NEW CURRICULUM

BACHELOR OF ARCHITECTURE Degree Programme**, GOA UNIVERSITY**

July 2013

Abridged in 2018-19 and 2022-23

For implementation in the affiliated Architectural Colleges/Institutes from the Academic Year 2013-14:

Goa College of Architecture, **A**ltinho**, P**anaji, **G**oa**,** India

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1.0 Preamble

The architectural profession in India today faces a range of challenges, from the presence of profit-driven and destructive building activity, to the growing gap between the need and availability of affordable mass housing, along with the challenges of addressing the various urban, ecological and environmental design issues of today with solutions that are contextually relevant.

Adequate shelter still remains a dream for millions, a situation exacerbated due to globalization and its cascading effect on traditional communities. The process of rapid urbanization has at the same time exposed the society to the process of planning, ideas of social and environmental equity, as well as the formation of new urban communities.

Architectural education is often trapped into fanciful glamorous and iconic image-making for the privileged, losing focus of its roots and commitments to explore the philosophical, the experiential and the technological fields that connect the human being to nature, future and the socio economic context.

The Goa College of Architecture is deeply committed to creating an open platform for thinking, debating, interpreting and critiquing the processes that make our built environments, with a clear cut understanding of social equity issues. In this scenario, given the above-mentioned pressures and the general apathy towards both environmental and aesthetic values, as also social justice, a need was felt to strengthen the Humanities & Visual Art component in the curriculum.

The result is this new curriculum, drafted with the involvement and contribution of both the faculty members and the experts from academics and profession

2.0 Emphasis

The emphasis of the new curriculum is on discovering solutions that are socially and contextually relevant, with the focus on critical & theoretical, visual & experiential, craft and technological areas, so as to make students aware and competent in the discipline of architecture and planning.

The overall structure recognises three major streams of i) Theory & Design, ii) History-Art-Humanities, and iii) Construction-Technology-Management, and gives importance to vertical progression and horizontal integration in the course.

The Theory & Design Studio is the repository of the other streams and it will work towards demonstrating this integration. The Studio will not emphasize on a product alone but focus on evolving responsive methods and techniques for making architecture in this contemporary context.

The general aim of History-Art-Humanities is to offer a critical theoretical basis for Studio and to provide broad platform of knowledge. The courses of the Humanities stream situate architecture in its human and social context, with a focus on sensitization to the contemporary Indian situation.

Through courses on Built Form and Culture, History and Criticism, Theories of Architecture, Vernacular Architecture, Settlement Studies, etc, the student will develop an understanding of the critical importance of context in the past and present, i.e. in the relationship of architecture to changing natural landscapes, social & economic context, techniques, and political systems, as well as to other issues such as appropriateness and sustainability.

The other major emphasis in this stream is on cultivating visual perception, critical sense, and appreciation of the visual form in nature, as well as, the human endeavour in fine arts and arts-& crafts, painting, sculpture, and the design disciplines including graphic arts, product design, animation etc through observation, discussion, analyses, and actually doing work by hand. This has been achieved by strengthening the Visual Art course and extending it up to the fourth semester.

The aim of the Construction-Technology-Management stream is to provide technical information – traditional as well as cutting-edge – about how to create the physical building/s, knowledge of building construction systems and management. The Technology courses will include issues of energy efficiency and environmental sustainability, as well as professional practice.

Finally, a multi-disciplinary field like Architecture should include varied modes of teaching and learning. The new curriculum therefore also lays stress on the incorporation of studio work, field studies, library research, and hands-on work, along with seminars and lectures, in the education process.

3.0 The Structure of the Curriculum

The broad structure of the curriculum follows the model of (3 + 2) years. The first three years concentrate on developing the knowledge base and skills required for understanding the three streams with equal emphasis. The Technology and Humanities courses shall be integrated horizontally with the Design Studio in each semester.

In the later years, the students can choose their area of interest and allow for independent exploration with the option of choice-based Studio. This is important for the development of a more mature and self-driven Architect.

Part I comprises semesters I to VI. **Part II** comprise OF Semester VII, **Practical Training (P.T.)** in Semester VIII, followed by Semesters IX & X.

