



Yashoda Shikshan Prasarak Mandal's

## Yashoda College of Architecture, Satara

S. No. : 244, NH-4, WadhePhata, Satara., Tele Fax- 02162-271242

Website- [www.ycoa.org.in](http://www.ycoa.org.in), Email-[principalarch@yes.edu.in](mailto:principalarch@yes.edu.in), registrar\_ytc@yes.edu.in

Approved by COA & AICTE- New Delhi, Govt. of Maharashtra (DTE, Mumbai)

Affiliated to Shivaji University, Kolhapur.

**Prof. Dasharath Sagare**  
Founder, President

**Ar. Suhas S. Talekar**  
Principal

### Course Outcomes (COs)

#### PC-101 Aesthetics and Visual Arts - I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-101.1</b>	Sketch in various media & material, to use drawing for co-ordination of eye & hand in studio & field observation, judge scale, proportion, spatial relationships.
<b>CO-101.2</b>	Appraise aesthetics in everyday life
<b>CO-101.3</b>	Create 2D compositions with the use of elements and apply principles of design.
<b>CO-101.4</b>	Apply the knowledge of color theory and rendering techniques for Architectural design assignments and portfolio

#### PC-102 GRAPHICS - I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-102.1</b>	Prepare drawing sheets of simple nature using various drafting techniques.
<b>CO-102.2</b>	Represent elements of design in graphical forms.
<b>CO-102.3</b>	Represent simple and complex objects in 2D and 3D graphical form.
<b>CO-102.4</b>	Develop a skill to represent concepts and ideas in terms of sketches, drawings and models using different techniques and media.

#### PC-103 ARCHITECTURAL DESIGN - I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-103.1</b>	Analyze requirements for specific user and function.
<b>CO-103.2</b>	Understand the fundamentals of Architectural design, elements and principles.
<b>CO-103.3</b>	Design the given assignment by using the knowledge gained.
<b>CO-103.4</b>	Apply graphical representation skills to represent design concepts and ideas.



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### PC-104 HSHC - I

**Course Outcomes:** At the end of the course, students will be able to:

CO-104.1	Compare specific planning and design approach to human settlements during various periods.
CO-104.2	Apply knowledge of human settlements and civilization and relate it to modern concepts of planning.
CO-104.3	Analyze the settlement pattern and architectural built form which has influence of geography, geology climate etc.
CO-104.4	Evaluate comparative study of various civilizations.

### BS&AE- 105 BUILDING CONSTRUCTION AND MATERIAL – I

**Course Outcomes:** At the end of the course, students will be able to:

CO-105.1	Understand structural typology and building components.
CO-105.2	Select suitable techniques materials for buildings.
CO-105.3	Apply knowledge of construction process for supervise the construction of different building elements based on suitability.
CO-105.4	Adopt suitable construction techniques.

### BS & AE-106 Theory of Structure - I

**Course Outcomes:** At the end of the course, students will be able to:

CO-106.1	Understand concepts of Applied Mechanics
CO-106.2	Understand and identify different Structural types of Buildings
CO-106.3	Understand Different Systems of Forces and types of loads acting
CO-106.4	Understand concept of Equilibrium and that a Building is a System of Forces in Equilibrium
CO-106.5	Understand Concepts of Support, Support Reactions, Beams, Loads, Bending and Shear.
CO-106.6	Understand concept of Friction



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### PC-107 WORKSHOP - I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-107.1</b>	Select appropriate material for model making.
<b>CO-107.2</b>	Apply the knowledge of material and techniques used in process of two dimensional and three dimensional model making.
<b>CO-107.3</b>	Create three dimensional scaled models.

### SEC-108 COMMUNICATIN SKILL - I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-108.1</b>	Describe the importance of verbal and nonverbal communication in architecture.
<b>CO-108.2</b>	Develop a critical approach through the small exercises like debates, role play etc.
<b>CO-108.3</b>	To present himself /herself efficiently through group presentations.
<b>CO-108.4</b>	To read a book, analyze, summarize and express his/her learning outcomes though literary medium.

