

Padmashree Dr. D Y Patil College of Architecture

Akurdi, Pune 411044

Program Outcomes for B. Arch As per Savitribai Phule University of Pune, 2019 Pattern Syllabus

A.Y. 2021-22, Term II

PROGRAM OUTCOMES [PO]

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



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			Course Outcomes for First Year B. Arch [2019 Pattern] A.Y. 2021-22, Term II
Subject	Course Outcome No.	CO Code No.	Statement
	COI	BARCH108.1	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	BARCH108.2	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.
BARCH108	CO3	BARCH108.3	Students will learn to comprehend and review the architecture, culture, history of various rural settlements.
AD - I 1201909 [SV]	CO4	BARCH108.4	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	BARCH108.5	Students will give a design proposal based on the issues addressed in the studied settlement.
	CO6	BARCH108.6	Students will develop hand drawn plans, sections, elevations, 3D views and models of the project sited on the studied settlement.
	COI	BARCH109.1	Stuents will understand Earthquake resistantLoad bearing Building Techniques along with they gain knowledge about RCMW & domes walls construction.
	CO2	BARCH109.2	The main outcome of this unit is to understand all about Timber & its derivatives along with understanding of varied roof streture and materials.
BARCH109 BCM-II	CO3	BARCH109.3	Single and Double Floor wooden construction for G+1 structures are to be learnt as a part of this ubit along with Timber staircase details.
1201910 [PP] 1201911 [SV]	CO4	BARCH109.4	Students will gain knowledge about Timber Panelled Door, Flush Door & Casement windows construction Techniques along with Joinary Details.
	CO5	BARCH109.5	Timber King Post and Queen Post Trussess for Roof construction Techniques are to be Understood in this Course Outcome
	CO6	BARCH109.6	Wooden Partition. Wall Paneling for Interior application is to be understood along with joinery details.
			
	CO1	BARCH110.1	Student will study S.F.D and B.M.D of Overhanging Beams
	CO2	BARCH110.2	Students will be Introduced to Plane Lattice Construction and structural actions in it's member
BARCH110	CO3	BARCH110.3	Student will study Applications of Frames and Trusses - Geometry, Assumptions and Effect of Horizontal and Vertical Forces on Frames.
TOS-II	CO4	BARCH110.4	Student will study Effect of Force on Spanning Members - Theory of Simple Bending to create Moment of Resistance:
1201912 [PP]	CO5	BARCH110.5	Student will study Effect of Force on Spanning Members -Shear Stress Distribution across different Section
	CO6	BARCH110.6	Student will study Effect of Force on Spanning Members -Maximum and Minimum Slope and Deflection for different cases
	CO7	BARCH110.7	Student will Understand and study the Failure of Compression Members
	COI	BARCH111.1	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	BARCH111.2	Students will understand to communicate an architectural idea / proposal in a legible and effective manner through perspective projections
BARCH111 AGD-II 1201913 [SS]	CO3	BARCH111.3	Students will understand use of shades and shadows, and various architectural presentation and rendering techniques
	CO4	BARCH111.4	Students will learn surface Development of various three dimensional objects and orthographic projections of true shape of sectional planes.
	CO5	BARCH111.5	Students will learn one-point and two-point perspective of objects and buildings/ building components using various methods including grid method.
	CO6	BARCH111.6	Students will be introduced to concept of bird's eye view, worm's eye view etc
	CO7	BARCH111.7	Students will learn principles of Sciography (shades and shadows) for 3-Dimensional objects and buildings on plans, elevation, isometric and perspective.





