



Dr D Y Patil Prathisthan's

PADMASHREE DR. D Y PATIL COLLEGE OF ARCHITECTURE

Sector No. 29, B/h. Akurdi Railway Station, Nigdi Pradhikaran, Akurdi, Pune - 411044

**Program Outcome for B. Arch
As per Savitribai Phule University of Pune, 2019 Pattern Syllabus
AY 2023-24 Term I & II**

Program Outcome (PO)


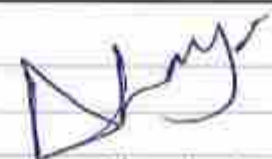
PO Number	Program outcomes	Description
PO 1	Knowledge	Understanding about role of various knowledge domains such as humanities, technology, and environment in design of built environment.
PO 2	Principles & Theory	Knowledge of principles of architecture & theoretical knowledge and its application in design.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



COURSE OUTCOME : FIRST YEAR

A.Y. 2023-24 Term I (2019 Pattern)

Subject	Course Outcome No.	CO Code No.	Statement
BARCH901 Basic Design 1201901 [SS]	CO1	BARCH901.1	Students will understand and craft designs using elements and principles of composition.
	CO2	BARCH901.2	Students will be able to relate human senses with different architectural aspects like materials, spaces.
	CO3	BARCH901.3	Students will be able to understand various ideas, techniques to improve creativity and demonstrate it into design.
	CO4	BARCH901.4	Students will be able to relate and demonstrate elements and principles of design to create architectural spaces.
	CO5	BARCH901.5	Students will be able to understand, relate and transform experience, memory, fantasy, reality, imagination in design.
	CO6	BARCH901.6	Students will be able to understand, relate and implement tangible and intangible aspects of surroundings in design.
BARCH902 BCM-I 1201902 [PP] 1201903 [SV]	CO1	BARCH902.1	To develop a fundamental understanding of various building elements or components.
	CO2	BARCH902.2	To develop a fundamental understanding of basic building materials and their properties
	CO3	BARCH902.3	To develop a fundamental understanding of strip foundation in load bearing foundation.
	CO4	BARCH902.4	To develop a fundamental understanding of brick and stone masonry
	CO5	BARCH902.5	To develop a fundamental understanding of arch system and lintel
BARCH904 TOS-I 1201904 [PP]	CO1	BARCH904.1	Students will learn about the various system of force and transfer of load .
	CO2	BARCH904.2	Students will be understanding various loads acting on a structure.
	CO3	BARCH904.3	Students will learn about transfer of forces/load from roof to foundation and soil.
	CO4	BARCH904.4	Students will learn the concept of CG & MI .
	CO5	BARCH904.5	Students will learn the different support and loading conditions .
	CO6	BARCH904.6	Students will be understanding behaviour of elements like walls subjected to tension, compression, shear and bending
BARCH905 AGD-I 1201905 [SS]	CO1	BARCH905.1	To develop a fundamental understanding of graphic elements and scale.
	CO2	BARCH905.2	To develop a fundamental understanding of technical drawing and its component.
	CO3	BARCH905.3	To develop a fundamental understanding of plane 2d and 3d solid geometry
	CO4	BARCH905.4	To develop a fundamental understanding of projection system in drawing.
	CO5	BARCH905.5	To develop a fundamental understanding of scale drawing
BARCH907 Communication Skills 1201907 [SS]	CO1	BARCH907.1	Students will learn about the various modes of communication and their significance.
	CO2	BARCH907.2	Students will learn about the Written communication: Paraphrasing, Grammar and punctuation. Developing vocabulary pertaining to architecture and design through reading. Introduction to technical writing and forms of writing in architecture discipline such as site visit report, letters, tour reports, appraisals, email etc.. Expressing ideas and concepts through words.
	CO3	BARCH907.3	Students will learn about the Verbal communication: Presenting an idea/ thought, debate, group discussion. And Nonverbal aspects of communication such as body language, posture, stance etc.
	CO4	BARCH907.4	Students will learn about the Graphical communication: Analytical diagrams, info graphics, flow charts, mind maps, posters, logo design.
	CO5	BARCH907.5	Students will learn about the Use of Digital tools for communication: Basics of Word based, numerical based software, and visual presentation techniques such as photography, videography etc.

