



SEMESTER: I

**ARC 1101: Architectural Design & Detailing-I
(Basic Design)**

After completion of this course the student will be able to:

1. Comprehend the fundamentals of composition and acquire the knowledge of Elements and Principles of design.
2. Translate creative conceptual strategies into the design propositions
3. Develop insight into human factors to provide a solution for human comfort with a focus on inclusive design.
4. Demonstrate various spatial and building components and their relation.
5. Design given space based on principles of composition, aesthetics, functionality, Anthropometrics, circulation, materiality.

**ARC 1103: Architectural Representation – I
(Manual)**

After completion of this course the student will be able to:

1. Interpret the fundamentals of architectural representation.
2. Develop drawings using principles of orthographic projections.
3. Develop 3-dimensional views of geometrical forms of different complexity.
4. Apply their representation skills in Architectural & Construction drawings.

**ARC 1105: Building Construction & Materials– I
(Masonry)**

After completion of this course the student will be able to:

1. Categorize various building materials as applied in construction.
2. Understand the standard nomenclature and classify the various types of bricks, bricks masonry bonds & demonstrate the application of the same.
3. Classify the various types of stones, stone masonry & understand and relate the application of same.
4. Interpret relevant building standards for selection of masonry materials & good practices for construction.
5. Interpret relevant building standards for selection of masonry materials & good practices for construction.

ARC 1107: Computation and Data Analysis

After completion of this course the student will be able to:

1. Apply the computation-based decision making in Architectural Design.
2. Make use of different microeconomic concepts in architectural design.
3. Compile different data sets and conveniently structure them for analysis.
4. Simplify the associated processes in terms of algorithms.

ARC 1109: History, Theory & Criticism – I

After completion of this course the student will be able to:

1. Label elements and built spaces used in major Architectural styles.

2. Classify different styles of Architecture and planning systems with respect to the settlements being studied.
3. Relate building materials and techniques to different styles.
4. Explain the climatic and geographic constraints and influences with respect to evolution of Architectural style and spaces in various settlements.
5. Interpret socio-cultural and political influences in evolution of Architectural style in the settlements being studied.

ARC 1111: Environmental Science

After completion of this course the student will be able to:

1. Illustrate the importance of the component of Environment and the ecosystem.
2. Summarize the importance of Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, its uses, impact and mitigation to be Understood.
3. Classify the Biogeographical zones of India; Biodiversity patterns and global biodiversity hot spots and conservation of biodiversity.
4. Relate environmental pollution and mitigation policies through Environmental laws.
5. Analyze various human impact on environment and simple ecosystems.

SEMESTER: II

**ARC 1102: Architectural Design & Detailing-II
(Single User Space)**

After completion of this course the student will be able to:

1. Outline the client's requirements with respect to the context and statutory requirements.
2. Analyze and infer required learnings from the relevant case, literature studies and the site.
3. Justify design concepts and apply appropriate material and building tectonics.
4. Propose design solutions based on Form, function, space planning, user perception and behavior.
5. Compile the final design proposal in the form of portfolio and models.

ARC 1104: Architectural Representation – II (CAD)

After completion of this course the student will be able to:

1. Understand the principles of development of surfaces, apply it to solve problems on various prismatic & non-prismatic members.
2. Understand the concept of interpenetration of solids, apply it to various problems on prismatic and non-prismatic solids.
3. Understand the techniques of drawing shades & shadows, apply the knowledge in solving various problems on points, lines, planes, solids and represent graphically.
4. Understand the techniques of drawing one point & two point perspective views, apply the knowledge in solving various problems on solids and represent graphically.
5. Understand the use of CAD software and apply it to generate architectural drawings.



ARC 1106: Building Construction & Materials–II (Timber)

After completion of this course the student will be able to:

1. Explain the classification of commercial timber and its product in India.
2. Categorize timber doors and windows along with its components.
3. Classify on types, application and configuration of timber stairs.
4. Illustrate timber floors and its components with joinery detail.
5. Analyze timber components, fixing, joinery, and construction details.