### SEC – 109 Computer Technology in Architecture - I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-109.1</b>	Express essential skills which will help them to use in daily academic work
<b>CO-109.2</b>	Apply knowledge of computer software in their academic work
<b>CO-109.3</b>	Create projects using different technologies and apply in the competitive world which makes their work easier & faster

### PC-301 Graphics III

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-301.1</b>	Draw perspectives of simple and complex objects
<b>CO-301.2</b>	Analyze effects of various angles, stationary points and eye levels on perspective.
<b>CO-301.3</b>	Draw sketches in perspective as a part of design process
<b>CO-301.4</b>	Represent perspective drawings with rendering



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### PE - 302 Graphic and Product Design

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-302.1</b>	To understand principals of Graphic and Product design.
<b>CO-302.2</b>	Apply functionality, ergonomics and aesthetics for a usable product.
<b>CO-302.3</b>	Understand environmental issues of products.
<b>CO-302.4</b>	Develop entrepreneurial skills & soft skills towards Specialization field.

### PC-303 - ARCHITECTURAL DESIGN III

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-303.1</b>	The student will be confronted with progressively complex exercises involving spatial relations in two dimensions, three dimensions and time.
<b>CO-303.2</b>	Fundamental designs skills are taught in the context of the architect's wider responsibilities to society, culture and the environment.
<b>CO-303.3</b>	The course will stress experimentation while providing an analytical and creative framework to develop an understanding of principles of design, structure and materials, as well as necessary skills in drawing and model-making.

### BS & AE – 304\* BUILDING CONSTRUCTION AND MATERIAL-III

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-304.1</b>	Understand building components and construction methods.
<b>CO-304.2</b>	Design specifications for various building and construction components.
<b>CO-304.3</b>	Prepare design of buildings with due consideration to construction technology & materials.
<b>CO-304.4</b>	Understanding of structural typology of building & knowledge of basic building materials.



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### BS & AE-305 Theory of Structure - III

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-305.1</b>	Understand the Theory of simple bending
<b>CO-305.2</b>	Understand Concept of shear stress in beams
<b>CO-305.3</b>	Analysis for Deflection of beams
<b>CO-305.4</b>	Understand concept of Composite beam
<b>CO-305.5</b>	Apply concepts of Simple Tension and Compression members

### PC-306 - HISTORY OF ARCHITECTURE I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-306.1</b>	Identifying and recognizing through Architectural Illustrations such as plans, elevations, sections to understand main characteristics of various classical Architectural Periods and styles
<b>CO-306.2</b>	Recognize and distinguish various religion architecture in India - their role and importance in shaping cultural heritage of India and their response to local regional contexts.
<b>CO-306.3</b>	Understanding major concepts, other influences that shaped architecture during ancient Period

### BS & AE-307 Climatology & Architecture

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-307.1</b>	Understand the different types of climate at global level
<b>CO-307.2</b>	Analyze the climatic forces on built spaces
<b>CO-307.3</b>	Apply the climate responsive design process
<b>CO-307.4</b>	Create the unique design requirements according to climate



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### BS & AE-308 Building Services - I(Sanitation)

**Course Outcomes:** At the end of the course, students will be able to:

CO-308.1	Apply knowledge while planning a building.
CO-308.2	Understand what services are required for a building.
CO-308.3	Incorporate technology required to provide services for the building they design.
CO-308.4	Design certain details required for various services in a building and allot spaces for the same.

### BS & AE-309 Environmental Studies I

**Course Outcomes:** At the end of the course, students will be able to:

CO-309.1	Understand the importance of ecosystem and biodiversity in view of its conservation.
CO-309.2	Understand the concept of hazardous waste and to promote a healthier environment.
CO-309.3	Explain the importance of environmental management through pollution control boards.
CO-309.4	Propose solutions for problems related with environmental well beings through location visits and model exhibitions.