	Part I						**Part II**			
Semesters	I	II	III	IV	V	VI	VII	**P.T.**	IX	X

In **Part I** of the course, the First Semester of the first year focuses on introductions to the architectural world and its human context, built and un-built spaces, along with artistic & basic design skills, and building materials & practices; the Second semester of the year introduces issues of community and culture, along with the earth sciences. The Second year develops this further to include local environments and vernacular architecture, while continuing a critical appreciation of traditional building materials and practices. The Third year focuses on developing the responsiveness to the social, environmental (including site planning & landscaping), and the issues of the contemporary world, along with state-of-the-art building technologies.

In the **Part II** of the course, students have a choice in the Design Studio between an Urban-History-Art-oriented project or a Technology-oriented one. The students can thus choose to work on their preferred areas of interest and strength.

In the Seventh Semester there shall be a minimum of two Studio modules offered from Urban Design, Urban Housing, and Technology. In the case of the first two, the emphasis shall be on the **Urban Context**. The studio will aim at understanding the increasing complexities of the

urban problem and devising strategies and methods to address it. Here architecture acts as a catalyst as much as it tries to respond to the existing structure of the environmental context.

In the Seventh Semester studio with **Technology** as choice, the emphasis is on the use of technology in the increasing complex and large building types. Issues of sustainability along with integrating services and systems are looked into. This studio is not only focused on construction systems and building material, but also looks at construction management (as issues of its long term management). This studio shall look at those building typologies, which allow the students to have deeper structural and systemic understanding.

In the Ninth Semester the **Dissertation** intends to train students in independent research in architectural issues. With Design & Theories or History-Art-Humanities as the choice of stream, the focus is on design theory, architectural practice, architectural history, settlements, landscape, etc. With Technology as a choice, the focus is on independent research on building construction issues, technology systems, new materials and construction practices, and case studies of the historical evolution of technology.

The Tenth Semester Studio is a **Design Thesis** on an architectural project of the student's choice. The student's ability to select the topic, defend its relevance, evolve a brief, and finally develop the ability to analyze-synthesis and evolve methods to design in that context, is tested here. The research experience of the preceding semester research is expected to help the student in this process. With Technology as the choice here, the focus is on exploration of material and system of construction in the architectural project, especially innovation and future technologies, and new materials and systems.

Overall, the curriculum is envisioned such that each student, with a unique set of learning attributes, is given a chance to excel at areas she/he is good at. The earlier years are aimed at building her/his general aptitude and knowledge, which he/she then proceeds to hone and demonstrate in the later years. Overall the teaching should be focused on building an attitude and an ability to think and work critically in the challenging contemporary context.

Date: 23.03.2013

Amended in 2018-19

Goa College of Architecture
Proposed Course-Curriculum

Legend: History-Art-Humanities (yellow); Constn-Tech-Mngt (orange); Studio (Theory & Design) (green)

YEAR	SEM	Courses Offered
ONE	I	H-I/01 Society and Architecture; H-I/02 Appreciation of Architecture; H-I/03 Visual Arts & Crafts (Includes Orientation Programme); D-I Studio Includes orientation Programme; C-I/01 Technical Drg & Pres; C-I/02 Building Construction; C-I/03 Structures
ONE	II	H-II/01 Culture & Built Form; H-II/02 History & Criticism; H-II/03 Visual Arts & Crafts; D-II Studio; C-II/01 Earth Science I (Geo, Hydro, Topo Systems); C-II/02 Technical Drg & Pres; C-II/03 Building Construction; C-II/04 Structures
TWO	III	H-III/01 Vernacular Architecture; H-III/02 History & Criticism; H-III/03 Visual Arts & Crafts; D-III Studio; C-III/01 Earth Science II (Climatology, Ecology); C-III/02 Graphic Communications (computer); C-III/03 Building Construction; C-III/04 Structures
TWO	IV	H-IV/01 Theory of Landscape Architecture; H-IV/02 History & Criticism; H-IV/03 Visual Arts & Crafts; E-IV/01 Elective; D-IV Studio; C-IV/01 Building Science I (Water Supply & Sanitation); C-IV/02 Graphic Communications (computer); C-IV/03 Building Construction; C-IV/04 Structures
THREE	V	H-V/01 Theories of Architecture I; H-V/02 History Criticism, & Contexts; E-V/01 Elective; D-V Studio; C-V/01 Building Science II Part I (Fire fighting, Electrical & Lighting) Part II (HVAC, Acoustics & Mechanical Systems); C-V/02 Building Construction; C-V/03 Structures
THREE	VI	H-VI/01 Theories of Architecture II; H-VI/02 History, Criticism, & Contexts; E-VI/01 Elective; D-VI Studio; C-VI/01 Working Drawings; C-VI/02 Building Construction
FOUR	VII	H-VII/01 Settlement Studies; H-VII/02 Research Methods; H-VII/03 Planning & Urban Theories; D-VII Studio Urban Design/Housing; C-VII/01 Professional Practice; C-VII/02 Specification & Cost Estimation
FOUR	VIII	PT - VIII PRACTICAL TRAINING
FIVE	IX	H-IX/01 Design Theory (Pre-Thesis); E-IX/01 Elective; D-IX Dissertation Architecture; C-IX/01 Project Management
FIVE	X	E-X/01 Elective; E-X/02 Elective Seminar (Issues in Contemp. Architecture); D-X Design Thesis Architecture

