Survey and Analysis	2	CO 1	To be able to comprehend the site characteristics, reading and interpreting survey drawings, understanding equipment and methods of surveying leveling.
			CO 2	To help students prepare and interpret survey drawings.
			CO 3	To acquaint the students to various site surveying instruments and methods which enables them to comprehend the given design site.
			CO 4	To empower the students with the different tools for site analysis like topography, hydrology, vegetation and visual aspects to be able to derive appropriate and conscious design decision.

Third Year B. Arch. (2019 pattern)

1	Architectural Design IV	10	CO 1	Students should be able to study, analyse and synthesise various design parameters in built-unbuilt spaces
			CO 2	Students should be able to design a Campus comprising of more than one building and evolve design in response to the site and the context.
			CO 3	Students should be able to Integrate functions, structure and services in a building with relevant structural system.
			CO 4	Students should be able to creatively design and program open spaces.
			CO 5	Students should be able to negotiate various scales in drawings and models.
			CO 6	Students to be equipped with ability to make communicative architectural drawings
2	Building Construction and Material V	6	CO 1	Students should understand the principle, methods, advantages and disadvantages of concrete floor construction systems and single basement construction.
			CO 2	Students should get to know the proprietary construction techniques for partition ceilings with the latest available materials.
			CO 3	Students should get acquainted with the different techniques used in Interior finishing work
			CO 4	Students should get acquainted with the different materials used in Interior work
			CO 5	Students should get acquainted with the different techniques like retaining wall , waterproofing etc & material used for basement construction
			CO 6	Students should get acquainted with the different joineries and tools, equipments used in work with timber derivatives
3	Theory of Structures V	2	CO 1	Students should Understand the basics thumb rules and criterias considered in structural design
			CO 2	Students should Understand understanding of larger space spanning both in R.C.C and Steel
			CO 3	Students should Understand understanding of carrying of vertical loads by R.C.C. Columns and Stanchions
			CO 4	Students should understand understanding Lateral pressure and structural principles for overcoming it.
4	Landscape Architecture	3	CO 1	Students should be empowered with the methods and tools in landscape architecture that contributes the planning and design of the built component as an effective response to its setting.
			CO 2	Students should be able to discern the various aspects of given context in terms of topography, hydrology, vegetation and visual analysis.
			CO 3	To acquaint the students with man and nature relationship through study of various examples of man's response to his surroundings through history.



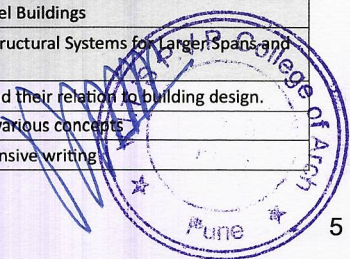
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			CO 4	To introduce students to the various ways in which Plants can be used as the main tool and material for creating spaces and perform specific functions by understanding its Characteristics as shape, size, texture, growth pattern and seasonal variations.
			CO 5	To introduce students to the various construction details in landscape architecture and its implementation in their design project.
5	Elective I (Contemporary Architecture)	2	CO 1	Inculcate in students an analytical thinking about architecture, introduce various theoretical positions.
			CO 2	Help students develop individual view points and construct arguments to put it across.
			CO 3	Skill of presenting a topic of choice, and generating a discussion.
			CO 4	Equip students to write a college level essay by following the formalities of writing in terms of references and acknowledgements.
6	Building Services III	3	CO 1	To equip students with the Understanding of Natural and Mechanical Ventilation system in building and build a healthy environment
			CO 2	Students should be able to derive low energy consumption techniques through the understanding of Passive heating and cooling system
			CO 3	Students should understand the functioning of Air Conditioning system on different scale and the spacial requirements of same w.r.t. different equipment, ducts and tonnage.
			CO 4	To understand the complexities of Building services (Mechanical Ventilation , Passive techniques, HVAC) and demonstrate in the Design Project
7	Working Drawing I	2	CO 1	to develop the ability to rationalize & revise the student's own design & presentation drawings, for appropriate & buildable dimensions as well as to incorporate the principles of the load-bearing structural system like room span, foundation, size of openings, cantilever provision, treatment of junctions, etc.
			CO 2	to learn to generate building drawings with corresponding schedules (opening, framing, finishes etc.) that are technically correct & well communicative for construction purposes, like a setting-out plan, a center line plan, all level floor plans, sections & elevations
			CO 3	to develop the ability to generate the construction details (opening details, kitchen platform details, railing fixing details & building envelop + skin section) for the building with correct technical specifications and cross-referencing system for the detail to relate back to the main building drawings. In the process develop an understanding of the mandatory requirement for the building-specific details in terms of dimensions, specifications, method of assembly & fixing, etc. responding to anthropometry, climate & weather as well as the availability of materials in the market.
			CO 4	to generate the final consolidated drawing portfolio, from site-level drawings to building detail drawings with appropriate cross-references, sequence of the drawings, construction notes & proforma. And to develop the skill to check the working drawing with given checklist.
8	Architectural Design V	10	CO 1	To study an aspect of community living in urban context in a different socio-geographic setting, and document the study with emphasis on aspects like Chronology, Climate, Culture, Commerce, Context, Cluster, Cell, Character & Craft of Construction which are important to sensitize students
			CO 2	Students should be able to understand progressively complex spaces and buildings in terms of area, a specific community, typology, function etc, with emphasis on scale.
			CO 3	Students should understand concerns of sites in urban context there by necessitating multi storied buildings.
			CO 4	Students should be able to design and layer different activities with different spatial requirements
			CO 5	Students should be able to Integrate functions, structure and services in a building with relevant structural system.
			CO 6	Students should be able to negotiate various scales in making communicative drawings and models.
9	Building Construction and Material VI	6	CO 1	Students should develop an understanding of possibilities of steel as an important building construction material.
			CO 2	Students should develop understanding of properties of ferrous and non ferrous metals as materials for buildings will enable students to use Steel innovatively in building projects.
			CO 3	Students should know about the advanced techniques used to improve earthquake resistance in construction
			CO 4	Students should get exposure to different types of roofing systems & connections in steel structure
			CO 5	Students should get acquainted with the Industrialised building construction system along with Precast construction systems
			CO 6	Students should know about the application & execution process for steel & precast construction
10	Theory of Structures VI	2	CO 1	Students should develop the understanding of Effects of Lateral Pressure of Soil and Water
			CO 2	Students should develop the sense to frame R.C.C and Steel Buildings
			CO 3	Students should develop the understanding of different Structural Systems for Larger Spans and Tall Buildings with an understanding of Wind Load
			CO 4	To develop in students, the feel for structural principles and their relation to building design.
			CO 1	To introduce students to Research in Architecture and its various concepts
			CO 2	To introduce students to basics of research and comprehensive writing