### PC-501 -ARCHITECTURAL DESIGN V

**Course Outcomes:** At the end of the course, students will be able to:

CO-501.1	To understand the process of designing buildings with multi levels and multiple functions, integration of advanced technology, materials and services in architectural design
CO-501.2	To understand the aspects of campus planning in architectural design.
CO-501.3	To understand the climatic, sustainable building materials and technologies, socio-cultural aspects to evolve a design solution



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### BS & AE – 502\* BUILDING CONSTRUCTION AND MATERIAL-V

**Course Outcomes:** At the end of the course, students will be able to:

CO-502.1	To introduce structural concepts of various parts of buildings
CO-502.2	To introduce construction techniques
CO-502.3	To explain construction details through case studies
CO-502.4	To explain process of construction and supervision
CO-502.5	Understanding of structural typology of building & knowledge of basic building materials.

### BS & AE-503 Theory of Structure - V

**Course Outcomes:** At the end of the course, students will be able to understand:

CO-503.1	Understand the behavior of RCC Structural systems (Fixed beams)
CO-503.2	Understand feasibility of different structure systems (Continuous beams)
CO-503.3	Choose proper structural section, limitation of forms, spans strength consideration, behavior, and response of loads
CO-503.4	Design of Steel compression and tension members
CO-503.5	Understand different types of trusses, shapes and materials of steel roof truss.

### PC-504-History of Architecture- III

**Course Outcomes:** At the end of the course, students will be able to:

CO-504.1	Understand development of settlements with respect socio economic, cultural and political context of particular time period.
CO-504.2	Understand architectural development with respect to impacts of climate, geography, culture, religion, technology etc.
CO-504.3	Understand architectural ornamentation of particular time period.
CO-504.4	Appraise a historical structure.



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### PC-505-Estimation Costing & Specification-I

**Course Outcomes:** At the end of the course, students will be able to:

CO-505.1	Understand Different methods of Computing Quantities for items of work in a structure.
CO-505.2	working out quantities of various items of work for simple load bearing and R.C.C. framed structure and acquaint them with various types of estimates
CO-505.3	Understand methodology of writing specifications with reference to building trades, materials, workmanship & performance of different items of work.
CO-505.4	understand and know importance of specifications in contract document for any construction project

### BS & AE-- 506 BUILDING SERVICES – III

**Course Outcomes:** At the end of the course, The students should be able to a lot spaces in their design for the topics below.

CO - 506 .1	Understand Electrical requirements for given situation, its calculations and design.
CO- 506 .2	Understand Artificial Illumination and its application in buildings
CO - 506 .3	Understand Overview and introduction to heating, ventilation, and air conditioning focusing on different HVAC systems.
CO - 506 .4	Lift, escalator and travelator requirements for given situation
CO - 506 .5	Understand building's firefighting system, security system and pumps and water. Integrating natural and artificial illumination.

### (PC - 507) SUBJECT: WORKING DRAWING - I

**Course Outcomes:** At the end of the course, students will be able to:

CO-507.1	Introduction of working drawing for composite structure construction
CO-507.2	Working drawing for composite construction based on design problem done in second year architecture which should include.
CO-507.3	To explain working drawing of R.C.C. framed structure, steel framed structure and load bearing structure, with all details.
CO-507.4	Content of municipal drawing.
CO-507.5	Explain the building bye laws for prepare the municipal drawing.





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### PC-508-Landscape Architecture

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-508.1</b>	Understand landscape design as an allied field of architecture
<b>CO-508.2</b>	Understand importance of landscape in architecture
<b>CO-508.3</b>	Understand process of landscape design for small and large buildings; Indoor and outdoor spaces
<b>CO-508.4</b>	Apply concepts of landscape in architectural design

### PC-701 Advanced Architecture Design - I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-701.1</b>	Understand the typologies of Architectural Design projects in Urban area.
<b>CO-701.2</b>	Understand aspects of Campus Planning along with Contemporary Architectural Practices.
<b>CO-701.3</b>	Understand planning aspects of Vertical Buildings.
<b>CO-701.4</b>	Understand Bye-laws and planning guidelines with respect to design typology.
<b>CO-701.5</b>	Understand and implement in design assignment, various architectural services such as sewage & sullage disposal, water supply, Electricity, Air-conditioning, firefighting, Acoustics and CCTC Surveillance related to the interior layout of the concerned building.