ARC 1108: Structures-I (Applied Mechanics)

After completion of this course the student will be able to:

1. Categorize various architectural structures as applied in building construction.
2. Apply the fundamental laws of structural equilibrium towards understanding the interaction of various building loads and structural elements (beams and trusses).
3. Understand the relevance of structural geometrical properties in building design.

ARC 1110: History, Theory & Criticism – II

After completion of this course the student will be able to:

1. Understand the historical significance of architectural styles and basic elements of Hindu temple & different temple styles such as Latina, Valabhi, Shekhari, Phamsana & Bhumiya and Buddhist architecture style such as cave architecture, stupas etc.
2. Interpret importance of social, cultural, political and regional influences.
3. Identify and illustrate the building typologies, building construction techniques and material identification of various Hindu temples.

ARC 1112: Climatology & Lab (Interior)

After completion of this course the student will be able to:

1. Recall the various global climates in general & classify the tropical climates in detail with respect to India.
2. Design of shading devices in relation of sun path diagram.
3. Examine heat transfer in building
4. Identify passive cooling & heating techniques in traditional & modern buildings.

SEMESTER: III

ARC 2101: Architectural Design & Detailing-III (Campus Design)

After completion of this course the student will be able to:

1. Demonstrate the design potential and benefits of Timber as a material for construction and structural systems.
2. Identify issues and concerns about context, use of timber as a construction material through comparative case studies.
3. Formulate design program through analysis of data & relevant case studies.

4. Evaluate form and structure through explorations in geometry and understanding of site conditions and applicable rules, norms and regulations.
5. Elaborate detailed scheme through effective graphical and verbal communication skills.

ARC 2103: Architectural Representation – III (BIM)

After completion of this course the student will be able to:

1. Build digital 3d models and rendered images using any suitable 3d software.
2. Develop simple animations.
3. Make use of different commands and features to build a BIM model.
4. Build basic parametric Revit Families for BIM Model.
5. Build virtual walkthrough and experience architectural designs in Virtual Reality.

ARC 2105: Building Construction & Materials– III (RCC)

After completion of this course the student will be able to:

1. Demonstrate the understanding of the basics of RCC, its types, compositions and properties.
2. Identify the use of RCC as a building material.
3. Demonstrate the understanding of methods of different RCC construction, their uses and limitations.
4. Choose several building components practicable to be built with RCC.
5. Utilize the knowledge of RCC as a building material in architectural design.

ARC 2107: Structures-II (Strength of Materials)

After completion of this course the student will be able to:

1. Explain the fundamentals of stress and strain concepts.
2. Analyze and solve simple numerical problems for shear force and bending moment of different types of beams.
3. Outline concepts of simple bending, shear and flitched beam.
4. Explain the concept of deflection and analyze deflection of the beam for various conditions.
5. Classify columns and compare behavior of short column under axial and eccentric load.

ARC 2109: Building Services I (Plumbing & Water Services)

After completion of this course the student will be able to:

1. Relate different source of fresh water, its collection and different treatment methods; also the standards available for maintaining potable water.
2. Estimate water demand towards facilitating water supply system design and management.
3. Plan various distribution systems in water supply, their components and installment techniques in a typical water supply system.
4. Plan plumbing layout representation for a given design.
5. Explain different Storm water drainage techniques, solid waste management systems, rain water harvesting methods, recycling and conservancy methods.

ARC 2111: Landscape & Lab (Exterior)

After completion of this course the student will be able to:

1. Apply the thematic design concepts which can be synced with building as context.



2. Summarize the role of landscape in ecofriendly architecture.
3. Make use of landscape to support different building services.
4. Make use of representation skills for the development of site planning.
5. Choose appropriate renewable energy systems as landscape elements.