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Subject	Course Outcome No.	CO Code No.	Statement
	COI	BARCH112.1	Students will learn about about the various types of Islamic architectural elements through library study.
	CO2	BARCH112.2	Students will understand new developments due to Islamic invasion and their effects on architecture. Understanding the effects of Islamic principles on Arch. Form.
BARCH112	CO3	BARCH112.3	Students will understand new construction techniques were brought through Islamic invasion and depict through sketches.
HOAC-II	CO4	BARCH112.4	Understanding the various Indo-Islamic features and making sketches of them.
1201914 [SS]	CO5	BARCH112.5	Studying in groups about various monuments of Islamic architecture and presenting in the class.
	CO6	BARCH112.6	Drawing sketches of various types of arches, domes, squinches and minarets-studying in detail about the various elements and it's types.
	CO7	BARCH112.7	Studying about the various methods of dome construction and showing them on the sheets.
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	COI	BARCH113.1	Introduction to the profession of Architecture and its distinguishing characteristics with respect to other professions.
	CO2	BARCH113.2	Scope of architecture as a discipline
BARCH113	CO3	BARCH113.3	Fundamentals of architecture -function, structure, culture and environment and their integration into the architectural form
FOA 1201915 [SS]	CO4	BARCH113.4	Factors affecting architectural design- site, context, function, circulation, structural system, materials, sustainability and aesthetics.
	CO5	BARCH113.5	Concept of Shelter and introduction to various building typologies and their design concerns
	C06	BARCH113.6	Scope and significance of subjects in architectural curriculum.
BARCH114 WS-II	COI	BARCH114.1	To introduce students to the Significance of Model making in Architecture in exploring and representing Massing, form of buildings and spaces. Introduction to various basic model making techniques and materials their relationship.
	CO2	BARCH114.2	To enable students to make Architectural and construction models using various materials. Introduction to the Model making of settlement study in a group.
1201916 [SS]	CO3	BARCH114.3	To enable students to make Construction models with various materials. Use of various materials in individual design models.
× -	CO4	BARCH114.4	To understand the 3D modeling and visualizing software "Sketchup".
	CO5	BARCH114.5	To understand the commands and applying them during model making in the software.



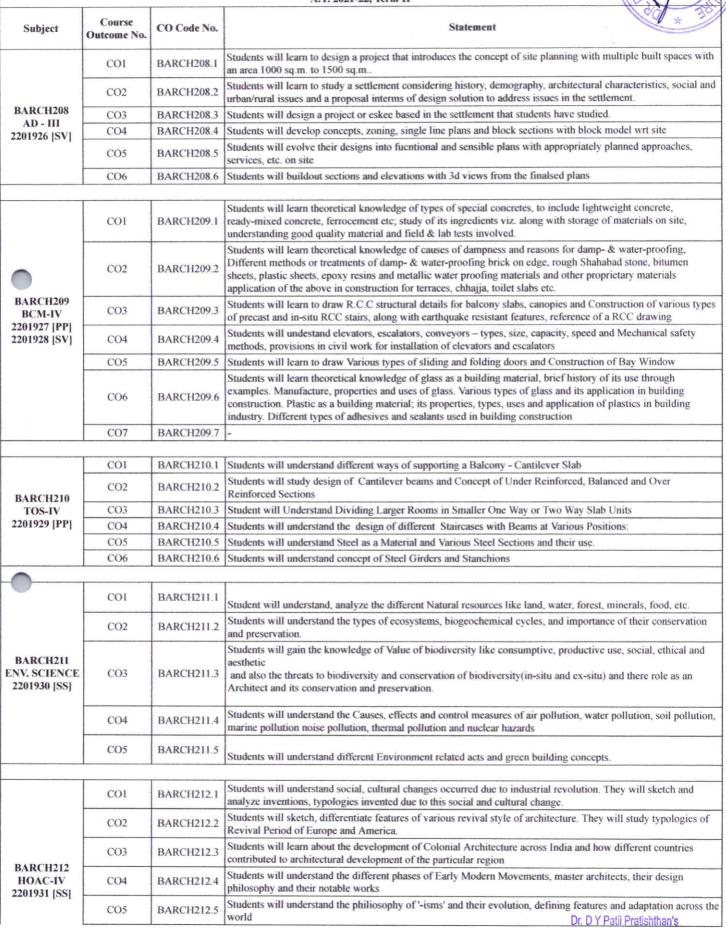


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Course Outcomes for Second Year B. Arch [2019 Pattern]

A.Y. 2021-22, Term II





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Course Outco	omes for Seco	nd Year B. Arc	ch [2019 Pattern]
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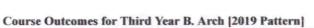
A.Y. 2021-22, Term II				
Subject	Course Outcome No.	CO Code No.	Statement	
	CO6	BARCH212.6	Students will understand the Post Independence Architecture in India and the several discourses of Post Liberalisation and its influence on Architecture in India	
	CO7	BARCH212.7	Students will measure a Building/ 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]	COI	BARCH213.1	Students should be able to understand basic concepts of solid waste management, beginning from source generation to waste disposal.	
	CO2	BARCH213.2	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	BARCH213.3	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	BARCH213.4	Students should be able to understand Electrical installations in a building with load calculations.	
	CO5	BARCH213.5	Students should be able to understand Low Voltage electrical systems and its integration in BMS	
	COI	BARCH214.1	Students will understand Taking out linear measurement and locating the objects in horizontal and vertical plane.	
BARCH214 SSA 2201934 [SS]	CO2	BARCH214.2	Students will be able to take angular & directional measurement by using equipment. Prepare and interpret the survey drawing for same.	
	CO3	BARCH214.3	Students will Understanding how to use and operate dumpy Level .Taking Level/ elevation of a point.	
	CO4	BARCH214.4	Students will be explained the Accessories used in plane tabling and calculating area of irregular shape.	
	CO5	BARCH214.5	Students will understand Accessories used in plane tabling and calculating area of irregular shape	
	CO6	BARCH214.6	Students will be Plotting the contours and profiles, Understanding gradient, methods of contouring,	
	CO7	BARCH214.7	Students will understand Natural and Manmade aspects, Site Analysis	