### PC-702-Environmental Planning and Urban Design

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-702.1</b>	Understand all environmental aspects at the urban scale.
<b>CO-702.2</b>	Understand of factors effecting built and open spaces at urban scale and methods not only to study user patterns, perceptions and behavior, but also record, document and analyze them.
<b>CO-702.3</b>	Develops techniques to understand movement systems, activity patterns, visual and physical linkages.
<b>CO-702.4</b>	Land use, building uses, social, physical and perceptual context and behavior. User patterns, perceptions and behavior.



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### PC-703-Advanced Building Specification, Valuation and Project Management System

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-703.1</b>	Understand methods of framing detailed specifications for building projects
<b>CO-703.2</b>	Prepare valuation of buildings by different approaches
<b>CO-703.3</b>	Use scheduling Techniques in construction projects
<b>CO-703.4</b>	Develop insight to discover and create entrepreneurial opportunities and the expertise to successfully launch, manage, and grow their own venture.

### BS & AE-704 Advanced Structures - I

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-704.1</b>	Understand the structural behavior of structures like Foundations, slab, water tank etc.
<b>CO-704.2</b>	become familiar with conceptual designs of various structural components
<b>CO-704.3</b>	Create ability to design Two- Way slab
<b>CO-704.4</b>	detail reinforcement in RCC structural members based on their structural behavior
<b>CO-704.5</b>	Understand detailing steel structure

### PE-705-Urban and Regional Planning

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-705.1</b>	Understand the basic terminologies with reference to Urban and Regional planning.
<b>CO-705.2</b>	Understand the urban processes involved in urban planning and development.
<b>CO-705.3</b>	Understand different town planning concepts which will help them to understand the role of planning in Architecture.
<b>CO-705.4</b>	Understand the technical part of architectural practice through the perception of urban and regional planning.



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### PAECC-706 - Research Methodology

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-706.1</b>	Comprehend the relationship between the practical and theoretical aspects in Architecture.
<b>CO-706.2</b>	Formulate a project topic at the level of an undergraduate level.
<b>CO-706.3</b>	Structure a chosen topic in the context of a research.
<b>CO-706.4</b>	Acquaint with the terms and principles of architectural research and to strengthen their knowledge in Architecture.

### PE-707-A - Project Management

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-707.1</b>	Enumerate the attributes of a project, phases in project cycle, stake holders involved and their management.
<b>CO-707.2</b>	Prepare project schedule through identification of critical tasks and path in a project.
<b>CO-707.3</b>	Discuss the tools and skill-sets required for managing office set-ups.
<b>CO-707.4</b>	Acquaint with the terms and principles of architectural research and to strengthen their knowledge in Architecture.

### PC-708-B - Road Safety and Civic Sense

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-708-B.1</b>	Understand typologies Introduction to Road Safety
<b>CO-708-B.2</b>	Understand typology of Roads : Components and Design
<b>CO-708-B.3</b>	Understand Intersections , Pedestrian Circulation and Barrier Free Design
<b>CO-708-B.4</b>	Understand traffic signs and Road Markings, Traffic Signals Traffic Control Aids Street Lighting etc
<b>CO-708-B.5</b>	Implement all above points in Urban design & Advanced Design studio work.



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### PT-901 - Professional practice

**Course Outcomes:** At the end of the course, students will be able to:

CO-901.1	To acquaint the Student with the Role and Stature of an Architect in Society, and understand the duties, responsibilities, liabilities and ethics as a professional
CO-901.2	To acquaint the Student with the Scope and Avenues of professional Architectural services, and the demands and Mode of professional practice, and to prepare the Student for the professional field.
CO-901.3	To familiarize and prepare the Student with adequate knowledge of an Architect's office administration, documentation and procedures of office and site management
CO-901.4	Gain practical knowledge of all the theory courses dealt in earlier semester.
CO-901.5	Acquire skill sets required for working of an Architect's Office.