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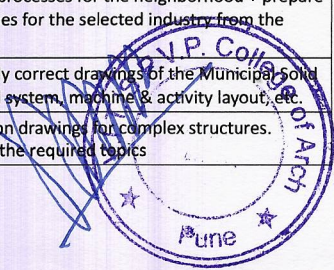
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11	Research in Architecture I	2	CO 3	To introduce students to methods of research in architecture - Literature Study, use of surveys, observations, experiments, secondary sources etc.
			CO 4	To enable the students to prepare a research proposal
12	Elective III	3	CO 1	Students should be able to analyze local knowledge, resources, culture and traditions, climate-responsive building techniques etc.
			CO 2	To familiarize students with vernacular and urban design vocabulary through book reviews and discussions
			CO 3	To understand urban morphology and its generators through comparative studies
			CO 4	Identifying elements of a city and to be able to communicate the relationship between them through analytical drawings.
13	Building Services IV	3	CO 1	To understand need of firefighting system in various building typologies and guidelines given for the same by governing bodies
			CO 2	To understand and apply Acoustical considerations in site planning and design of indoor spaces
			CO 3	To understand properties of various acoustical and fire fighting products available in the market and its suitability under different conditions.
			CO 4	To be able to prepare Evacuation map for their own designs considering emergency scenario adhering to prevailing guidelines.
14	Working Drawing II	2	CO 1	To develop the ability to rationalize & revise the student's own design & presentation drawings having minimum 2 storeys, for appropriate & buildable dimensions as well as to incorporate the principles of the selected structural system like room span, foundation, size of openings, cantilever provision, treatment of junctions, etc.
			CO 2	To learn to generate building drawings with corresponding schedules (opening, framing, finishes, etc.) that are technically correct & well-communicative for construction purposes, like a setting-out plan, a center line plan, all level floor plans, framing plans, sections & elevations. To generate the appropriate internal layout drawings, taking into consideration the room sizes, position of openings, partitions etc., that are technically correct & well-communicative for execution purposes, room plan, section, reflected ceiling plan.
			CO 3	to develop the ability to generate the construction details (staircase, toilets & building envelop + skin section) for the building + interior details (furniture, partition & false ceiling) with correct technical specifications and cross-referencing system for the detail to relate back to the main building drawings. In the process develop an understanding of the mandatory requirement for the building-specific details in terms of dimensions, specifications, method of assembly & fixing, etc. responding to anthropometry, climate & weather as well as the availability of materials in the market.
			CO 4	to generate the final consolidated drawing portfolio, from site-level drawings to building detail drawings with appropriate cross-references, sequence of the drawings, construction notes & proforma. And to develop the skill to check the working drawing with given checklist.

Fourth Year B. Arch. (2019 pattern)

1	Architectural Design VI	11	CO 1	Through precedent study of Evolved typologies, contemporary explorations and current emerging trends of housing, develop an understanding of physical, social, environmental & economic determinants that define the built form for habitat
			CO 2	Ability to comprehend and understand the larger context through documentation & aspect based studies of selected study area.
			CO 3	Develop group wise thematic approaches for selected study area and based on same, formulate individually the design program for Multifamily Residential Development along with understanding of requirements of the user group identified
			CO 4	Develop design narrative & approach - Sustainability, affordability, low-cost construction, incrementality, site & services, explorations in construction technology & structural system etc.
			CO 5	Develop a Multifamily Residential Typology (builtform & functional) with interrelated scales - Neighbourhood, Site, Cluster & Unit; in response to physical determinants like, Density, Unit mix, Site & Built-Up calculations based on applicable building byelaws through application of concepts like Ground coverage, FSI, etc. and resolve Habitable & Service grids
			CO 6	Synthesis into a well resolved Multifamily Residential project
2	Advance Building Construction and Services I	4	CO 1	Learn techniques and methods to document and prepare appropriate representation for context drawings for multilevel basement parking.
			CO 2	Develop the ability to decode and analyze the parking layout, building services and structural grid + construction details of existing buildings like retaining wall, foundation etc.
			CO 3	Develop understanding of swimming pool typology & its systemic, technical, & functional requirements through reference studies.
			CO 4	Learn the method of identifying the suitable industrial processes for the neighborhood + prepare the master plan, process flowchart, and design guidelines for the selected industry from the reference studies.
			CO 5	Demonstrate the ability to resolve & produce technically correct drawings of the Municipal Solid Waste Recycling Plant with required services, structural system, machine & activity layout, etc.
			CO 6	Demonstrate the ability to prepare good for construction drawings for complex structures. Gather appropriate data and prepare reasearch file for the required topics