Total Credits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Date: 23.08.2013

Amended in 2018-19

Goa College of Architecture
Proposed Course-Curriculum

Colour key	
Light yellow	History-Art-Humanities
Orange	Constn-Tech-Mngt
Green	Studio (Theory & Design)

Total Credits: 1–30 per semester

YEAR	SEM	Courses Offered
ONE	I	H-I/01 Society and Architecture; H-I/02 Appreciation of Architecture; H-I/03 Visual Arts & Crafts (Includes Orientation Programme); D-I Studio Includes orientation Programme; C-I/01 Technical Drg & Pres; C-I/02 Building Construction; C-I/03 Structures
ONE	II	H-II/01 Culture & Built Form; H-II/02 History & Criticism; H-II/03 Visual Arts & Crafts; D-II Studio; C-II/01 Earth Science I (Geo, Hydro, Topo Systems); C-II/02 Technical Drg & Pres; C-II/03 Building Construction; C-II/04 Structures
TWO	III	H-III/01 Vernacular Architecture; H-III/02 History & Criticism; H-III/03 Visual Arts & Crafts; D-III Studio; C-III/01 Earth Science II (Climatology, Ecology); C-III/02 Graphic Communications (computer); C-III/03 Building Construction; C-III/04 Structures
TWO	IV	H-IV/01 Theory of Landscape Architecture; H-IV/02 History & Criticism; H-IV/03 Visual Arts & Crafts; E-IV/01 Elective; D-IV Studio; C-IV/01 Building Science I (Water Supply & Sanitation); C-IV/02 Graphic Communications (computer); C-IV/03 Building Construction; C-IV/04 Structures
THREE	V	H-V/01 Theories of Architecture I; H-V/02 History, Criticism, & Contexts; E-V/01 Elective; D-V Studio; C-V/01 Building Science II Part I (Fire Fighting, Electrical & Lighting) Part II (HVAC, Acoustics & Mechanical Systems); C-V/02 Building Construction; C-V/03 Structures
THREE	VI	H-VI/01 Theories of Architecture II; H-VI/02 History, Criticism, & Contexts; E-VI/01 Elective; D-VI Studio; C-VI/01 Working Drawings; C-VI/02 Building Construction
FOUR	VII	H-VII/01 Settlement Studies; H-VII/02 Research Methods; H-VII/03 Planning & Urban Theories; D-VII Studio: Construction, Technology & Management; C-VII/01 Professional Practice; C-VII/02 Specification & Cost Estimation
FOUR	VIII	PT - VIII PRACTICAL TRAINING
FIVE	IX	H-IX/01 Design Theory (Pre-Thesis); E-IX/01 Elective; D-IX Dissertation Construction Technology & Management; C-IX/01 Project Management
FIVE	X	E-X/01 Elective; E-X/02 Elective Seminar (Issues in Contemp. Architecture); D-X Design Thesis Construction Technology & Management