### PC - 201 - AESTHETICS AND VISUAL ARTS-II

**Course Outcomes:** At the end of the course, students will be able to:

CO-201.1	Apply rendering skills, graphical presentation skills to design assignments.
CO-201.2	Appraise aesthetics in built environment of everyday life
CO-201.3	Select principles of 3D composition for any given design assignment
CO-201.4	Create architectural forms & spaces for simple human activities.

### PC - 202 - GRAPHICS II

**Course Outcomes:** At the end of the course, students will be able to:

CO-202.1	Apply rendering skills, graphical presentation skills to design assignments.
CO-202.2	Analyze simple and complex objects graphically and represent them in orthographic projection methods.
CO-202.3	Represent objects in form of 3D views such as Isometric, Axonometric, Oblique.
CO-202.4	Implement various graphical forms in their design ideas using different media and different rendering techniques.



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### PC - 203 - ARCHITECTURE DESIGN II

**Course Outcomes:** At the end of the course, students will be able to:

CO-203.1	Analyze design practices of houses for various contexts for small scaled projects of human habitat.
CO-203.2	Create the architectural spaces and forms using fundamentals of design for given architectural program.
CO-203.3	Develop the connectivity between indoor and outdoor spaces.
CO-203.4	Demonstrate Architectural drawings with the help of various rendering media and techniques.

### PC - 204 - HUMAN SETTLEMENT AND HISTORY OF CIVILISATION - II

**Course Outcomes:** At the end of the course, students will be able to:

CO-204.1	Understand and study the history of human settlements and civilizations from medieval period to modern period of human habitat.
CO-204.2	Analyze and study the development phases of civilization with reference to socio cultural, religion, climate geography and geological aspect.
CO-204.3	Evaluate by making comparative study of various periods in civilizations.

### BS & AE-205 - BUILDING CONSTRUCTION AND MATERIAL - II

**Course Outcomes:** At the end of the course, students will be able to:

CO-205.1	Classify structural typology and building components.
CO-205.2	Select suitable materials for buildings and adopt suitable construction techniques
CO-205.3	Apply knowledge of construction process for Supervise the construction of different building components based on suitability.



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Founder, President

**Ar. Suhas S. Talekar**  
Principal

### BS&AE-206 - THEORY OF STRUCTURE –II

**Course Outcomes:** At the end of the course, students will be able to:

CO-206.1	Predict the effect of different roofing system of human habitat.
CO-206.2	Analyze the behavior of member under load.
CO-206.3	Draw shear force diagram and bending moment diagram.
CO-206.4	Develop an aesthetical attitude towards structural engineering.

### PC - 207 - WORKSHOP – II

**Course Outcomes:** At the end of the course, students will be able to:

CO-207.1	Prepare simple models using carpentry techniques.
CO-207.2	Apply the knowledge of material and techniques used in process of two dimensional and three dimensional model making.
CO-207.3	Create three dimensional scaled models.

### SEC- 208 - COMMUNICATION SKILL- II

**Course Outcomes:** At the end of the course, students will be able to:

CO-208.1	Understand the importance of digital communication into architecture.
CO-208.2	Analyze a research paper, summarize and express learning outcomes through literary medium.
CO-208.3	Present himself /herself efficiently singly and through group presentations.
CO-208.4	Letter writing (Formal), Applying for Job, Resume Preparation.

### SEC- 209 - COMPUTER TECHNOLOGY IN ARCHITECTURE IV

**Course Outcomes:** At the end of the course, students will be able to:

CO-209.1	Apply technical knowledge of computer software in the academic work
CO-209.2	Analyze 3D software to learn design development
CO-209.3	Apply advanced skills which will help them to use in daily design and rendering work
CO-209.4	Create documentation using different technologies and apply in the competitive world which makes their work easier & faster



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### PC - 401 - GRAPHICS-IV

**Course Outcomes:** At the end of the course, students will be able to:

CO-401.1	Draw shadows of simple and complex objects.
CO-401.2	Use of sciography as a tool of design
CO-401.3	Represent two dimensional and perspective drawings with rendering.