			
Ar. Avanti Gole			Ar. Dhananjay Chaudhari
IQAC Coordinator			Principal


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COURSE OUTCOME : FIRST YEAR

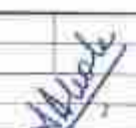
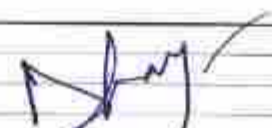
A.Y. 2023-24 Term II (2019 Pattern)

Subject	Course Outcome No.	CO Code No.	Statement
BARCH909 AD - I 1201909 [SV]	CO1	BARCH909.1	Students will be introduced to the study and analysis of small scale built spaces considering the aspects like anthropometry, climate, form, function, structure and materials.
	CO2	BARCH909.2	Students will design a single activity space by applying the knowledge of various design aspects through two and three dimensional hand drawings, sketches and models.
	CO3	BARCH909.3	Students will learn to comprehend and review the architecture, culture, history of various rural settlements.
	CO4	BARCH909.4	Students will examine the rural settlement with respect to lifestyle, climate, social structure, infrastructure, amenities and facilities through measurement drawings, models, interpretation, analysis and conclusion.
	CO5	BARCH909.5	Students will give a design proposal based on the issues addressed in the studied settlement.
	CO6	BARCH909.6	Students will develop hand drawn plans, sections, elevations, 3D views and models of the project sited on the studied settlement.
BARCH910 BCM-II 1201910 [PP] 1201911 [SV]	CO1	BARCH910.1	Students will understand Earthquake resistant Load bearing Building Techniques along with they gain knowledge about RCMW & domes walls construction.
	CO2	BARCH910.2	The main outcome of this unit is to understand all about Timber & its derivatives along with understanding of varied roof structure and materials.
	CO3	BARCH910.3	Single and Double Floor wooden construction for G+1 structures are to be learnt as a part of this unit along with Timber staircase details.
	CO4	BARCH910.4	Students will gain knowledge about Timber Panelled Door, Flush Door & Casement windows construction Techniques along with Joinery Details.
	CO5	BARCH910.5	To understand Timber King Post and Queen Post Truss for Roof construction Techniques
	CO6	BARCH910.6	Wooden Partition, Wall Paneling for Interior application is to be understood along with joinery details.
BARCH912 TOS-II 1201912 [PP]	CO1	BARCH912.1	Student will study S.F.D and B.M.D of Overhanging Beams
	CO2	BARCH912.2	Students will be Introduced to Plane Lattice Construction and structural actions in it's member
	CO3	BARCH912.3	Student will study Applications of Frames and Trusses - Geometry, Assumptions and Effect of Horizontal and Vertical Forces on Frames.
	CO4	BARCH912.4	Student will study Effect of Force on Spanning Members - Theory of Simple Bending to create Moment of Resistance:
	CO5	BARCH912.5	Student will study Effect of Force on Spanning Members - Shear Stress Distribution across different Section
	CO6	BARCH912.6	Student will study Effect of Force on Spanning Members - Maximum and Minimum Slope and Deflection for different cases
	CO7	BARCH912.7	Student will Understand and study the Failure of Compression Members
BARCH913 AGD-II 1201913 [SS]	CO1	BARCH913.1	Students will to understand and express composite three-Dimensional objects and buildings formed by additive and interpenetrated solids using various graphical projection systems including sections.
	CO2	BARCH913.2	Students will learn one-point and two-point perspective of objects and buildings/ building components using various methods including grid method.
	CO3	BARCH913.3	Students will understand use of shades and shadows, and various architectural presentation and rendering techniques
	CO4	BARCH913.4	Students will learn surface Development of various three dimensional objects and orthographic projections of true shapes of sectional planes.
	CO5	BARCH913.5	Students will learn principles of Sciography (shades and shadows) for 3-Dimensional objects and buildings on plans, elevation, isometric and perspective.

COURSE OUTCOME : SECOND YEAR

A.Y. 2023-24 Term I (2019 Pattern)