4.0 SEMESTER I

SEMESTER I (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History–Art–Humanities											
H-I/ 01	**Society and Architecture**	2	2	40%	-	50%	10%	50%	Assignments	50%	Viva-Voce
H-I/ 02	**Appreciation of Architecture**	2	2	60%	-	30%	10%	50%	Assignments	50%	Viva-Voce
H-I/ 03	**Visual Art and Craft** incudes Orientation Programme	4	4	10%	80%	10%	-	50%	Sketches, Drawings, Models, etc	50%	Viva-Voce
Studio (Theory & Design)											
D-I	**Studio** incudes Orientation Programme	10	10	10%	60%	30%	-	50%	Sketches, Drawings, Models, etc	50%	Viva-Voce
Construction– Technology– Management											
C-I/ 01	**Technical Drawing & Presentation**	5	5	20%	80%	-		50%	Drawings	50%	Test (3 hrs duration)
C-I/ 02	**Building Construction**	5	5	25%	50%	25%	-	50%	Sketches, Drawings, Models, Test	50%	Test (3 hrs duration) & Viva voce (equal weightage
C-I/ 03	**Structures 1**	2	2	90%	-	10%	-	50%	Papers, Tests	50%	Test (3 hrs duration)
		30	30								

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops & Orientation programme etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachers in their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.

Orientation Programme

The young person who joins an Architecture Programme tends to be somewhat clue-less about what is expected of a student here. He/ she may also carrying a lot of baggage of skills and knowledge, as well as emotions and expectations, which may be inappropriate for the realm of architecture. Hence an Orientation Programme is of utmost importance for acclimatising the entrant and to 'break the ice'.

This orientation programme is designed to familiarise, inspire, increase awareness, get the exploration attitude started, build excitement about the chosen field of education, and to initiate the process of building the required skill-sets to start off the students in their journey in architecture.

Objectives:

1) To initiate the process of 'de-learning' (of rigid High School pattern of learning) and orientation towards the thinking, creative, flexible, and open-ended process of design;
2) To develop skill-sets appropriate to the basic design exercises.
3) To encourage group-interaction and team work, and propagate a sense of pride through group-dynamics.
4) To inculcate confidence, clarity of thoughts and the ability to articulate ideas.

Elements of the Programme:

The programme includes talks, audio-visual presentations and first-hand demonstrations of architectural methods and achievements, landmarks projects, international and national developments, grass-root projects, vernacular architecture, along with modern and state-of-the-art concepts.

The skill-set developed during the course of the Programme includes free-hand drawing, appreciation of colour, rendering, introduction to basic materials, recycling, and public presentation and speech. There will also be inputs of varying degrees in Theatre, Communication Design, Product Design and Portfolio Presentation.

This Orientation Programme utilises approximately 60 hours from both the Visual Arts & Studio (Theory & Design) time. It is conducted at the beginning of Semester One, and connects to the Visual Art and Studio courses.

History-Art-Humanities

COURSE NO. H-I/01 **Society and Architecture** CREDITS: 2

Non-core course

Objectives:

To understand the relationship between architecture and society, and thus the need for interdisciplinary study, especially with regard to the social sciences.

Contents:

1. Architecture and the Social Sciences – an introduction to interdisciplinary study
2. Individual, Society, Family, and Social norms: Architecture as a Social Construct
3. Social Stratification – caste & class – and its impact on Architecture
4. The rise of the State and Laws, and their impact on Architecture
5. Religion: rise, meaning, and impact on Architecture

Methodology and Assignments:

This course is taught through lectures, field trips, and film shows. Home assignments consist of written papers and audio-visual presentations, based on library research and field work.

COURSE NO. H-I/ 02 **Appreciation of Architecture** CREDITS: 2

Non-core course

Objectives:

1. To introduce the basic issues of contemporary architecture, from the old and traditionally upheld ones of utility, structure and beauty, to the current and critical ones of social responsibility and environmental sustainability.
2. To experience and understand these concepts on site, i.e. through field trips and visits to architectural sites, contemporary and historic, built and unbuilt, high-tech and vernacular.

Contents:

1. Elements of Architecture
2. Function
3. Technology
4. Aesthetics
5. Context: Social and Natural
6. Sustainability

Methodology and Assignments:

The course is taught largely through site visits, along with lectures and films. Home assignments consist of written papers and sketches, based on fieldwork and library research.