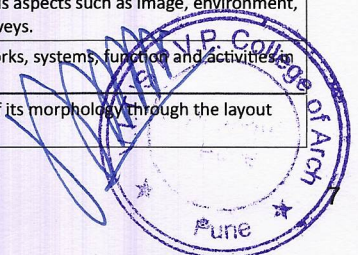
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3	Professional Practice	3	CO1	Ability of student to understand role of Architect in society and implications of Architects Act 1972 on the profession including rights and duties as defined by same.
			CO2	Develop knowledge of working of an Architect's office , understanding aspect of professional fees and mode and nature of professional Practice .
			CO3	Understand role of various professional organizations in architectural practice including benefits and processes to join them
			CO4	Understanding role, importance, types and processes of Architectural competitions
4	Urban Studies I	3	CO 1	Understanding and assimilating the urban planning and urban design theories.
			CO 2	Understanding the importance of neighbourhood planning, visual theories, DCR and bye-laws, MRTD Act and relevance of its learning in Architecture profession.
			CO 3	Understanding the evolution of housing typology and its physical determinants.
			CO 4	Understanding of landuse distribution for Residential and other Amenities and optimization of available land for a specific use.
5	Research in Architecture II	2	CO 1	Data collection of various case studies undertaken for topic exploration.
			CO 2	Analysis of data using various techniques such as verbal, visual, graphical, numerical etc.
			CO 3	Findings and Technical writing of research conducted in the form of research paper.
			CO 4	Presentation of a research paper in prescribed format.
6	Quantity Surveying and Specification Writing I	3	CO 1	To develop knowledge about basics of quantity surveying and method of estimating
			CO 2	To get acquainted with calculating quantities for load bearing structure (G+1) and RCC (G+1) structure
			CO 3	To develop knowledge about basics of specification writing and method of specification writing
			CO 4	To give exposure to IS 1200 mode of measurement for building entities in construction
7	Elective III	2	CO 1	Develop knowledge about the recent developments in the field of architecture from point of view of building design, services and construction
			CO 2	Application of the skills learnt
8	Architectural Design VII	11	CO 1	Ability to comprehend and understand the larger context through documentation & aspect based studies of selected study area, where in aspects are derived from various determinants like Culture, Environment, Movement mobility, Infrastructure, Social factory , Economic networks etc that are particular to the urban area studied
			CO 2	Develop structure plan and design guidelines for thematic approaches in groups.
			CO 3	Formulation of program for need based non-residential Development & requirements defined by various needs of identified stakeholders along with those evolved on study of similar examples of project precedents
			CO 4	Develop design narrative & approach - public realm, multipurpose use, sustainability, low-cost construction, explorations in construction technology & structural system etc.
			CO 5	Develop an urban insert typology - amenities & facilities with interrelated scales - Neighbourhood, Block & Site; in response to physical determinants like, Site & Built-Up calculations, Ground coverage, FSI, etc. and resolve function & service grid.
			CO 6	Synthesis into a well resolved Urban Insert Project responding to its urban context in terms of design
9	Advance Building Construction and Services II	4	CO 1	Identification and decoding of design program, structural system & services requirements for the selected highrise typology on the basis of supporting data and information from the parallel references.
			CO 2	Synthesis in terms of well resolved structural system & services required in high-rise for the selected context & concern, responding to local & global issues + environment, community, culture of the region
			CO 3	Develop ability to generate idea and Design program based on understanding of function, structure & services + acoustical & visual environment + construction & ventilation systems using parallel references for an auditorium.
			CO 4	Synthesis of an auditorium in response to the existing physical and programmatic context of the institute. with proper seating configuration, geometry, structure and building services
			CO 5	understanding of systems in built environment
			CO 6	Technical analysis of construction techniques, specification & quantity estimation used in the execution of the detail
10	Project Management	3	CO1	Understand various modes of construction management like direct work, site visit report Tenders, its types, documents & processes
			CO2	Ability to understand role of architect in contractual management including contents of contract document
			CO3	Understand importance of National Building Code
			CO4	Ability to understand the Role and Legal duties of Architects in Arbitration and Valuation.
11	Urban Studies II	3	CO 1	Ability to comprehend and identify issues related to various aspects such as image, environment, culture, traffic and transportation etc through primary surveys.
			CO 2	Understanding of the inter-dependencies of various networks, systems, functions and activities in a selected neighbourhood.
			CO 3	Analysing the urban fabric of a neighbourhood in terms of its morphology through the layout and pattern of sub-division of streets, plots and buildings.



22-23_2.6.1_Course Outcomes and Program Outcomes

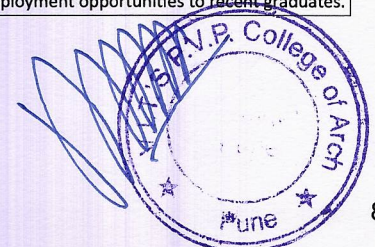
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			CO 4	Understanding the process of planning & survey, conservation and Urban design guidelines, planning legislation.
12	Elective IV	2	CO 1	Develop knowledge about the recent developments in the field of architecture from point of view of building design, services and construction
			CO 2	Application of the skills learnt
13	Elective V	2	CO 1	To help students generate an enquiry, study, investigation, and research into any one or more areas of concern/interest, which the student is given the liberty to choose to study based on his/her potential, passion and/ or interest
			CO 2	To help students get clarity, before embarking for practical training.
			CO 3	To help students strengthen their area of concern/interest through reading current articles from newspapers, refereed journals, books, watching films, scripted interviews, etc. to further inform their project
			CO 4	To help students get a head start to engage in their project in their tenth semester.
14	Quantity Surveying and Specification Writing II	3	CO 1	students should get acquainted with rate analysis and Indent of materials for every entity in construction
			CO 2	students should get acquainted with quantity working for steel structures - industrial truss, water supply and sanitation systems
			CO 3	To acquaint students with methodology of writing specifications with reference to service installations of different items of work in construction.
			CO 4	To enable students in different building trades & content, checklist.