Subject	Course Outcome No.	CO Code No.	Statement
BARCH917 AD - II 2201917 [SV]	CO1	BARCH917.1	Students will study existing bungalow projects for case studies.
	CO2	BARCH917.2	Students will design A dwelling for a single family or clusters of dwellings for multiple families with area 300 sq.m. to 500 sq.m.
	CO3	BARCH917.3	Students will develop concepts, zoning, single line plans and block sections with block model wrt bungalow project
	CO4	BARCH917.4	Students will develop final design drawings portfolio for bungalow project
	CO5	BARCH917.5	Students will develop design drawings under a time bound assignment Short term project
	CO6	BARCH917.6	Students will evolve their designs into functional and sensible plans with appropriately planned approaches, services, etc.
BARCH918 BCM-III 2201918 [PP] 2201919 [SV]	CO1	BARCH918.1	Students will gain theoretical knowledge of soil study, its relevance to foundation and different types of shallow foundations.
	CO2	BARCH918.2	Students will gain theoretical knowledge of different building materials related to RCC construction.
	CO3	BARCH918.3	Students will learn the R.C.C structural details from footing to plinth level.
	CO4	BARCH918.4	Students will learn the R.C.C structural details of one-way, two-way slabs with different end conditions, column beam-slab junction with details for toilet block, also lintel & weather-shed.
	CO5	BARCH918.5	Students will gain market as well as theoretical knowledge of non-timber windows with materials like Steel-framed, aluminum, UPVC and their construction details.
	CO6	BARCH918.6	Students will gain market as well as theoretical knowledge of different flooring & paving materials including the process of providing or laying the same on site.
BARCH920 TOS-III 2201920 [PP]	CO1	BARCH920.1	Students will learn Loading on Buildings and Design Methodologies
	CO2	BARCH920.2	Students will study Wooden Structures
	CO3	BARCH920.3	Students will study Concrete as a Material and theory of L.S.M:
	CO4	BARCH920.4	Students will learn Design of R.C.C Slabs for Small Spans (L.S.M for Flexure only)
	CO5	BARCH920.5	Students will learn Design of Beams (L.S.M for Flexure and Shear)
	CO6	BARCH920.6	Students will learn Design of Short R.C.C. Columns
BARCH921 CADG 2201921 [SS]	CO1	BARCH921.1	Students will explore various mediums for architectural presentations in various drawing formats
	CO2	BARCH921.2	Students will demonstrate presentation drawings for any Architectural design project - Plans, Elevations, Sections with internal and external perspective views.
	CO3	BARCH921.3	Students will implement basics of Computer Aided Drawing with basic commands for Drawing, sufficient to construct simple geometrical shapes and 3D objects.
	CO4	BARCH921.4	Students assemble drawings using advance commands in CAD such as Setting Drawing parameters, Layer controls, Hatching, Model and paper space settings
	CO5	BARCH921.5	Students will demonstrate all commands of CAD by drafting single building from Semester II Design
BARCH923 BS-I 2201923 [PP] 2201924 [SS]	CO1	BARCH923.1	To make students understand principle and technique of water supply.
	CO2	BARCH923.2	To make students understand of fitting of water appurtances.
	CO3	BARCH923.3	To make students understand hot water supply system in building.
	CO4	BARCH923.4	To make students understand various sanitary fittings.
	CO5	BARCH923.5	To make students understand rainwater drainage system and bio gas system.

BARCH925 Climatology 2201925 [SS]	CO1	BARCH925.1	Students will gain theoretical knowledge of Earth-Sun relation and context of what shapes climate, its elements and understanding climate at different scales ie, global, regional, macro and micro.
	CO2	BARCH925.2	Students will gain theoretical knowledge of different climatic zones at Global and India level.
	CO3	BARCH925.3	Students will learn different passive design strategies at various scales ie urban, building and building component scale
	CO4	BARCH925.4	Students will learn the concept of Thermal Comfort in buildings
	CO5	BARCH925.5	Students will learn various tools like sun path, bioclimatic chart, site analysis matrix etc that are used to study sun movement, wind and comfort in buildings.
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COURSE OUTCOME : SECOND YEAR

A.Y. 2023-24 Term II (2019 Pattern)

Subject	Course Outcome No.	CO Code No.	Statement
BARCH926 AD - III 2201926 [SV]	CO1	BARCH926.1	Students will learn to design a project that introduces the concept of site planning with multiple built spaces with an area 1000 sq.m. to 1500 sq.m..
	CO2	BARCH926.2	Students will learn to study a settlement considering history, demography, architectural characteristics, social and urban/rural issues and a proposal interms of design solution to address issues in the settlement.
	CO3	BARCH926.3	Students will design a project or eskee based in the settlement that students have studied.
	CO4	BARCH926.4	Students will develop concepts, zoning, single line plans and block sections with block model wrt site
	CO5	BARCH926.5	Students will evolve their designs into fuctional and sensible plans with appropriately planned approaches, services, etc. on site
	CO6	BARCH926.6	Students will buildout sections and elevations with 3d views from the finalised plans
BARCH927 BCM-IV 2201927 [PP] 2201928 [SV]	CO1	BARCH927.1	Students will learn theoretical knowledge of types of special concretes, to include lightweight concrete, ready-mixed concrete, ferrocement etc; study of its ingredients viz. along with storage of materials on site, understanding good quality material and field & lab tests involved.
	CO2	BARCH927.2	Students will learn theoretical knowledge of causes of dampness and reasons for damp- & water-proofing, Different methods or treatments of damp- & water-proofing brick on edge, rough Shahabad stone, bitumen sheets, plastic sheets, epoxy resins and metallic water proofing materials and other proprietary materials application of the above in construction for terraces, chhajja, toilet slabs etc.
	CO3	BARCH927.3	Students will learn to draw 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
	CO4	BARCH927.4	Students will undestand elevators, escalators, conveyors – types, size, capacity, speed and Mechanical safety methods, provisions in civil work for installation of elevators and escalators
	CO5	BARCH927.5	Students will learn to draw Various types of sliding and folding doors and Construction of Bay Window
	CO6	BARCH927.6	Students will learn theoretical knowledge of glass as a building material, brief history of its use through examples. Manufacture, properties and uses of glass. Various types of glass and its application in building construction. Plastic as a building material; its properties, types, uses and application of plastics in building industry. Different types of adhesives and sealants used in building construction
BARCH929 TOS-IV 2201929 [PP]	CO1	BARCH929.1	Students will understand different ways of supporting a Balcony - Cantilever Slab
	CO2	BARCH929.2	Students will study design of Cantilever beams and Concept of Under Reinforced, Balanced and Over Reinforced Sections
	CO3	BARCH929.3	Student will Understand Dividing Larger Rooms in Smaller One Way or Two Way Slab Units
	CO4	BARCH929.4	Students will understand the design of different Staircases with Beams at Various Positions:
	CO5	BARCH929.5	Students will understand Steel as a Material and Various Steel Sections and their use.
	CO6	BARCH929.6	Students will understand concept of Steel Girders and Stanchions