COURSE NO. H-I/03 **Visual Arts and Craft** CREDITS: 4

Non-core course

Objectives:

1. To introduce new entrants to the course through the Orientation Programme.
2. To understand and document human activity and its physical context – indoor and outdoor — expressed through two & three dimensional projects, produced in groups as well as individually.
3. To learn the use of various techniques of arts and crafts, along with the ability to communicate ideas visually/graphically.

Contents:

Observation of phenomena in nature, including human activity:

1. Environmental exposure by going outdoor to study human activity in nature and habitation, and learning to draw the same through sketches in different media including pencil, charcoal, and pen and ink.
2. Two and three dimensional sketches & drawings; introduction to perspectives, and representation of light & shade in drawing.
3. Lettering as a graphic form - orders, styles, fonts and font sizes; its scale and impact for various intentions in communication; lettering in various mediums.
4. Graphic Design – composition, form and design.
5. Exposure to materials - paper, card board, soap, straw strings, clay (pottery) and wood, etc – and processes.

Methodology and Assignments:

The course involves field visits to develop the habit of observing and analyzing visual phenomena through graphical & verbal representation, and studio exercises using different media.

Studio (Theory & Design)

COURSE NO. D-I Studio CREDITS: 10

Core course

Objectives:

1. To introduce new entrants to the course through the Orientation Programme (utilising approximately 60 hours from both the Visual Arts & Studio time).
2. To introduce students to the natural and built-environment and its context, and the corresponding relation of these to design processes.
3. To study Human Scale, Morphology of Objects in Nature, Organizational Principles, Abstraction, Order, Variation, and Sensory Stimuli.

Projects:

Analytical studies of natural and built environment to explore space, scale, and built form as a simple intervention in contexts such as:

1. Exploring forms in nature (geometry & structure)
2. In & between existing buildings
3. Public park, landscape surrounded by buildings

Skills:

On-site observation of natural and built environments, landscape, flora/fauna and documentation through site sketches, diagrams, written notes etc on the physical features and the surroundings, measured drawing in different media, 3D models, analytical diagrams, and designs.

Key words: Nature, Surroundings, Landscape, Anthropometrics, Morphology, Contexts and their inter-relationships with humans, Observation.

Methodology:

The course involves site visits devoted to learning through observing, and documentation of the site without the help of a camera, and through extensive sketching, in order to understand the context, surroundings, topography, landscape, soil, visual and historical context.

Construction- Technology- Management

COURSE NO. C-I/01 Technical Drawing & Presentation 1 CREDITS: 5

Non-core course

Objectives:

1. To undertake technical drawings as the medium of communication and basic vocabulary in architecture.
2. To equip students with skills and techniques to represent elements of design through two-dimensional geometry, and also develop architectural representation as plans, elevations, views and sections.

Contents:

1. Getting acquainted with necessary instruments of drawing. Learning to draw straight and curved lines with different qualities.
2. Descriptive Geometry, study of reference planes.
3. Meaning of terms “Plan” and “Elevation” and using them for drawing simple objects through orthographic projections of lines, planes and solids.
4. Sections of simple geometric solids and their combinations.
5. Expression through drawings and models.
6. Representation through technical drawings.

Methodology and Assignments*:*

The course is taught through lectures followed by various hands-on production exercises in the studio, including sketching, drafting of two-dimensional drawings, model-making, orthogonal projections, and working with various materials like paper, card-board, etc. The students will complete their assigned work during studio hours in class as far as possible.

COURSE NO. C-I/02 **Building Construction 1** CREDITS: 5

Non-core course

Objectives:

1. To introduce the basic building materials and understand their properties and applications.
2. To undertake a detail study of Earth as a building material and its application in the primary building elements.
3. To equip the students to produce detailed drawings for the same.