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		*	A.Y. 2021-22, Term II
Subject	Course Outcome No.	CO Code No.	Statement
	CO1	BARCH308.1	Students will learn to Identify and examine various types Building services in different typology of buildings like Hotels. Hospitals, Office buildings, malls, etc.
	CO2	BARCH308.2	Students will identify and analyse case studies of Shopping mall concluding in comparative analysis and study of standards
BARCH308	CO3	BARCH308.3	Students will develop a programme for shopping mall based on case studies, identify appropriate site and study of prevalent UDCPR and NBC 2016 byelaws
AD - V 3201944 [SV]	CO4	BARCH308.4	Students will develop concepts, zoning, single line plans and block sections with block model wrt site
3201945 [PP]	CO5	BARCH308.5	Students will evolve their designs into fucntional and sensible plans with appropriately planned approaches, services, etc. on site
	CO6	BARCH308.6	Students will buildout sections and elevations with 3d views from the finalsed plans
	CO7	BARCH308.7	Students will get experience of time bound design paper solving by attempting to solve previous question paper.
	CO1	BARCH309.1	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	BARCH309.2	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.
BARCH309	CO3	BARCH309.3	At the end of the unit Student will understand the concept of trusses along with earthquake resistant features & develope Construction details of trusses for low rise medium span buildings
BCM-VI 3201946 [SV]	CO4	BARCH309.4	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 develope the design for assembly of structure with earthquake resistant features.
	CO5	BARCH309.5	Student understand Concept of modular coordination for Industrialized building construction, planning and construction details
	CO6	BARCH309.6	Student understand the Application of Moment resisting frames, crossed braced frames and shear wall for Earthquake resistance structures
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	COI	BARCH310.1	Student will study the effect of Lateral Pressure of Soil and Water for increasing heights.
	CO2 CO3	BARCH310.2 BARCH310.3	Students will develope the Feel for Structural Principles and their Relates to Building Design Students will understand the fact that Architecture and Structure cannot be conceived
BARCH310	COA	DADCHILL A	independently.
TOS-VI	CO4 CO5	BARCH310.4	Students will Design the Structural System for Ground +2 Storey R.C.C Structure
3201947 [PP]	CO6	BARCH310.6	Students will Design the medium span Factory Building in steel. Students will Understand different Structural Systems for Larger Spans and Tall Buildings with an understanding of Wind Load
	CO7	BARCH310.7	Students will develope a Confidence that they could explore a Structural System of their own design and execute the same.
	CO1	BARCH311.1	Students will understand the meaning and need of research, variables, ethics, Selection of samples ,research methodology and its types.
BARCH311	CO2	BARCH311.2	Students will select and define the selected research topic and narrowing it down to further a final topic.
RIA-I	CO3	BARCH311.3	Students will carry out the literature review of 5 research papers on their selected topic.
3201948 [SS]	CO4	BARCH311.4	Students will review case studies, qualitative and quantitative data collection, various tools need to be used as per their selected topic.
	CO5	BARCH311,5	Students willl create a research proposal including framing of Abstract, Aim and objective Scope of work of their selected topic.



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Course Outcomes for Third Year B. Arch [2019 Pattern]