BARCH211 ENV. SCIENCE 2201930 [SS]	CO1	BARCH930.1	Student will understand, analyze the different Natural resources like land, water, forest, minerals, food, etc.
	CO2	BARCH930.2	Students will understand the types of ecosystems, biogeochemical cycles, and importance of their conservation and preservation.
	CO3	BARCH930.3	Students will gain the knowledge of Value of biodiversity like consumptive, productive use, social, ethical and aesthetic and also the threats to biodiversity and conservation of biodiversity(in-situ and ex-situ) and there role as an Architect and its conservation and preservation.
	CO4	BARCH930.4	Students will understand the Causes, effects and control measures of air pollution, water pollution, soil pollution, marine pollution noise pollution, thermal pollution and nuclear hazards
	CO5	BARCH930.5	Students will understand different Environment related acts and green building concepts.
BARCH212 HOAC-IV 2201931 [SS]	CO1	BARCH931.1	Students will understand social, cultural changes occurred due to industrial revolution. They will sketch and analyze inventions, typologies invented due to this social and cultural change.
	CO2	BARCH931.2	Students will sketch, differentiate features of various revival style of architecture. They will study typologies of Revival Period of Europe and America.
	CO3	BARCH931.3	Students will learn about the development of Colonial Architecture across India and how different countries contributed to architectural development of the particular region
	CO4	BARCH931.4	Students will understand the different phases of Early Modern Movements, master architects, their design philosophy and their notable works
	CO5	BARCH931.5	Students will understand the philosophy of '-isms' and their evolution, defining features and adaptation across the world
	CO6	BARCH931.6	Students will understand the Post Independence Architecture in India and the several discourses of Post Liberalisation and its influence on Architecture in India
	CO7	BARCH931.7	Students will measure a Building/ Campus from any of the styles taught in this semester and document it in form of drawings and photographs
BARCH213 BS-II 2201932 [PP] 2201933 [SS]	CO1	BARCH932.1	Students should be able to understand basic concepts of solid waste management, beginning from source generation to waste disposal.
	CO2	BARCH932.2	Students should be able to understand basic principles of daylight and artificial lighting and should be able to design a lighting plan for a space.
	CO3	BARCH932.3	Students should be able to understand different sources of light, their characteristics lighting systems (Direct & Indirect) and their applications in building projects and what is Lumen Method
	CO4	BARCH932.4	Students should be able to understand Electrical installations in a building with load calculations.
	CO5	BARCH932.5	Students should be able to understand Low Voltage electrical systems and its integration in BMS
BARCH214 SSA 2201934 [SS]	CO1	BARCH934.1	Students will understand Taking out linear measurement and locating the objects in horizontal and vertical plane.
	CO2	BARCH934.2	Students will be able to take angular & directional measurement by using equipment. Prepare and interpret the survey drawing for same.
	CO3	BARCH934.3	Students will Understanding how to use and operate dumpy Level .Taking Level/ elevation of a point.
	CO4	BARCH934.4	Students will be explained the Accessories used in plane tabling and calculating area of irregular shape.

	CO5	BARCH934.5	Students will understand Accessories used in plane tabling and calculating area of irregular shape
	CO6	BARCH934.6	Students will be Plotting the contours and profiles, Understanding gradient, methods of contouring.
	CO7	BARCH934.7	Students will understand Natural and Manmade aspects, Site Analysis
			
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IQAC Coordinator		Principal	


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COURSE OUTCOME : THIRD YEAR

A.Y. 2023-24 Term I (2019 Pattern)