SEMESTER: IV

ARC 2102: Architectural Design & Detailing-IV (Climate Responsive Design)

After completion of this course the student will be able to:

1. Demonstrate the design potential and benefits of alternative building construction techniques and technologies.
2. Identify issues and concerns about context, the use of alternative building materials and technologies through comparative case studies.
3. Develop design program through an analysis of data including climatic considerations & relevant case studies
4. Formulate the form and structure of built forms through explorations and understanding of materials, construction techniques, site and climatic conditions and applicable rules, norms and regulations.
5. Elaborate conceptual development and design refinement through relevant communication skills.

ARC 2104: Surveying & Levelling

After completion of this course the student will be able to:

1. Explain principles of surveying and identify the various instruments used for surveying and levelling.
2. Make use of various methods of levelling and contouring to solve simple design problems.
3. Outline features and application of theodolite survey.
4. Summarize principles of tachometric survey and outline the application of total station.

ARC 2106: Building Construction & Materials-IV(Steel)

After completion of this course the student will be able to:

1. Summarize the building material steel and various construction techniques with respect to classification, composition.
2. Identify the chemical, physical properties leading to structural strength and aesthetic qualities.
3. Analyze the constructional systems and detailing of metal building components.
4. Demonstrate the construction practices and details pertaining to curtain wall.
5. Determine the appropriate structural system and conceptual design of long span structures.

ARC 2108: Structures-III (Indeterminate Structures and Disaster Resistant Structures)

After completion of this course the student will be able to:

1. Explain concept of indeterminate structure and its application in construction.
2. Outline the types of indeterminate structures and explain various methods of analysis.

3. Analyze different indeterminate structures and compare their structural behavior.
4. Outline the basic design criteria for disaster resistant structures

ARC 2110: History, Theory and Criticism- III

After completion of this course the student will be able to:

1. Explain the historical significance and concepts of fort architecture.
2. Analyze the evolution of various architectural typologies, components and its styles with respect to construction technology, material influence and design principles.
3. Compare the distinct typologies of the built forms/forts based on their geographical locations and & periods.

ARC 2112: Building Performance & Compliance

After completion of this course the student will be able to:

1. Analyze the performance of the building based upon different parameters.
2. Apply the knowledge of Building Energy codes in building components.
3. Make use of integrated design approach related to the code compliance.
4. Make use of energy simulation software for early design decisions with respect to ventilation, lightings, etc.
5. Conceptualize the building design with respect to benchmark values of the different applicable codes like ECBC, NBC, BIS SP 41, etc.

SEMESTER: V

ARC 3101: Architectural Design & Detailing-V (Environment Design)

After completion of this course the student will be able to:

1. Demonstrate knowledge of concepts in green building assessment systems.
2. Elaborate the importance of architectural solutions in societal and environmental contexts to demonstrate the need for sustainable development.
3. Identify and analyze the best practices in sustainable and green buildings through case studies.
4. Develop sustainable design from site planning to built form and indoor environment.
5. Evaluate the design through energy optimization using building energy simulation tools.

ARC 3103: Measured Drawing

After completion of this course the student will be able to:

1. Choose Tools and Methodology for Measurement.
2. Organize Collection of Secondary Information and Reconnaissance Survey.
3. Organize Field Data collection.
4. Develop drawings through collected field data.
5. Analyze measured drawing.



ARC 3105: Building Construction & Materials-V(Alternative)

After completion of this course the student will be able to:

1. Identify, categorize and list various alternative building materials as applied in construction.
2. Classify the various construction methods & understand and relate the application of same.
3. Identify various finishes and insulations for walls, floors, roofs foundation etc. through graphic representation.
4. Develop understanding of alternative materials construction techniques.
5. Choose appropriate construction method using alternative materials.

ARC 3107: Building Services-I (HVAC & Electrical)

After completion of this course the student will be able to:

1. Understand basic knowledge of ventilation and techniques (natural / mechanical) of air conditioning.
2. Apply the working principles of various mechanical systems of air conditioning.
3. Outline various components of a typical electrification system for a building.
4. Identify the relevant standards for quantification and representation of electrical system for a building.
5. Analyze various literatures, case studies, and site visits for understanding HVAC and Electrification in a building.