Fifth Year B. Arch. (2015 pattern)				
1	Practical Training	8	CO 1	Develop the ability to work outside his / her comfort zone through joining offices which are outside the state of Maharashtra or the homestate of student to give an exposure which is outside the students cultural zone of working and living
			CO 2	Develop the ability and tenacity in student to work for a period of continuous 6 months in a single office
			CO 3	Develop exposure to real life situations through active participation in working on ongoing projects in the office & Understand the complexity in the working on the process of a project from client brief to excution of the project w.r.t. design, services, structure, managment, working drawing, construction details.
			CO 4	Develop the ability in student to work with confidence and full commitment in a professional office as part of a larger professional team. Thus also develop the ability to follow instructions and understand the process of teamwork while working.
			CO 5	Develop ability of student to document the training process by responding to various formats like day to day work diary, log book & prepare a portfolio of work done in office which could be stored in college library for referance of future generation of students
			CO 6	Develop the ability to develop a 'Real time' attitude towards work and reflect the same in Architectural Project or Thesis in the last semester in the five year course of B.Arch
2	Elective V	2	CO 1	To get acquainted with the field and practice of Project Management
			CO 2	To be aware of the 10 knowledge areas of Project management
			CO 3	High levels of design fidelity. Proper adherence to the planning and design process.
			CO 4	Deploying correct construction practices , for existing and new building technologies , from a detailing perspective. Systematic documentation and process being followed in the design and execution of projects.
4	Architectural Design Project	12	CO 1	Aims at encouraging exploration of Ideas, addressing Social-Environmental-Historical issues and Building Types that together make architecture and built environment.
			CO 2	To realize that the philosophical - social - political - economic - cultural - historical - environmental - scientific - technological - engineering issues need to be seen together as a whole phenomenal reality that creates a ground and consciousness for architecture and allied disciplines.
			CO 3	Aims at approaching Architectural Design Project as an enquiry, study, investigation, and research methodically pursued by the students
			CO 4	To understand the seriousness of investigation into understanding interconnected complex issues in their chosen area of research into any one or more areas of concern/interest
			CO 5	Giving the students an opportunity to articulate idea/enquiry and adding a new perspective to it and arriving at a rational conclusion with a design demonstration.
			CO 6	Organizing EXIT Exhibition to generate a window where students interact with citizens, professionals from the construction industry and allied fields thereby increasing the reach of students' projects and potential and encouraging employment opportunities to recent graduates.



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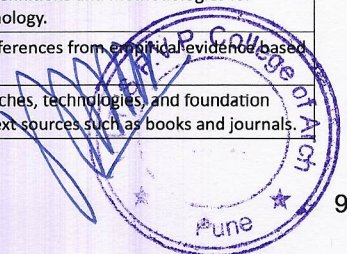
POST GRADUATE - Urban Design (Academic Year 2022-23)

Program Outcomes

- 1 Students shall be equipped to understand surveying and documentation techniques, and analyse real site conditions in an urban area, assessing needs and preparation of programming of design intervention and design demonstration.
- 2 Students shall be equipped to understand urban spaces critically in terms of their processes, outcomes and performances.
- 3 Students shall be enabled to understand client dynamics and tangible deliverables through working on live and real case situations in the studio.
- 4 Students shall be exposed to the need of research in Urban Design, essentials of any research and various research methodologies used in Urban Design along with developing the skill of technical writing.
- 5 Students shall be equipped with necessary information on various interdisciplinary theories, principles, techniques and methodologies.
- 6 Students shall be enabled to deal with varying site-based natural and ecological systems with reference to urban design projects and the region at large.
- 7 The students are expected to learn to work as a team member towards a holistic development of the built environment.
- 8 Students shall be exposed to various modes of professional practice in urban design in local and global context through practical training as well as through theory courses.
- 9 Students will learn to take a position and be able to develop their own argument regarding an issue or the aspect of human settlement/town/city and demonstrate their response through design and implementation strategies.

Course Outcomes

M.Arch. Urban Design (2019 pattern)				
First Year				
Sr. No	Subjects	Credits	CO Nos.	Course Outcomes
1	UD Studio – I : Urban Interventions	10	CO1	Students will be exposed to the complexities of the urban processes which are context-specific thrusting upon site study, documentation, mapping and analysis which in turn will provide the key ingredients for gaining contextual knowledge of any given situation.
			CO2	Students will be equipped with understanding the role of various layers of the making of a city/town/village that contribute in the various urban processes. For e.g. physical, social, economical, infrastructural, etc.
			CO3	Students shall be able to understand the importance and contribution of a decision-making processes to be able to address the concerns holistically.
			CO4	Students will be aware of the contribution of related disciplines associated with production of the city.
			CO5	Students shall be familiarized with the urban design terminologies, methods of surveys and site analysis along with various documentation techniques.
			CO6	Students will understand about assessing the needs of the project along with preparing the programme of design intervention and design demonstration as part of the design realisation process.
2	Elective – I (Humanities & Social Sciences)	3	CO1	Students will be exposed to the idea of understanding various aspects of 'Humanities & Social Sciences'.
			CO2	Students will be exposed to the process of urbanism critically in contemporary context.
			CO3	Students shall be trained to identify and understand the issues, dilemmas, ideologies and new patterns that are emerging in contemporary contexts of urbanism.
			CO4	Students will be equipped with the ability of understanding and developing different approaches to address critical concerns under the domain of humanities & social sciences.
3	Landscape Urbanism and Site Planning	4	CO1	Students will develop skills that enable an urban designer to deal with large sites in a comprehensive manner by sensitively acknowledging its ecological setting.
			CO2	Students will be equipped with skills of mapping, evaluating and analysing the site and its resource systems.
			CO3	Students will be enabled to deal with varying site-based natural and ecological systems with reference to urban design projects and the city at large to enhance critical thinking and decision making.
			CO4	Students will be equipped with the abilities to conceptually understand the ecological support systems like services and related infrastructure.
4	History of Urban Form and Space	3	CO1	Students will achieve a comprehensive understanding of various ideologies, phenomena, processes, etc. that have shaped the evolution of settlements in history by studying precedent examples and its urban form and urban spaces in historical and theoretical terms.
			CO2	Students will be equipped to be exposed to the entire process of historical evolution and transformation of settlement pattern along with its urban form and space.
			CO3	Students will learn various urban form determinants by studying representative examples in reference to the historical timeline of evolution of urban design discipline.
			CO4	Students shall develop an understanding of the historical perspective when designing in contemporary contexts while being sensitive towards the original city form and fabric.
5	Urban Design Methodologies	3	CO1	To provide explanations of Urban Design terminologies, definitions and methodologies for shaping and understanding of urban form & urban morphology.
			CO2	Students will understand the theory and draw parallel references from empirical evidence based on interpretation of existing urban morphologies.
			CO3	Students are exposed to different methodological approaches, technologies, and foundation theories of urban design through established reference text sources such as books and journals.