Contents:

1. Introduction of basic building materials and understand their properties and application
2. Introduction to primary building elements, walls, piers, foundations, roofs.
3. Construction of primary building elements using earth (bricks, stone, block masonry etc) and their properties and manufacturing process.
4. Introduction and application of different bonding materials.
5. Studio exercises in brick bonding, foundation details, wall details with provision of openings, roof details, etc.
6. Workshop in brick laying, setting-out, mud-blocks, etc. with hands-on experience

Methodology and Assignments:

The course is taught through lectures, studio guidance of drawing work, and site visits. The time available will be divided as follows:

The students are expected to work in the studio to produce architectural drawings, sketches and models of the topic under study. They are expected to complete studio work in class as far as possible.

COURSE NO. C-I/03 **Structures 1** CREDITS: 2

Non-Core course

Objectives:

To understand the basic structural systems in architecture, and the forces acting on them.

Contents :

1. Understanding of terms 'structures' and related technical terms components of structure with functions.
2. Types of structures and their classification i.e. load bearing and framed structure.
3. Types of loads acting on structures such as dead load, live load, wind load, load due to snow, load due to earthquake forces etc. and their effect.
4. Types of forces- classification- characteristics of force- effect of force on structures.
5. Composition and resolution of forces- resultant force, equivalent force, condition of equilibrium- Analytical and Graphical method of finding resultant of concurrent and non-concurrent co-planner given system of forces.
6. Structural forms of supports in RCC and steel structures and their use.
7. Types of supports used in structures and their characteristics- numerical problems on calculating reaction of beams.
8. Moment and couple of forces and their types - characteristic of couple - Numerical problem on parallel forces.
9. Importance of Centroid and centre of Gravity in structures - Numerical problems in finding centroid/C.G. of simple geometrical figures used in architecture.
10. Friction-Importance of friction in structure in foundation, floor and other components of structures, laws of static friction.

Methodology and Assignments:

The course is conducted through lectures and on-site studies. Assignments consist of class presentations/discussions of given topics, complemented by models as specified.

5.0 SEMESTER II

SEMESTER II (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History–Art–Humanities											
H-II/ 01	**Culture & Built Form**	2	2	60%	-	30%	10%	50%	Assignments	50%	Viva-Voce
H-II/ 02	**History & Criticism**	2	2	70%	-	20%	10%	50%	Assignments	50%	Test (3 hrs duration)
H-II/ 03	**Visual Arts and Crafts**	4	4	10%	80%	10%	-	50%	Drawings/Sketches/ Models/etc	50%	Viva-Voce
Studio (Theory & Design)											
D-II	**Studio**	10	10	10%	60%	30%	-	50%	Sketches, Drawings, Models	50%	Viva-Voce
Construction– Technology– Management											
C-II/ 01	**Earth Science I** (geo, hydro, topo systems)	2	2	50%	-	50%	-	50%	Paper, Drawings	50%	Test (3 hrs duration)
C-II/ 02	**Technical Drawing & Presentation**	3	3	20%	80%	-	-	50%	Drawings	50%	Test (3 hrs duration)
C-II/ 03	**Building Construction**	5	5	25%	50%	25%	-	50%	Sketches, Drawings, Models, Test	50%	Test (3 hrs duration) & Viva voce (equal weightage
C-II/ 04	**Structures**	2	2	90%	-	10%	-	50%	Papers, Tests	50%	Test (3 hrs duration)
		30	30								

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachers in their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.

History-Art-Humanities

COURSE NO. H-II/01 **Culture & Built Form** CREDITS: 2

Non-Core course

Objectives:

1. To understand Architecture as a cultural construct
2. To understand the evolution of society and civilization vis-a-vis the making of architecture.

Contents:

1. Culture - meaning and evolution
2. Rise and evolution of social systems and their relation to built forms
3. From Prehistoric times to Civilisation, and the development of early architectural traditions
4. Myth, Symbol and Religious Beliefs, and their expression in architecture
5. Culturally determined ideas of Architecture - Vastushastra, Feng shui, Adivasi traditions

Methodology and Assignments:

The course is conducted through lectures, field trips, film shows, and student presentations. Home assignments consist of written papers, sketches and audio-visual presentations, based field trips and library research.

COURSE NO. H-II/02 **History & Criticism** CREDITS: 2

Non-Core course

Objectives:

1. To introduce the study of architectural history, through fundamental questions of why and how architects look at history.
2. To also introduce the essential ideas of Modernism and the architecture of the 20th century.