ARC 3109: Estimation, Specification and Costing

After completion of this course the student will be able to:

1. Choose Methods of Estimation, Measurement Units.
2. Develop Costing of Material, Labour, etc. & Rate Analysis.
3. Develop Specification of materials, Specification of workmanship & Specification Writing.
4. Identify Types of Tenders & Contracts.

SEMESTER: VI

**ARC 3102: Architectural Design & Detailing-VI
(Public Buildings)**

After completion of this course the student will be able to:

1. Demonstrate knowledge of integrating building and site level services necessary for large public buildings.
2. Explain and apply the concepts of green buildings, sustainable resource management, smart building systems, alternative materials and techniques and structural integration.
3. Analyze and develop multiple design options suiting the building typology, site and context based on literature, case studies and other design philosophies.
4. Develop building design including site level services, ancillary details and costing using appropriate medium.

ARC 3104: Working Drawing

After completion of this course the student will be able to:

1. Develop Set-out marking, Centerline, Excavation, Plinth Beam Layout for a building.
2. Develop Floor Plans – Ground Floor, First Floor, Terrace Floor for a building.

3. Develop Sections, Elevations, Detailed Section, Stairs for a building.
4. Develop Electrical, Plumbing, Toilet layout for a building.
5. Plan Site Development, Door and Window details.

**ARC 3106: Building Construction & Materials– VI
(Innovative)**

After completion of this course the student will be able to:

1. Compare structural concepts and identify suitable construction systems.
2. Identify and recommend joinery details for roofing, paneling.
3. Identify Glass and Ceramics as construction materials. Relate types, compositions, physical & mechanical properties.
4. Develop understanding about advanced materials and latest technologies.
5. Recommend construction equipment for various stages in the process of building construction (pre and during construction process). Recommend transportation & erection methods.

**ARC 3108: Building Services-II (Acoustics,
Illumination and Controls)**

After completion of this course the student will be able to:

1. Interpret the behavior of sound and the acoustical properties of materials.
2. To analyze and design various built spaces with different end user acoustical requirements.
3. Identify the requirements for acceptable illumination system for various functions in buildings. Propose lighting schemes in building design.
4. List and outline the requirement and arrangement for mechanical transport system, fire safety and firefighting systems in building. Combine this and develop building design.
5. Interpret the relevant building code/ regulations for compliance in design and detailing.
6. Integrate the application of artificial intelligence in building services system towards optimized, efficient, reliable management system.

ARC 3110: History, Theory and Criticism – IV

After completion of this course the student will be able to:

1. Explain the historical significance and concepts and identify key features of Christian Architecture.
2. Analyze the evolution of various architectural typologies, components and its styles.
3. Compare the distinct styles as per significant rulers & periods.

SEMESTER: VII

**ARC 4101: Architectural Design & Detailing-VII
(Human Centric Campus Design)**

After completion of this course the student will be able to:

1. To classify context-oriented design, innovative systems and integrated approaches in campus planning.



2. Using survey to understand and analyze user perception, multiple stakeholders' needs and environmental behavioral responses.
3. Understanding large scale master planning tools and techniques with parameters of topography, climate and Infrastructure development.
4. To learn landscape as a tool to achieve sustainability goals as well as build healthier environment.
5. To develop environment management strategies considering measurement of ecological services and Environment economics.

ARC 4103: Settlement Studies

After completion of this course the student will be able to:

1. Compare different types of settlements based on its characteristics and attributes.
2. Explain the evolution of a place with time and mass.
3. Identify the stakeholders, indicators, etc. associated with the Land Economies.
4. Apply the tools required to assess the present statistics of a Place/ Area.
5. Analyze different approaches associated with the Implementation Strategies.