### PE - 402 - GRAPHIC AND PRODUCT DESIGN – II

**Course Outcomes:** At the end of the course, students will be able to:

CO-402.1	Apply functionality, ergonomics and aesthetics for a usable product.
CO-402.2	Understand environmental issues of products.
CO-402.3	Develop entrepreneurial skills & soft skills towards Specialization field.

### PC - 403 - ARCHITECTURE DESIGN IV

**Course Outcomes:** At the end of the course, students will be able to:

CO-403.1	Analyze site potential with respect to built environment and surroundings.
CO-403.2	Correlate potential of multilevel residential spaces with architectural design.
CO-403.3	Understand design intervention w.r.t social cultural, environmental, economic, political and aesthetic aspects.
CO-403.4	Create a design solution in consideration with aesthetic, functional and technical aspects.

### BS & AE – 404 - BUILDING CONSTRUCTION AND MATERIAL-IV

**Course Outcomes:** At the end of the course, students will be able to:

CO-404.1	Select appropriate building materials through market surveys.
CO-404.2	Prepare construction drawings
CO-404.3	Supervise the construction process.



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### BS & AE – 405 - THEORY OF STRUCTURE–IV

**Course Outcomes:** At the end of the course, students will be able to:

CO-405.1	Understand Structural behaviour of compression members.
CO-405.2	Analyse types of connections provided to steel structure.
CO-405.3	Design Footing for loadbearing Wall or pier
CO-405.4	Understand the concepts of soil mechanics and can analyse the properties of soil
CO-405.5	Analyse the failures of Dams and retaining walls

### BS&AE-406 -SURVEYING AND LEVELING

**Course Outcomes:** At the end of the course, students will be able to:

CO-406.1	Get conversant with locating the object positions in horizontal and vertical plane with desired accuracy as needed for architectural profession
CO-406.2	To prepare and interpret survey drawings
CO-406.3	Relate the practical and field work and make it appropriate for the profession of architecture and execution of building projects.
CO-406.4	Understand Different Types of Surveys and survey methods

### PC - 407 - HISTORY OF ARCHITECTURE - II

**Course Outcomes:** At the end of the course, students will be able to:

CO-407.1	Analyze impact of culture on architecture of historic period in India.
CO-407.2	Differentiate between various phases of architecture in India.
CO-407.3	Compare construction techniques of historic and contemporary Architecture.
CO-407.4	Analyze socio-cultural & economic impact on architecture





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### BS&AE – 408 - BUILDING SERVICES – II (WATER SUPPLY & ELECT.)

**Course Outcomes:** At the end of the course, students will be able to:

CO-408.1	Apply knowledge while planning a building.
CO-408.2	Are able to understand what services are required for a building.
CO-408.3	Incorporate technology required to provide Services for the building they design.
CO-408.4	Design certain details required for various Services in a building and allot spaces for the same.

### BS&AE – 409 - ENVIRONMENTAL STUDIES - II

**Course Outcomes:** At the end of the course, students will be able to:

CO-409.1	Understand the importance of ecosystem and biodiversity in view of its conservation.
CO-409.2	Understand the concept of hazardous waste and to promote healthier environment.
CO-409.3	Explain the importance of environmental management through pollution control boards.
CO-409.4	Propose solutions for problems related with environmental well beings through location visits and model exhibitions.

### PC - 601 - ARCHITECTURAL DESIGN - VI

**Course Outcomes:** At the end of the course, students will be able to:

CO-601.1	Design a medium sized buildings with multi-levels & functional complexities
CO-601.2	Use of scenography as a tool of design
CO-601.3	Represent two dimensional and perspective drawings with rendering.