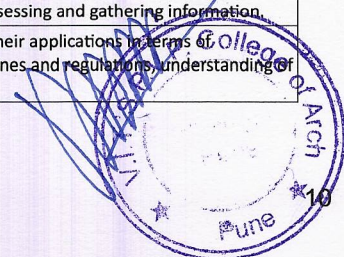
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			CO4	Students will understand the aspect of various scales of representation of urban form & urban space under same.
6	Reading the City	2	CO1	Students will understand different examples from contemporary India drawn from various disciplines like history, sociology, humanities, political studies, economics and technology and their implications on the city space.
			CO2	Students shall understand the relation between the city space and its morphology.
			CO3	Students will understand the processes of production of culture where multiple layers of production exist simultaneously.
			CO4	Students shall learn ways of reading the cities and their phenomenon through different narratives and shall also be equipped with the required writing skills.
7	UD Studio – II : Urban Extensions / Green Field Development	10	CO1	Students will be able to apply theoretical knowledge in resolving a design problem for a Green Field site or an Urban Extension situation.
			CO2	Students shall be able to look at cities and their growth outside the realm of Urban Design and develop methods to comprehensively deal with its development within the context of the city itself.
			CO3	Students will develop a holistic (theoretical as well as physical) understanding of the site, its potentials and its constraints to be developed to create a set of proposals dealing with broad issues of sustainable development with focus on addressing the idea of resilience.
			CO4	Students shall be able to evolve a design brief pertaining to specific situations after an exhaustive analysis of the collected data, all within the limitations of the established norms.
			CO5	Students shall be able to formulate a vision statement and evolve a comprehensive urban structure plan for the proposed site addressing the site & context, culture and lifestyle, ecology and environmental issues, scales and density, services and infrastructure, etc.
			CO6	Students will be enabled with the skill to conceive urban extensions or development on green-field sites preferably for live and real urban conditions, thereby understanding client dynamics as well as tangible deliverables.
8	Elective – II (Interdisciplinary Design and Planning Fields)	3	CO1	Students shall develop a comprehensive understanding of the urban design discipline by studying it from various Interdisciplinary Design and Planning fields.
			CO2	Students will be exposed to the various aspects & concepts in relation with urban development from interdisciplinary fields like Imagining Cities in Visual Arts/ Performing Arts/ Literature/ Cinema; Urban Aesthetics; Landscape Urbanism; Art and Science of Conservation; Environmental Planning; Future Cities; G.I.S. and other softwares; Computer Aided Urban Design or any other topic that falls under this category.
			CO3	Students shall be equipped with the ability to think laterally about the cities and its complexities from the interdisciplinary perspective.
			CO4	Students will be familiarised to the ability of critical understanding one of the important interdisciplinary dimensions being dealt with in the UD Studio II through this elective.
9	Urban Design Theories and Criticism	4	CO1	Students will be acquainted with the evolution of ideas and principles of Urban Design by centering on the relationship between societal change and the formal organization of the urban environment.
			CO2	Students will learn to pursue historical, theoretical and critical lines of arguments by examining urban places and spaces in their making, use and change, ranging from early civilizations to the present.
			CO3	Students will be equipped with the ability to study and understand the urban spaces critically in terms of their production processes and their performances as social and public spaces.
			CO4	Students shall learn to evolve their thinking ability by processing various sets of information and also learn the skill of critical thinking and also learn the skill of representing their critical thinking through formal writing.
10	Research I	3	CO1	Students will attain the understanding required to establish the need of research in the field of Urban Design along with the process of formulating a research proposal and project.
			CO2	Students will gain awareness about different types of research, their advantages - disadvantages and their applications while learning various research methodologies and methods used in the realm of Urban Design and Urban Studies.
			CO3	Students will develop skills of conducting and communicating research by developing abilities of data collection, analysis, technical writing.
			CO4	Students will attain the comprehensive knowledge of conducting an ethical research which includes areas like understanding Cyber Security and Laws, Intellectual Property Rights and Plagiarism.
11	Planning Tools for Urban Design	3	CO1	Students will be exposed to the principles of planning and critically evaluate different planning processes prevalent in India and abroad to understand its impact on the development and growth of the City.
			CO2	Students will be aware of the statistical and survey techniques used in preparation of planning and urban design programmes informing the student of the various methods, techniques and processes of planning, focusing on the latest methods of assessing and gathering information.
			CO3	Students will learn concepts and theories of planning and their applications in terms of preparation of various types of plans, preparation of guidelines and regulations, understanding of legal and statutory aspects, etc.