			A.Y. 2021-22, Term II
Subject	Course Outcome No.	CO Code No.	Statement
	CO1	BARCH312.1	At the End of the Course Student will be analyze and define their selected research area in comparison with other given topic.
BARCH312	CO2	BARCH312.2	At the End of the Course Student will create a Research Proposal including framing of Abstract, Aim and objective Scope of work of their favorable research area
Elective-II	CO3	BARCH312.3	At the End of the Course Student will review research paper review
3201949 [SS]	CO4	BARCH312.4	At the End of the Course Student will review Case Study, qualitative and quantitative data collection
	CO5	BARCH312.5	At the End of the Course Student will create a inferences, conclusion and some topic can be in form of proposal
	CO1	BARCH313.1	Students will learn about sound properties. Planning and design to control outdoor noise and indoor noise. About different acoustical material & its application
BARCH313	CO2	BARCH313.2	Students will learn parameters of good acoustical conditions and design techniques to control air and structure born noise
BS-IV 3201950 [PP]	CO3	BARCH313.3	Students will learn to calculate Reverberation time calculation, acoustical treatment and different sound amplification systems
3201951 [SS]	CO4	BARCH313.4	Students will understand and learn about the passive strategies of fire prevention
	CO5	BARCH313.5	Students will learn Exit requirements, egress components, Compartmentalistion, provision for basements,gas supply, firedetection and alarm in high rise building
	CO6	BARCH313.6	students will learn about active strategies fire prevention
	CO1	BARCH314.1	Students will Learn to represent working drawing using standard practices, conventions, graphic annotations, sequencing and cross reference systems of a good working drawing set.
	CO2	BARCH314.2	Students will show Design development and detailing of own design to resolve the design idea
BARCH314 WD-II 3201952 [SS]	CO3	BARCH314.3	students will execute their design ideas in working drawing considering the construction parameters, limitation and sequencing
	CO4	BARCH314.4	students will generate a working drawing set for the chosen design/building
	CO5	BARCH314.5	students will understand framed/composite construction including schedules of material, finishes, components and accessories
	CO6	BARCH314.6	Students will Develop and draft details of Civil work & Building Components.
	CO7	BARCH314.7	students will generate interior design drawings including schedule of finishing details



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			A.Y. 2021-22, Term H
Subject	Course Outcome No.	CO Code No.	Statement
, , , , , , , , , , , , , , , , , , ,	CO1	BARCH409.1	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	BARCH409.2	This Study will Students to learn rules and regulation and site analysis for the Draft Development Plan.
BARCH409 Design VIII	CO3	BARCH409.3	This Study will help student to understand architectural design of a component/s of the neighborhood study at Cil Level, Community Level, Local Level, Community participation initiatives
4201562 [SV]	CO4	BARCH409.4	Students will undestand the challanges 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 aspect
****	CO5	BARCH409.5	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, Advances Services, Green Initiatives, landscape integration, traffic management with impact on immediate surroundings.
	CO1	BARCH410.1	Student will able to design an auditorium using the data collected from study of standards and case studies
	CO2	BARCH410.2	Students will be able to their own construction working details to an appropriate scale for the Proposed Auditorium designed in Unit 1, with the help of market survey. Out of five, one detail shall comprise of provision for differently abled people.
BARCH410 ABTS-II	CO3	BARCH410.3	Students will be able to comprehend advanced structural systems employed in several high rise buildings under different loading conditions through model making
4201563 [SV]	CO4	BARCH410.4	Students will be able to comprehend advanced structural systems and advanced services that help functioning of high rise buildings through case studies
	CO5	BARCH410.5	Students will be able to design their own curtain wall system for 1 external facade for the Proposed Auditorium i Unit 1.
	C06	BARCH410.6	Students will be able to make decisions for material selection as per detailing for Curtain walls from market surv
	CO1	BARCH411.1	Students will learn the introduction to Construction Management - Types and Systems of Tendering - Open and Invited Tenders - Pre-Qualification and Empanelment procedures - Selection of Contractors.
BARCH411 PP-II	CO2	BARCH411.2	Introduction to Contracts - Articles of Agreement and Conditions of Contract (IIA document) Contents of a Tender - Terms of Reference - Specifications - Bill of Quantities - Billing, Measurement of work and Payments - Advances and recovery - Bonus and Penalties, etc
4201564 [PP]	CO3	BARCH411.3	Introduction to National Building Code - ISI Codes and Standards, Limits and Tolerances.
	CO4	BARCH411.4	Students will learn the role of Architects in Construction / Site management - Supervision and monitoring of Speed, Quality and Economy - Status on project sites - Meetings, Minutes, Instructions & Records.
	CO5	BARCH411.5	General Introduction to the Role and Legal duties of Architects in Arbitration and Valuation.
	COI	BARCH412.1	Students will learn the theoretical knowledge of aspects involved in urban study process such as Survey, analysis proposals and development.
BARCH412	CO2	BARCH412.2	Students will learn the theoretical knowledge of Urban Planning legislation such as town planning acts, building bylaws, city conservation.
US-II 4201565 [SS]	CO3	BARCH412.3	students will learn theoretical knowledge of urban economics such as demand and supply, housing finance, Government schemes and various bodies etc
	CO4	BARCH412.4	students will be able to study the existing town and town planning proposals for municipal council level town-(group work)
	CO5	BARCH412.5	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	BARCH413.1	Student will understand how to collect authentic data for research work as well analysis of data using certain matrix or statics.
BARCH413	CO2	BARCH413.2	Student will understand how to write & Present the data using various techniques (verbal, visual, graphical, numerical based on research topic & type.
RIA-II 4201566	CO3	BARCH413.3	Students will understand & analysis the data obtained through literature review as per their topic.
4201300	CO4	BARCH413.4	Students will review the data collection- qualitative & quantitative data collection
	CO5	BARCH413.5	Students will reframe a question related to their selected topic and start to write rsearch paper draft
	CO6	BARCH413.6	Students will select appropriate research methodology for their topic to produce a research paper