Subject	Course Outcome No.	CO Code No.	Statement
BARCH935 AD - IV 3201935 [SV]	CO1	BARCH935.1	Students will learn to design a project that introduces the concept of site planning with multiple built spaces
	CO2	BARCH935.2	Student will learn through case studies identification of campus forms, types of campus and aspects of campus planning with respect to norms
	CO3	BARCH935.3	Students will design a project based on Campus Design with emphasis on site planning & relationship of built and open spaces, circulation and movement pattern, activity pattern, architectural character, image, identity, philosophy etc
	CO4	BARCH935.4	Students will develop concepts, zoning, single line plans and block sections with block model w.r.t. site
	CO5	BARCH935.5	Students will evolve their designs into functional and sensible plans with appropriately planned approaches, services, etc. on site
	CO6	BARCH935.6	Students will design and derive sections, and elevations with 3d views from the finalised plans
	CO7	BARCH935.7	Students will get experience of time bound design paper solving by attempting to solve previous question paper.
BARCH936 BCM-V 3201936 [PP] 3201937 [SV]	CO1	BARCH936.1	To understand the variations in frame structure with options of different types of slab like flat slab, ribbed and waffle slabs etc. along with pre-stressed RCC technology.
	CO2	BARCH936.2	To understand the construction of single basement along with its waterproofing, provision for access and ventilation details. To understand the construction of different types of retaining walls and the detailing of the same
	CO3	BARCH936.3	To understand the construction of different types of retaining walls and the detailing of the same
	CO4	BARCH936.4	To introduce materials and technology of assembling interior elements
	CO5	BARCH936.5	Understand Interior Designing elements such as partitions, suspended ceiling, furniture units etc
BARCH938 TOS-V 3201938 [PP]	CO1	BARCH938.1	Student will develop the understanding for Effects of Lateral Pressure of Soil and Water
	CO2	BARCH938.2	Student will be able to design basic G+2 RCC structures
	CO3	BARCH938.3	Student will be able to know basics about stanchions & Trusses
	CO4	BARCH938.4	Student will develop the sense to frame Steel structures
	CO5	BARCH938.5	Students will able to understand the effect of wind load
	CO6	BARCH938.6	Students will understand different Structural Systems for Larger Spans and Tall Buildings with an understanding of Wind Load
BARCH939 Landscape Architecture 3201939 [SS]	CO1	BARCH939.1	Students will understand Landscape Architecture and its scope, elements, and their application in achieving functional, aesthetic, environmental and cultural goals.
	CO2	BARCH939.2	Students will understand principles and approaches in Landscape Design through Contemporary as well as historic landscapes for understanding various approaches of design
	CO3	BARCH939.3	Students will gain the knowledge of Hard landscape elements with respect to materials and construction techniques.
	CO4	BARCH939.4	Students will gain the knowledge of Softscape (plant material), their characteristics and contribution in terms of creating and imparting character to outdoor spaces.
	CO5	BARCH939.5	Students will develop understanding of site analysis and site planning and integrated design of open and built spaces.
BARCH940 Elective-I	CO1	BARCH940.1	To analyze the contemporary trends/approaches in architecture
	CO2	BARCH940.2	Application of the knowledge gained through the study of history of architecture to analyse contemporary architecture

(Contemporary Architecture) 3201940 [SS]	CO3	BARCH940.3	Development of individual view point and construction of an argument to put it across.
	CO4	BARCH940.4	Skill of presenting a topic of choice, and generating a discussion.
	CO5	BARCH940.5	To critically reflect and comment on contemporary architecture across the world.
BARCH941 BS-III 3201941 [PP] 3201942 [SS]	CO1	BARCH941.1	To obtain knowledge of technical and design aspects of natural ventilation
	CO2	BARCH941.2	To obtain knowledge of technical and design aspects of mechanical ventilation
	CO3	BARCH941.3	To obtain knowledge of technical and design aspects of passive heating and cooling technique
	CO4	BARCH941.4	To obtain knowledge of technical and design aspects of refrigeration system
	CO5	BARCH941.5	To obtain knowledge of technical and design aspects of HVAC system
BARCH943 Working Drawing-I 3201943 [SS]	CO1	BARCH943.1	To enable the students to prepare working drawings of their own architectural design project
	CO2	BARCH943.2	To imbibe the significance of working drawings from the point of view of execution of the work on site and as important component of tender documents.
	CO3	BARCH943.3	To enable students to prepare Graphical presentation of all the components of a building along with dimensioning and annotations.
	CO4	BARCH943.4	To enable students about the hand drafting process and the details required in the same.
	CO5	BARCH943.5	To enable students to understand and apply IS Codes and internationally accepted norms / conventions / methods of repairing a working drawing along with tabulation of schedules of materials, finishes and hardware
Ar. Avanti Gole IQAC Coordinator			Ar. Dhananjay Chaudhari Principal


 Dr. D.Y. Patil
 Administrative Officer, D.Y. Patil College of Architecture,
 Akurdi Pune

COURSE OUTCOME : THIRD YEAR

A.Y. 2023-24 Term II (2019 Pattern)