ARC 4107: Research Techniques

After completion of this course the student will be able to:

1. Demonstrate the knowledge of research fundamentals, theories and its importance.
2. Make use of knowledge of various types of research and research methods to plan a simple research.
3. Compare appropriate measuring and analytical techniques.
4. Select appropriate analytical tools for data analysis and representation.
5. Develop mini research proposal and paper.

ARC 4109: History, Theory and Criticism – V

After completion of this course the student will be able to:

1. Influence of industrial revolution in the Moghul era of India and world architecture in understanding the paradigm shift from traditional systems of construction to new systems.
2. Explain the later architectural styles and new school of thoughts post-industrial era in India and world.
3. Explain the evolution of contemporary architecture and contribution of Master Architects.
4. Discuss the Importance of social, cultural, political and regional influences.
5. Compile the historical and contemporary knowledge systems of various building typologies, design language and works during Industrial revolution and contemporary architects in a portfolio format.

ARC 4111: Project Management

After completion of this course the student will be able to:

1. Illustrate knowledge and understanding of project management principles.
2. Apply project management processes (initiate, plan, execute, monitor, control and closure of projects) and to coordinate for the successful completion.

3. Apply project management tools and techniques in projects efficiently.
4. Solve problem to situations by applying project management techniques.
5. Estimate duration, sequence and schedule deliverables of projects to track progress.

SEMESTER: VIII

ARC 4102: Practical Training

After completion of this course the student will be able to:

1. Outline the organizational structure, ethics and aspects of team-work to coordinate and execute various tasks assigned in an architect's office.
2. Take part in the process of design and decision making through various tools for effective communication.
3. Recommend best practices and solutions for a given context.
4. Develop and represent the architectural knowledge gained from the internship experience in the form of a Portfolio.

ARC 4104: Study Report

After completion of this course the student will be able to:

1. To explain his role, responsibilities and code of conduct as an architect.
2. Apply the professional aspects of an architecture office/company and the multiple issues in conception, preparation and execution of project on a site.
3. Interpret and theorize the principles into practices.
4. Develop skills that helps to design for special requirements and situation specific problems.

SEMESTER: IX

ARC 5101: Architectural Design & Detailing-VIII (Urban Context Studio)

After completion of this course the student will be able to:

1. Understand the scale and context of human settlement, town, city or urban setting.
2. Understand the reading and development of maps for various factors of human settlement.
3. Apply different data collection mechanisms in assessing urban attributes in a given context.
4. Analyze different urban attributes like Physical form, morphology, heritage, environment management, transport etc. to facilitate design.
5. Propose the urban intervention for sustainable and people centric design in an urban context.



ARC 5103: Dissertation

After completion of this course the student will be able to:

1. Demonstrate the research design, develop a systematic enquiry into a subject, and choose methodology for literature review, data collection, and analysis.
2. Interpret the various facts and scope of research in architecture and allied subjects.
3. Choose an appropriate analytical technique for data analysis.
4. Select appropriate analytical tool for arriving conclusion.
5. Develop a research paper.

ARC 5107: Professional Practice and Management

After completion of this course the student will be able to:

1. Understand role and responsibilities of an Architect towards the society and aspects relevant to the professional practice and social responsibility.
2. Analyze importance of Architects Act 1972; Code of Professional Conduct; Architectural Competition; ethical responsibilities and norms of professional practice.
3. Examine the role of an Architect in project planning, management and execution.

4. Develop lifelong learning ability to engage in independent practice, office set up, management and legal aspects in profession.

SEMESTER: X

ARC 5102: Thesis

After completion of this course the student will be able to:

1. Outline the thesis topic in domains of their interests.
2. Demonstrate through an imaginative approach, his expertise in effecting positive changes in our built environment.
3. Develop independent thinking capabilities with an exploration and inquiry into various facets of architectural design.
4. Identify new frontiers of design development and application of ideas to practical situations and doable solutions.
5. Design new typologies, chose different techniques of construction, evolve the best practices of design to fulfil the various needs of people as well as society.