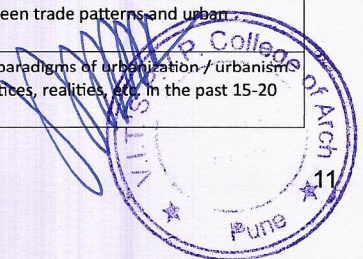
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			CO4	Students will be equipped with necessary information and knowledge on planning theories, principles, techniques and methodologies.
12	Urban Systems	2	CO1	The students will gain an understanding of the infrastructure needs for an urban environment and fundamental concepts that cater to such needs.
			CO2	Students will be equipped and aware of both social and physical urban infrastructure along with their relationship with urban design.
			CO3	Students will be sensitized to the issues related to traffic & transportation in cities and various planning tools & mechanisms to cater to the same.
			CO4	Students will be informed of different transportation systems, surveys and models, standards policies and techniques for designing of pedestrian spaces, parking and other modes of travels, etc. along with their relationship with urban design.
Second Year				
13	UD Studio – III : Urban Transformations	10	CO1	Students will have had understood the process of evolving a premise for urban design in tune with the growth and transformations within / of a city in a brown-field situation.
			CO2	Students will be able to inspect into the various key issues within the city and identify opportunities of responses through various approaches like urban regeneration / restructuring / renewal, etc. and evolve an agenda for Urban Design through the lens of the approach selected.
			CO3	Students will learn to evolve a design brief and undertake suitable interventions with engagement of various stakeholders.
			CO4	Students will have learned appropriate tools and mechanisms for implementation of the proposed project with understanding of its financial feasibility.
			CO5	Students shall attain capabilities of theorising and articulating a design problem, understanding design decision process, preparing structure plan & design strategies, developing implementation mechanisms and evaluation needed to realise a practical Urban Design Project.
			CO6	Students will have learnt to prepare a comprehensive report of documentation, studies and analysis along with preparation of a Detailed Project Report (DPR) / Design Basis Report (DBR).
14	Research II	3	CO1	Students will be equipped with the thinking abilities to study central issues related to Urban Design from past, to the present day and future.
			CO2	Students will be capable of conducting theoretical explorations related and supportive to the selected research topic.
			CO3	Student will be equipped to undertake an independent and a methodical research on a topic in Urban Design.
			CO4	Students will be equipped with the comprehensive skill set of conducting and writing a successful research.
15	Urban Design Policies: Practice & Implementation	4	CO1	Student will have had acquired experience of working on projects of urban scale (research and design both) with an organization involved in Urban Design or its allied disciplines along with getting acquainted with the structure and systems of an office working.
			CO2	Students will be exposed to the nature of various Professional Practices in Urban Design in local and global context through practical training as well as through theory course.
			CO3	Students will be acquainted with the role and stature of an Urban Designer in the society, as well as understand the duties, responsibilities, liabilities and ethics as a professional by preparing a comprehensive Detail Project Report (DPR) which covers the entire process involved in the realization of any project.
			CO4	Students will be equipped with the understanding of providing professional services involved as part of the professional practice.
16	Urban Conservation	3	CO1	Students shall be equipped with the understanding of various charters, dossier and reports by various national and international agencies working in the field of Urban Conservation which in turn will sensitize students towards acknowledging and responding to heritage as an important component of any city fabric.
			CO2	Students will learn various tools and methods of documentation of the past layers of development of historic precincts corresponding to its time and context.
			CO3	Students will understand the importance of the discipline of Urban Conservation as a tool / method while developing design approaches like urban revitalization / renewal considering the socio-cultural and morphological aspects of the built environment from heritage perspective.
			CO4	Students will be exposed to the role and importance of Urban Conservation in Urban Design that will sensitize students to designing in the context and develop alternative frameworks of assessment and response.
17	Urban Economics and Financial Planning	3	CO1	Students will be acquainted with the idea of economy and finance as the vital dimensions of various urban processes.
			CO2	Students will appreciate and understand relation between Urban Design projects and economic processes at three scales – global, national and local.
			CO3	Students will learn concept, systems and mechanisms of urban financing as an important and allied component in realizing urban scale projects.
			CO4	Students shall develop the ability to analyze relations between trade patterns and urban structures and form.
			CO1	Students will be exposed to and learn the new trends and paradigms of urbanization / urbanism emerging through different phenomenon, discourses, practices, realities, etc. in the past 15-20 years with a focus on the Indian context.



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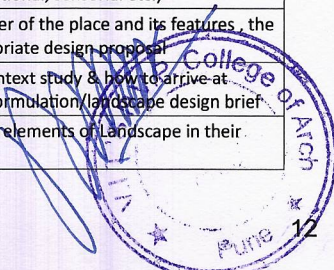
18	Emerging Urbanisation	2	CO2	Students will develop critical understanding of urbanisation and urbanism as processes and ideas of urban development as these patterns and ways of thinking tend to emerge as development trends.
			CO3	Students will have developed an understanding of the formal as well as informal trends in urbanisation which would have been a resultant of the processes of planned as well as spontaneous urbanisation involving various actors operating with complexities.
			CO4	Students will learn further to evaluate the potential and limitations of the emerging concepts in urban design in terms of their applicability at large by critically analysing various urban patterns and phenomenon.
19	Introduction to Constitution	2	CO1	Students will be aware of the structure, source, objects and philosophy of Constitution of India.
			CO2	Students will be acquainted with the understanding of their freedoms, responsibilities and fundamental rights and that of others too.
			CO3	Students will be aware of and learn about the Directive Principles i.e. 'Fundamental Principles' in the governance of the country as a state policy.
			CO4	Students shall have learned about their fundamental duties.
20	Urban Design Project	20	CO1	Students will have had developed the ability to both theorize and demonstrate their entire knowledge from the previous semesters in terms of theory, research and design.
			CO2	Students will learn to take a position and be able to develop their own argument regarding an issue or an aspect of human settlement / town / city through the knowledge gained from the research conducted earlier preferably.
			CO3	Students will develop the ability of additionally looking at research-based independent thinking pertaining to their design thesis project argument.
			CO4	Students should be able to critically reflect on similar arguments, ideas and design implementations in diverse contexts through the conduct of various reference studies.
			CO5	Students will have developed the ability to theorise and articulate a design problem, understand the design decision process, prepare a structure plan, formulate design strategies, realise the demonstration and respond it through design and implementation strategies.
			CO6	Students shall be equipped with the ability of preparing a comprehensive report of articulated design concern, documentation, studies, analysis and design.
21	Elective – III (Open Elective)	5	CO1	Students shall learn minimum one or multiple new dimension/s from the interdisciplinary area with its theoretical knowledge and practical understanding.
			CO2	Students will learn broad ideas and concepts inherent in the subject of elective offered.
			CO3	Students will understand the importance of application of the ideas and concepts learned and its contextualization in the field of Urban Design.
			CO4	Students shall be equipped with the abilities of supportive as well as lateral thinking ideas that contribute to the discipline of Urban Design.
			CO5	Students shall learn the abilities of participative as well as collaborative working.
			CO6	Students will be able to represent their learning outcome in the form of a report / journal / model or any other form suitable for the topic studied.

POST GRADUATE- Landscape Architecture (Academic Year 2022-23)

1	DESIGN AND PLANNING ABILITIES – Imparting the abilities with respect to design and planning of landscapes
2	KNOWLEDGE BASE – Knowledge of theory of landscape architecture, research and allied disciplines relevant to the field and its challenges , applicative understanding of the theoretical base
3	PRACTICAL, TECHNICAL AND COMMUNICATION SKILLS - Ability to work on real life contexts/projects (design, planning, and research) and contribute individually and also as team member to the same with practical, technical and communication skills. Ability to communicate and work in an interdisciplinary team.
4	SENSITIZATION, RESPONSIBILITY, COMMITMENT (TOWARDS NATURAL AND CULTURAL ENVIRONMENT AND ASSOCIATED ETHICAL PRACTICES) - Ability to be sensitive, responsible and committed towards natural and cultural environment and associated ethical practices
5	OUTREACH, DIVERSITY AND EXPOSURE – Ability to expand the scope of work of landscape design and planning and to respond to diverse situations in urban and rural contexts with an interdisciplinary perspective. Ability to imbibe, review, make decisions through self-initiated learning process, outreach and exposure with respect to local, national and international platforms which need services of a landscape architect.