Subject	Course Outcome No.	CO Code No.	Statement
BARCH944 AD - V 3201944 [SV] 3201945 [PP]	CO1	BARCH944.1	Students will learn to Identify and examine various types Building services in different typology of buildings like Hotels, Hospitals, Office buildings, malls, etc.
	CO2	BARCH944.2	Students will identify and analyse case studies of Shopping mall concluding in comparative analysis and study of standards
	CO3	BARCH944.3	Students will develop a programme for shopping mall based on case studies, identify appropriate site and study of prevalent UDCPR and NBC 2016 byelaws
	CO4	BARCH944.4	Students will develop concepts, zoning, single line plans and block sections with block model wrt site
	CO5	BARCH944.5	Students will evolve their designs into functional and sensible plans with appropriately planned approaches, services, etc. on site
	CO6	BARCH944.6	Students will buildout sections and elevations with 3d views from the finalised plans
	CO7	BARCH944.7	Students will get experience of time bound design paper solving by attempting to solve previous question paper.
BARCH946 BCM-VI 3201946 [SV]	CO1	BARCH946.1	Student will classify & differentiate the features, classification, applications Uses and Market forms of newer class materials like Structural Steel, nonstructural Steel, and Sheet Roof
	CO2	BARCH946.2	At the End of the Unit Student will Appraise ,Critique and design the fencing using different materials like steel, barbed wire, chain-link, weld-mesh and other available materials in market.
	CO3	BARCH946.3	At the end of the unit Student will understand the concept of trusses along with earthquake resistant features & develop Construction details of trusses for low rise medium span buildings
	CO4	BARCH946.4	Student will understand and sketch the methods of construction of various components of steel structures; steel frame construction for multi-storey steel building and also develop the design for assembly of structure with earthquake resistant features.
	CO5	BARCH946.5	Student understand Concept of modular coordination for Industrialized building construction, planning and construction details
	CO6	BARCH946.6	Student understand the Application of Moment resisting frames, crossed braced frames and shear wall for Earthquake resistance structures
BARCH947 TOS-VI 3201947 [PP]	CO1	BARCH947.1	Student will study the effect of Lateral Pressure of Soil and Water for increasing heights.
	CO2	BARCH947.2	Students will develop the Feel for Structural Principles and their Relates to Building Design
	CO3	BARCH947.3	Students will understand the fact that Architecture and Structure cannot be conceived independently.
	CO4	BARCH947.4	Students will Design the Structural System for Ground +2 Storey R.C.C Structure
	CO5	BARCH947.5	Students will Design the medium span Factory Building in steel.
	CO6	BARCH947.6	Students will Understand different Structural Systems for Larger Spans and Tall Buildings with an understanding of Wind Load
	CO7	BARCH947.7	Students will develop a Confidence that they could explore a Structural System of their own design and execute the same.
BARCH948 RIA-I 3201948 [SS]	CO1	BARCH948.1	Students will understand the meaning and need of research, variables, ethics , Selection of samples ,research methodology and its types.
	CO2	BARCH948.2	Students will select and define the selected research topic and narrowing it down to further a final topic.
	CO3	BARCH948.3	Students will carry out the literature review of 5 research papers on their selected topic.
	CO4	BARCH948.4	Students will review case studies, qualitative and quantitative data collection, various tools need to be used as per their selected topic.

COURSE OUTCOME : FOURTH YEAR

A.Y. 2023-24 Term I (2019 Pattern)

Subject	Course Outcome No.	CO Code No.	Statement
BARCH953 AD-VI 4201953 [SV]	CO1	BARCH953.1	To develop Architectural programming of the entire project for housing including the process of generating a design brief, developing design iterations based on involved issues.
	CO2	BARCH953.2	To Provide design decisions based on understanding and application of of Socio Cultural Aspects and Precedent Studies of the site.
	CO3	BARCH953.3	To Provide design decisions based on understanding and application of Site Context and Analysis.
	CO4	BARCH953.4	To Provide design decisions based on understanding and application of housing typologies.
	CO5	BARCH953.5	To Provide design decisions based on understanding and application of Building Material and Construction Technology and Economic Aspect.
	CO6	BARCH953.6	To Provide design decisions based on understanding and application of Traffic and vehicular movement and Asthetical Elements.
	CO7	BARCH953.7	To Provide design decisions based on understanding and application of Building Services and Rules and Regulations.
BARCH954 ABCS-I 4201954 [SV]	CO1	BARCH954.1	Student will able to comprehend and design multi-basement using the data collected from study of standards and case studies for any building typology.
	CO2	BARCH954.2	Students will be able to design advanced structural systems and advanced services that help functioning of multi-basement.
	CO3	BARCH954.3	Student will able to comprehend types of swimming pools based on purpose of use and its advanced services using the data collected from study of standards and case studies.
	CO4	BARCH954.4	Students will be able to design advanced structural systems and advanced services that help functioning of swimming pool.
	CO5	BARCH954.5	Student will able to comprehend functioning of various long span structures/ industrial buildings, its advanced structural systems and design using standards and byelaws.
BARCH955 US-I 4201955 [SS]	CO1	BARCH955.1	Students will learn the meaning of town planning, urban planning, urban design and context of architectural project beyond site;
	CO2	BARCH955.2	Students will learn the principles and theories of Urban Planning and Urban Design and relevance in the context of globalization.
	CO3	BARCH955.3	Students will learn the Various aspects of urban land. They will understand the implications of various factors such as traffic-transportation, socio- economic, urban landscape etc. influencing the development, rationale of urban regulatory controls.
	CO4	BARCH955.4	Students will study urban residential developments such as neighbourhood planning, high-rise housing, slum rehabilitation, public housing, town planning schemes etc.
	CO5	BARCH955.5	Students will study affordable housing - introduction and concepts; Contemporary problems of settlements, towns, cities impact of unplanned growth.
BARCH956 RIA-II 4201956 [SS]	CO1	BARCH956.1	Student will understand how to collect authentic data for research work as well analysis of data using certain matrix or statics.
	CO2	BARCH956.2	Student will understand how to write & Present the data using various techniques (verbal, visual, graphical, numerical based on research topic & type.
	CO3	BARCH956.3	Students will understand & analysis the data obtained through literature review as per their topic.
	CO4	BARCH956.4	Students will review the data collection- qualitative & quantitative data collection