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Course Outcomes for Fourth Year B. Arch [2015 Pattern] A.Y. 2021-22, Term H Course CO Code No. Subject Statement Outcome No. COL BARCH414.1 Students will be introduced to Rate analysis in detail BARCH414.2 Students will be introduced to various costs, different typed of work and indent preparation CO2 CO3 BARCH414.3 Students will be Studying and Working out rate Analysis of standard items of work BARCH414 CO4 BARCH414.4 Students will be Studying and preparing Indent of Material of standard items of work QSE-II BARCH414.5 Students will be Working out quantities for plumbing and sanitation items of work CO₅ 4201567 [PP] CO6 BARCH414.6 Students will be preparing measurement sheet and abstract for all items of work. Students will be Working out quantities for Industrial structure with CO7 BARCH414.7 steel Truss and sheet roofing COL BARCH415.1 Students will be explained importance of specifications in contract document for any construction project Students will be preparing Checklist for any construction project CO2 BARCH415.2 BARCH415 Students will be introduced to Techniques & methods of writing different types of specifications of different items CO3 BARCH4153 SW-II of works in construction. 4201568 [PP] Students will be introduced to methodology of writing specifications for service installations of different items of CO4 BARCH415.4 CO5 BARCH415.5 Students will be introduced to Different Building trades scope & contents Student will study different research paper, book to brain storm about the different topics of their interest, to CO1 BARCH416.1 finalize their topic. Other than the specified subject in syllabus student will get opportunity to try and learn something new of their CO₂ BARCH416.2 choice and it will encourage student to do research in that and to gain therotical and practical knowledge to apply BARCH416 it in practice. Elective-III Students will present their work in class which will help students to gain knowledge of different topic all together BARCH4163 CO3 4201569 [PP] such as planning and architectural theries, research aand data collection methodolgy etc. Student will do in depth study of their selected topic, will do live case study, measurement dwg., literature review CO₄ BARCH416.4 etc. as per the need of topic and have to present their own analysis on the same. Student will be able to present their work in form of research paper, design proposal, which can be idea based or CO5 BARCH416.5 design based solution.



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Course Outcomes for Fifth Year B. Arch [2015 Pattern]

			A.Y. 2021-22, Term II
Subject	Course Outcome No.	CO Code No.	Statement
	CO1	BARCH502.1	Student will select and finalise a topic based on their interest areas from the topics prescribed in syllabus
	CO2	BARCH502.2	Students will be exposed to different aspects of selected management topics.
BARCH502	CO3	BARCH502.3	Students will study each aspect of topic in detail and present it in group
Elective IV 5201572 [SS]	CO4	BARCH502.4	Students will study research papers to understand and analyze the depth and research problems under their selected topics
	CO5	BARCH502.5	Students will undergo live case study excercise where they will be exposed to practical aspects of management
	COI	BARCH503.1	Student will select and finalise a topic based on there interest areas and from the different typologies like resorts, hospitals, residenatial buildings, IT parks, etc
	CO2	BARCH503.2	Students will identify and analyse case studies of there selected topics concluding in comparative analysis, study of standards and will identify different options of site for there project and fianlise and carry a detailed site investigation.
BARCH503 ADP	CO3	BARCH503.3	Students will develop a programme for there own project based on case studies and study of prevalent UDCPF and NBC 2016 byelaws
5201573 [SV]	CO4	BARCH503.4	Students will develop concepts, zoning, single line plans and block sections with block model wrt site
	CO5	BARCH503.5	Students will evolve their designs into fucntional and sensible plans with appropriately planned approaches, structural system, services, landscape development, etc. on site
	CO6	BARCH503.6	Students will build out sections and elevations with 3d views from the finalsed plans
	CO7	BARCH503.7	To present the entire project in the viva-voce exam along with drawings and models in a systematic manner