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### BS & AE – 602 - BUILDING CONSTRUCTION AND MATERIAL-VI

**Course Outcomes:** At the end of the course, students will be able to:

CO-602.1	To introduce construction techniques of M.s roofing systems, Various types of M.S Roof truss, North light roofing.
CO-602.2	Windows and Door- Steel, Aluminium, and sliding door, sliding and folding door, and rolling shutter
CO-602.3	To study building material Metals- ceramic, terracotta glass, and plastic its properties uses and application in construction.
CO-602.4	To study construction techniques of partition - Timber, Aluminium. To study gate and precast

### BS & AE – 603 - THEORY OF STRUCTURE–VI

**Course Outcomes:** At the end of the course, students will be able to:

CO-603.1	To understand the behavior of RCC Structural systems.
CO-603.2	To study feasibility of different structure systems
CO-603.3	limitation of forms, spans, choice of proper structural section, strength consideration, behavior, and response of loads
CO-603.4	To design RCC Slab, Beams, columns and footing with concept of factor of safety and characteristic strength of material.

### PC - 604 - HISTORY OF ARCHITECTURE - IV

**Course Outcomes:** At the end of the course, students will be able to:

CO-604.1	Understand development of settlements with respect socio economic, cultural and political context of particular time period.
CO-604.2	Understand architectural development with respect to impacts of climate, geography, culture, religion, technology etc.
CO-604.3	Understand architectural ornamentation of particular time period.
CO-604.4	Appraise a historical structure.



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### PC-605-Estimation Costing & Specification-II

**Course Outcomes:** At the end of the course, students will be able to:

CO-605.1	Understand Different methods of Computing Quantities for items of work in a structure.
CO-605.2	working out quantities of various items of work for simple load bearing and R.C.C. framed structure and acquaint them with various types of estimates
CO-605.3	Understand methodology of writing specifications with reference to building trades, materials, workmanship & performance of different items of work.
CO-605.4	understand and know importance of specifications in contract document for any construction project

### BS & AE- 606 - BUILDING SERVICES – IV

**Course Outcomes:** At the end of the course, students will be able to:

CO-606.1	To enable students to understand and apply in design knowledge about: Hot water supply design in hospitals and hotels.
CO-606.2	Sustainable Services for hospitals and hotels.
CO-606.3	Solar electrical panels for electricity generation, Water treatment plant for hospitals and hotels

### PC - 607- WORKING DRAWING -II

**Course Outcomes:** At the end of the course, students will be able to:

CO-607.1	Prepare various detailed drawings like kitchen, toilet, landscape
CO-607.2	To prepare drawings of integrated services like electrical etc.
CO-607.3	To Communicate with consultants and construction team



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### PE-608 - INTERIOR DESIGN

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-608.1</b>	To comprehend relationship between Architecture and Interior Design as a Space making disciplines.
<b>CO-608.2</b>	To evolve understanding about thoughtful design of interior spaces & how it can increase efficiency and add depth and meaning to the built environment
<b>CO-608.3</b>	To comprehend the connection that the subject of Interior design has with other design Disciplines like Conservation, Preservation, Restoration, Sustainability, Art, Product design and Graphic design.
<b>CO-608.4</b>	Understand basics of interior design such as interior spaces, its types and various components, treatments, finishes, etc. Indoor lighting, furniture design materials selection for different environments.

### BS&AE – 609 – ARCHITECTURAL ACOUSTICS

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-609.1</b>	Understand basic laws and terminologies related to Acoustics
<b>CO-609.2</b>	Understand acoustical Design Principles and Factors
<b>CO-609.3</b>	To comprehend acoustical requirements of a given activity, its calculations and designing of the space.
<b>CO-609.4</b>	To evolve understanding about urban noise control and its application at site and building level.