	CO5	BARCH956.5	Students will reframe a question related to their selected topic and start to write research paper draft
	CO6	BARCH956.6	Students will select appropriate research methodology for their topic to produce a research paper
BARCH957 Elective III 4201957 [SS]	CO1	BARCH957.1	Student will study different research paper, book to brain storm about the different topics of their interest, to finalize their topic.
	CO2	BARCH957.2	Reviewing different research paper they will get the idea of presenting research paper, methodology tools, findings presentations etc.
	CO3	BARCH957.3	Students will present their work in class which will help students to gain knowledge of different topic all together and will get knowledge about different topics from their peer
	CO4	BARCH957.4	Student will do in depth study of their selected topic, will do live case study, measurement dwg., literature review etc. as per the need of topic and have to present their own analysis on the same.
	CO5	BARCH957.5	Student will be able to present their work in form of research paper, design proposal, which can be idea based or design based solution.
BARCH958 QSSW-I 4201958 [PP]	CO1	BARCH958.1	Student will introduced to Quantity Surveying and Estimating
	CO2	BARCH958.2	Student will introduced to Specification writing
	CO3	BARCH958.3	Student will study mode of measurement as stipulated in IS-1200
	CO4	BARCH958.4	Student will Work out quantities for Load-bearing structure
	CO5	BARCH958.5	Student will Work out quantities for RCC structure
	CO6	BARCH958.6	Student will learn Specification writing (Workmanship)
BARCH959 PP 4201959 [PP]	CO1	BARCH959.1	Student will understand the nature, scope and avenues of service and professional practice as an Architect, Role of an Architect as a technical professional. Illustrate the changing nature of the Architects.
	CO2	BARCH959.2	Student will understand The Architects Act 1972, The Council of Architecture, its composition, legal status, and mandate for to Registration of Architects and for monitoring the Academics and Profession of Architecture, Rules and Regulations of the Council regarding Professional Liabilities & Code of Conduct. Introduction to Architectural Competitions, its Pros and Cons, Rules and Regulations as per Council of Architecture
	CO3	BARCH959.3	Student will understand the Avenues of professional service and mode & nature of professional practice - Types of Organizations, Scope of comprehensive Services, Scale of Fees, and Site supervision, Documentation, Introduction to Office Management, & International practice.
	CO4	BARCH959.4	Students will understand Taxation (Income tax, Goods & Service Tax and Professional tax), Banking, Insurance, and laws applicable to architects.
	CO5	BARCH959.5	Students will understand the Role and Legal duties of Architects in Arbitration and Valuation.
	CO6	BARCH959.6	Students will Introduce to IIA, IIAID, IUDI, ITPI, ISOLA and such professional organizations. Understanding the need for Architects to be aware, sensitive and active in Social and Civic issues in Urban context.
Ar. Avanti Gole		Ar. Dhananjay Chaudhari	
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COURSE OUTCOME : FOURTH YEAR

A.Y. 2023-24 Term II (2019 Pattern)