Course Outcomes

Semester I (2019 pattern)				
Sr. No	Subjects	Credits	CO Nos.	Course Outcomes
1	Landscape Design Studio-I	10	CO1	Students will imbibe an understanding of how to perceive & comprehend various landscape spaces
			CO2	Develop an understanding about how to study & analyze designed as well as natural environments to understand various constituents of the landscape design & the role they perform in design (visual / aesthetic, ecological, cultural, functional, sensorial etc.)
			CO3	the learning will empower to synthesize the essential character of the place and its features , the perception of which allows the student to manifest an appropriate design proposal
			CO4	Students will be able to comprehend the process of site & context study & how to arrive at rationale of siting , developing conceptual design , program formulation/landscape design brief
			CO5	The learnings will empower the students to apply the various elements of Landscape in their design development.



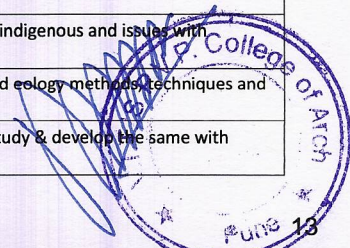
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			CO6	apart from the landscape proposal responding to the human use the learning will help the students to comprehend with the living community of plants and animals of the site
2	Elective-I GIS: Geographical Information System	3	CO1	To introduce the students to digital tools related to GIS such as QGIS & Global mapper and their significance as a tool for mapping in landscape architecture
			CO2	To introduce the students to the steps and the techniques of digitizing the various maps relevant for landscape architecture
			CO3	To enable the students in mapping of the natural and built layers such as relief, gradient, aspect, vegetation, hydrology, landuse and landcover etc.
			CO4	To enable the students overlay and analyze the various layers of site study and synthesize it to derive spatial analysis
3	Landscape Engineering	4	CO1	To understand visualizing landforms, their graphical representation, deriving contours by method of interpolation
			CO2	relationship between site characteristics and design requirements. Process of site analysis / documentation with respect to gradient, relief, aspect, surface water regime etc.
			CO3	To introduce Earth Work: Cut fill processes & Computation, grading of terraces, grading of roads, basics of road alignment (horizontal and vertical)
			CO4	Understanding drainage pattern and watershed area, storm water run-off systems and their design, calculation of surface runoff, determination of catchments area and discharge rate, etc.
4	Geology And Soils	3	CO1	Understanding of various phenomenon and processes with respect to geology
			CO2	Understanding minerals, metals and rocks
			CO3	Understanding formation, classification and mapping of soils
			CO4	Applicative understanding of ecology and soils and the analysis of various parameters to arrive at appropriate inference
5	Geomorphology And Hydrology	3	CO1	Understanding Geomorphological processes, landforms and geomorphological features
			CO2	Understanding hydrological cycle, watersheds and watershed management, types of flow and drainage basins
			CO3	Understanding various phenomenon & processes and how do they create particular kind of a landscape as a result of the same.
			CO4	Understand the interconnectedness of various earth sciences & develop an eye of observation & Analysis of various parameters to arrive at inference.
6	Plant Systematics & Taxonomy	2	CO1	Understanding the Phytogeography Zones of India and Introduction to Plant Kingdom
			CO2	Studying plant structure, morphology, anatomy, plant physiology and plant taxonomy
			CO3	Understanding the relationship between habit of a plant, its form & habitat.
			CO4	Understanding the attributes of plant materials, its value and significance in natural and designed environments so as to decide their applications in landscape architecture.
Semester II (2019 pattern)				
1	Landscape Design Studio-II	10	CO1	Demonstrating contextual understanding, documentation of site characteristics, landscape layer mapping and analysis
			CO2	Demonstrating the process of landscape program formulation and it's zoning based on site suitability
			CO3	Process of schematic landscape design development/planning in response to contextual analysis, synthesis & theoretical bearings
			CO4	To be able to derive an open space structure for the zones with suitable landuses/activities in response to the context
			CO5	Evolving landscape structure for the overall site & suggesting an appropriate landscape design with respect to ecological, functional, cultural & visual context.
			CO6	Communicating the understanding through comprehensive graphical representation and narratives that encompass the various tangible and intangible aspects incorporated in the landscape design proposal
2	Elective-II Landscape Construction and Services	3	CO1	Understanding of landscape construction technical drawings and details
			CO2	Understanding of landscape services technical drawings and details
			CO3	exposure to the market trend for various materials and technologies used in Landscape design through conducting market surveys.
			CO4	Familiarization to the various landscape mitigation techniques used to create a sustainable landscape project
3	Ecology And Ecosystem Analysis	4	CO1	Understanding Fundamental concepts & principles in ecology – Evolution of life on earth, Environment , habitat , niche , Interactions , food chain , food web , energy flow , succession , Flora-fauna associations, etc.
			CO2	Study all major biomes of the world & major ecosystems of India with respect to the physical characteristics, relevance and function
			CO3	Understanding biodiversity, biodiversity hotspots, the role of indigenous and issues with non-indigenous flora and fauna
			CO4	Understanding landscape ecology, ecological services and field ecology methods, techniques and applications
			CO1	Understanding the need & scope of theory and the tools to study & develop the same with respect to landscape architecture