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### PC - 801 - Advanced Architectural Design - 2

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-801.1</b>	To introduce the student the analysis, planning, design with the understanding of a wide range of related issues in urban & rural context. It includes design of complex buildings & campuses involving analytical study of building spaces with consideration of sociological, economic, cultural & climatic factors
<b>CO-801.2</b>	Understand the applications of technology, design of structure involving services & interior & landscape design of the concerned project. Study of urban structures, urban continuity, movement structure, landscaping, people & vehicular movement's system design, economics, Architectural aesthetics & details

### PC- 802 - Architectural Project 1

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-802.1</b>	To analyze a given architectural problem by conducting thorough research on the problem, its history, and its shortcomings in terms of present and future human needs.
<b>CO-802.2</b>	To design a probable solution for the problem, considering the changing human needs and behavior, socio-economic factors, and advances in science & technology.
<b>CO-802.3</b>	To present the design solution in the form of a well-organized and concise dissertation, including appropriate visual aids such as models, perspectives, and layouts to clearly explain the scheme in its totality.

### BS & AE – 803 - Advanced Structures -II

**Course Outcomes:** At the end of the course, students will be able to:

<b>CO-803.1</b>	Understand the structural behavior of industrial structures
<b>CO-803.2</b>	Understand requirements in load bearing and framed structures for earthquake resistance.
<b>CO-803.3</b>	to design Two- Way slab
<b>CO-803.4</b>	Be familiar with applications used for structural design.
<b>CO-803.5</b>	Detail portal frames and composite structures
<b>CO-803.6</b>	To understand behaviour of different forms i.e. folded plates, domes, paraboloids, hyperboloids, etc.



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### BS & AE -805- Advanced Services

**Course Outcomes:** At the end of the course, students will be able to:

CO-805.1	To understand sewage treatment and disposal for different scale of the projects.
CO-805.2	To understand basic concepts of special types of waste, their treatment and disposal
CO-805.3	The Basic principles of water purification system and distribution for single and multi-storeyed' buildings and industrial projects
CO-805.4	To understand basic concepts Refuse disposal system for a small house, colony and town. Refuse types, and disposal problems.
CO-805.5	To understand concepts Methods of Dry disposal, wet refuse treatment and Refuse disposal in multi-storeyed buildings

### PC – 1001 - Architectural Project 2

**Course Outcomes:** At the end of the course, students will be able to:

CO-1001.1	Analyze and Evaluate the Project
CO-1001.2	Draft the projects Methodology
CO-1001.3	Draft planning proposals
CO-1001.4	Handle Innovative Architectural design proposals with Environmental, Socio-economical, Sustainable, Ethical and Futuristic approach
CO-1001.5	Handle and Deliver a unique Architectural Project from cradle to grave

### BS & AE –1002 -Advanced Building Construction

**Course Outcomes:** At the end of the course, students will be able to:

CO-1002.1	To study finishes of the buildings such paints, varnishes, false ceiling.
CO-1002.2	To study Thermal and sound insulating materials, mastic sealants and adhesives. Epoxy materials, Fire proofing and retarding
CO-1002.3	To study Construction aspects and details of raft foundation, Details of basement construction with waterproofing
CO-1002.4	To study Construction details of Bank vaults
CO-1002.5	To study demolition of structures Timber frame structures, load bearing structures, steel structures. R. C. C. structures.



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### PE-1003 -Elective – VIII

**Course Outcomes:** At the end of the course, students will be able to:

CO-1003.1	Understand the concept of sustainability and its relation to Architecture
CO-1003.2	Understand and Investigate challenges of Sustainable development and effects of climate change
CO-1003.3	Understand different strategies in various climates and their application
CO-1003.4	Analyze climate and develop design strategies

### PE-1004 -Elective – IX

**Course Outcomes:** At the end of the course, students will be able to:

CO-1004.1	Understand different management techniques suitable for planning and constructional projects.
CO-1004.2	Understand management system to overcome the problems like cost overruns, missed deadlines, quality/safety issues
CO-1004.3	Use scheduling Techniques in construction projects.
CO-1004.4	Understand lack of planning by construction firms leading to loss of return and customers/shareholders trust.