Subject	Course Outcome No.	CO Code No.	Statement
BARCH960 AD-VII 4201960 [SV]	CO1	BARCH953.1	This Study will help student to understand Urban Fabric of Design Project. Study of Urban Areas in terms of Urban level issues like Mobility, movement network, builtform disposition, character, identity, activities, open space networks, walkability, inclusiveness, etc.
	CO2	BARCH953.2	This Study will Students to learn rules and regulation and site analysis for the Draft Development Plan.
	CO3	BARCH953.3	This Study will help student to understand architectural design of a component/s of the neighborhood study at City Level, Community Level, Local Level, Community participation initiatives
	CO4	BARCH953.4	Students will understand the challenges and analysis. Identify issues related to above aspects at Neighbourhood level and offer design solutions for improving the status of the neighbourhood with reference to the above aspects.
	CO5	BARCH953.5	Students are expected to design a Multi Functional Complex of Buildings or Speciality Building in an Urban Context with substantial Complexity addressing Issues of Character, Identity, Builtform, Contextuality, Advanced Services, Green Initiatives, landscape integration, traffic management with impact on immediate surroundings.
BARCH961 ABCS-II 4201961 [SV]	CO1	BARCH961.1	Students will identify and analyse case studies of Auditorium concluding in comparative analysis and study of standards
	CO2	BARCH961.2	Students will learn to evolve their Auditorium designs into functional and sensible plans with appropriately planned approaches, services, etc.
	CO3	BARCH961.3	Students will be able to appraise several materials for various architectural features of Auditorium such as Entrance Lobby Flooring, Landscape features, Curtain Wall, Toilets, pergola, and porches through detailed market survey
	CO4	BARCH961.4	Students will be able to design detailing for various architectural features of Auditorium such as Entrance Lobby Flooring, Landscape features, Curtain Wall, Toilets, pergola, and porches based on market survey
	CO5	BARCH961.5	Students will be able to comprehend advanced structural systems employed in several high rise buildings under different loading conditions, advanced structural systems and advanced services that help functioning of high rise buildings through case studies
BARCH962 US-II 4201962 [SS]	CO1	BARCH962.1	Students will learn the theoretical knowledge of aspects involved in urban study process such as Survey, analysis, proposals and development.
	CO2	BARCH962.2	Students will learn the theoretical knowledge of Urban Planning legislation such as town planning acts, building bylaws, city conservation.
	CO3	BARCH962.3	students will learn theoretical knowledge of urban economics such as demand and supply, housing finance, Government schemes and various bodies etc
	CO4	BARCH962.4	students will be able to study the existing town and town planning proposals for municipal council level town-(group work)
	CO5	BARCH962.5	Identification of urban issues related to various aspects such as environment, society, traffic and transportation, hills and hill slopes, riverfront development, urban heritage conservation through primary surveys
	CO1	BARCH963.1	Student will study different research paper, book to brain storm about the different topics of their interest, to finalize their topic.

BARCH963 Elective IV 4201963 [SS]	CO2	BARCH963.2	Other than the specified subject in syllabus student will get opportunity to try and learn something new of their choice and it will encourage student to do research in that and to gain theoretical and practical knowledge to apply it in practice.
	CO3	BARCH963.3	Students will present their work in class which will help students to gain knowledge of different topic all together such as planning and architectural theories , research and data collection methodology etc.
	CO4	BARCH963.4	Student will do in depth study of their selected topic, will do live case study, measurement dwg., literature review etc. as per the need of topic and have to present their own analysis on the same.
	CO5	BARCH963.5	Student will be able to present their work in form of research paper, design proposal, which can be idea based or design based solution.
BARCH965 QSSW-II 4201965 [PP]	CO1	BARCH965.1	Students will learn Analysis of Rate
	CO2	BARCH965.2	Students will study Different Building trades scope & contents , checklist preparation
	CO3	BARCH965.3	Students will able to prepare Indent of materials
	CO4	BARCH965.4	Students will Work out quantities for Steel Structures
	CO5	BARCH965.5	Students will prepare Specification for Building Services
	CO6	BARCH965.6	Students will be able to prepare Broad outline specification for miscellaneous service installations
BARCH966 PM 4201966 [PP]	CO1	BARCH966.1	Student will understand the Project and Project Environment. Traditional organization structure vs modern project management structure, Importance of Project Manager & role of an Architect as a Project Manager who integrates everyone. Collaborative project environment with multiple stakeholders and need to manage. PMBOK Environment, Concept of Project- Program- Portfolio and Processes / Policies/ Procedures to manage these project environments.
	CO2	BARCH966.2	Students will understand the Importance of Project Phase: Concept and Feasibility, Planning and Design, Construction and Close-out and within each phase of project role of key processes – Initiating, Planning, Execution, Control & Monitoring and Close- out. Difference between Project Management and Construction Management.
	CO3	BARCH966.3	Students will understand the Definition and Types of tenders, Systems of Tendering - Open and Invited, Process of tendering. Tenders - Pre-Qualification and Empanelment procedures - Selection of Contractors. Tender documents, Terms of Reference - Specifications - Bill of Quantities - Billing, Introduction to Contracts - Articles of Agreement and Conditions of Contract (IIA document)
	CO4	BARCH966.4	Students will understand the Key concept introduction to various knowledge areas as defined in PMBOK to understand how various knowledge areas work in relationship with each other. Knowledge areas Integration management, Scope management, Schedule management, Cost management, Quality management
	CO5	BARCH966.5	Students will understand the Resource management, Communication management, Risk management, Procurement management and Stakeholder management. Awareness and Introduction to Computer applications for effective Project Management.
	CO6	BARCH966.6	Students will understand the Importance of specialized themes in addition to knowledge areas: Project Finance management, Construction Safety management, Facilities management, Design management. Awareness and Introduction to Computer applications for effective Project Management. (not to be included for SPPU examinations)
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