22-23_2.6.1_Course Outcomes and Program Outcomes

Vivekanand Institute of Technology's

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4	Theory Of Landscape Architecture-I	3	CO2	Studying landscape attitudes, approaches, design & philosophy through history starting from the ancient till early 19th century along with insights into natural, social & temporal context and development of a theoretical structure for such a comparative study
			CO3	Discerning the changing perceptions of man's relationship with nature in various phases of history, Responses and attitudes to nature and landscape resources as a function of this perception.
			CO4	Understanding of environmental and behavioral theories like Entropy, Prospect-refuge theory, Defensible space etc., introduction to social and cultural dimensions of landscape
5	Research-I	3	CO1	Developing an understanding of research, types of research and the process of formulating research proposal
			CO2	Studying the various methods of research, their relative advantages and disadvantages and their applications
			CO3	Introduction to research publication, developing technical writing skills and presenting a research paper
			CO4	Introduction to the concept & Problem of plagiarism & software to check the same
6	Plants And Design	2	CO1	Understanding the relationship between ecological and visual characteristics of plants, looking at their form in relation to their habit.
			CO2	Familiarizing with indigenous plants and planting techniques for trees, shrubs and ground covers
			CO3	Developing the ability to select plants based on the visual, functional, ecological, cultural & temporal, laying emphasis on architectural & spatial significance of the vegetation in addition to its environmental value
			CO4	Understanding the principles of designing with plants and demonstrating of planting in landscape architecture through graphical representation
Semester III (2019 pattern)				
1	Landscape Design Studio—III	10	CO1	Understanding of the landscape regional context as an interacting process between the natural layers and the resulting man-made environment
			CO2	understand the significance of landscape planning and role of landscape architect with respect to the same through relevant literature and case studies
			CO3	To identify the various issues and concerns in relation to the large scale landscape and come up with appropriate framework for the landscape proposal
			CO4	Deriving an appropriate landscape approach based on analysis and synthesis of the selected area under study
			CO5	Preparation of Comprehensive Landscape Development Plan (CLDP)/Landscape Policy and guidelines/ Landscape Planning proposal including landscape design guidelines
			CO6	Ability to comprehensively demonstrate the landscape strategy, planning and design proposal in textual and graphic form
2	Research-II	3	CO1	The ability to select an appropriate research topic from the field of landscape architecture or allied disciplines, for the theoretical exploration related and supportive to the selected dissertation topic.
			CO2	Framing an appropriate research proposal including the relevance of the selected topic, the aim and objective of the research, and the the scope and limitation of the research
			CO3	Conducting an appropriate literature and case study from primary and secondary sources relevant to the selected topic of research and representing the study in an empirical manner
			CO4	Develop an appropriate methodology and research approach (but not restricted to) related to the Landscape Architecture Project
3	Landscape Architecture Professional Practice and training		CO1	Understanding of Professional practice – Ethics, code of conduct and liabilities as landscape architects, contracts and tenders, execution procedures, professional fees. Role of various bodies and organizations like COA, ISOLA, IFLA
			CO2	Ability to make Landscape working drawings with proper annotations and legends and understanding the universal vocabulary for this subject, Landscape specification writing, Costing and estimation
			CO3	Successfully undergo Professional Training (40 full days) at the end of Semester II which involves working in a Landscape Architect's Firm in India or abroad to gain insight and exposure to the practical aspects of the field of Landscape Architecture
			CO4	Compilation of the work done during the professional training in the form of A3 report exhibiting the student has acquired the basic skills and knowledge with respect to professional practice
4	Theory Of Landscape Architecture-II	3	CO1	Understanding the evolution of landscape architecture in post-industrial world & the concepts of park, park systems & open space structure
			CO2	Understanding changing concepts of space and the relationship of landscape architecture illustrated through studies of selected works
			CO3	Familiarizing with Landscape Planning and design process in Landscape Architecture by studying significant examples of 20th century Landscape Architecture
			CO4	Discerning the contemporary & futuristic approaches in designed landscape across the world
			CO1	Understanding importance of landscape management, Landscape Management principles, framework and strategies from site level to regional level landscapes, management techniques & frameworks for various types of landscapes



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5	Landscape Management & Legislation	3	CO2	Understanding the concept of landscape management plan and role of landscape architect with respect to the same through presentation of relevant case studies
			CO3	Studying of the Legislative frameworks related to landscape conservation, planning and management and execution
			CO4	Demonstrating the ability to prepare landscape management framework based on the understanding of the legislative framework in the given context.
6	Landscape Planning	2	CO1	Understanding the concept, methodology, process and theories, Concept of garden city and its evolution, Contemporary approaches in planning of cities, Role of landscape architect in preparation of regional plans , city master plans , townships etc.,
			CO2	Understanding the importance of landscape conservation and various approaches to same, Conservation of historic and cultural landscapes, Conservation of natural resources
			CO3	Ecological assessment and mapping of landscape with respect to biodiversity, soil, water etc. for understanding of ecologically sensitive sites
			CO4	Introduction to Multidisciplinary framework for regional landscape planning, stakeholders in landscape planning, collaborative and participatory approaches in landscape planning, various experts involved in making regional/city level plans and plans of large scale projects
Semester IV (2019 pattern)				
1	Landscape Architecture Project	20	CO1	Ability to identify a project based on area of interest and parallel research initiatives and a detailed methodology from ideation to documentation
			CO2	Developing Landscape design briefs along with study-frameworks to initiate a clear inquiry on the subject matter.
			CO3	studying and documenting the precedents and trends to ensure a relevant and future-ready intervention answering interrelated environmental, social, cultural, fictional and spatial issues.
			CO4	Selecting an appropriate site for design demonstration, conducting and a thorough contextual study including regional scale, site and surrounding and site level analysis and inferences
			CO5	Conceptualize and plan/ design representing detailed documentation of design approach, process and the outcome in the form of landscape proposal.
			CO6	Presenting comprehensive drawings and report to explain the project and its details that demonstrate the student's ability to independently conceptualize and develop a landscape architectural project with a policy and/ design level proposal for the same
2	Elective-III Interdisciplinary Courses	5	CO1	Ability to understand the significance of interdisciplinary studies and select an appropriate area of interest from a discipline other than architecture to be taken up for further investigation
			CO2	Summarize and develop a framework for further investigation in the area identified for interdisciplinary studies
			CO3	Present theoretical and practical understanding of the interdisciplinary subject
			CO4	Individual student's ability to link the findings from the interdisciplinary study to the field of Landscape Architecture and if possible to the the respective Landscape Architecture Project for a comprehensive outcome

COs are per SPPU Syllabus