Contents:

1. What is History, and why do architects study it?
2. The architectural world we live in: interpretations, meanings, labels
3. Styles, Periods, Types
4. Timeline of World Architecture: the importance of chronology
5. Essential ideas of Modernism and its pioneers
6. Overview of 20th c. Architecture

Methodology and Assignments:

This course is taught mainly through lectures and audio-visual presentations. Home assignments consist of written papers based on fieldwork and library research.

COURSE NO. H-II/03 **Visual Arts and Crafts** CREDITS: 4

Non-core course

Objectives:

1. To expose the students to the Elements and Principles of Visual Art & Design
2. To learn the use of techniques in Ink & wash, water colours, wet and dry pastels

Contents:

1. Understanding Colour Theory in different cultures and impact of colour on forms and spaces.
2. Working through monochromatic and multi-chromatic mediums.
3. Learning the impact of visual form on the viewer, developing skills of arranging the visual form, order, composition, scale etc through rigorous work in two and three dimensional form.
4. Exercises in interpretation of ideas in visual terms from other disciplines such as literature, theatre, history, and humanities with emphasis on the process as well as final form.
5. Techniques in Ink & wash, water colours, wet and dry pastels.

Methodology and Assignments:

The methodology shall be to inculcate the habit of observing and analyzing visual phenomena through graphical & verbal representation and make them explore the principles of visual art by doing exercises using different media in the studio.

Studio (Theory & Design)

COURSE NO. D-II **Studio** CREDITS: 10

Core course

Objectives:

1. To understand the language of architecture in the context of individual and community by interpreting the needs and context of traditional communities
2. To learn from cultural and performing traditions of building and crafts; attention to fractal relationships between the unit and the whole.

Projects: *multiple projects*

- Interpreting stories/poems into design
- A small scale intervention for individual and also community needs for the sustenance of the place and traditional community**.**

Skills:

1. To document data physically as well as through narratives.
2. To interpret of spatial need and aspirations through program formulation.
3. Interpretation & abstractions through diagrams, drawings, posters, models etc
4. To evolve design that is contextual.

Key words: Individual & Community, Traditional Communities and Contexts, Aspirations and Interpretations, Craft of Construction

Methodology:

1. Exposure to traditional communities through extensive site visits and community interactions
2. To document through on-site sketching and drawings of topography, landscape, soil, visual and historical context
3. To hold dialogues with different sections of the community.
4. Drawing and writing exercises as per the requirements of the individual project.
5. To represent interpretations and observations through detail sketches and notes.
6. To propose design through drawings and models as the culmination of the process through various stages of submissions.

Construction- Technology- Management

COURSE NO. C-II/01 Earth Sciences 1 (Geo, Hydro, Topo graphic Systems) CREDITS: 2

Non-core course

Objectives:

1. To learn about the various systems and phenomenon linked to the Sciences of Earth

Contents:

1. Understanding the geological and Hydrological phenomenon affecting the earth
2. Types of Soil and natural resources,
3. information recording: surveys, photography etc.
4. Tools & Techniques employed at various scales and complexity of information.
5. Types of maps, drawings and digitized data.
6. Reading information from visual records, analysis,
7. co-relations etc.
8. Degrees of accuracy and errors.
9. Reliability of data, cross checking

Methodology and Assignments:

The course will be taught through lectures and audio-visual presentations, and also site visits, on-site demonstrations, with the students presenting their findings in architectural drawings.

COURSE NO. C-II/02 Technical Drawing & Presentation 2 CREDITS: 3

Non-core course

Objectives:

1. To focus on representing objects in drawings through two-dimensional and three-dimensional geometry with an emphasis on sciography and perspective.

Content:

1. Methods of drawing views of simple 3D shapes and their projections.
2. Complex 3D shapes and their projections.
3. Sciography and methods of representing it in two-dimensional projections.
4. Applying sciography in three-dimensional geometrical projections, especially isometric projections.
5. Perspective and relatively realistic representations; introduction to concepts such as station point, picture plane, eye level, center of vision, cone of vision, vanishing point etc.
6. One point and two point perspectives.

Methodology and Assignments:

The course will be conducted through lectures and supervised studio exercises of sketching, architectural drawing and model-making, all focusing on two-dimensional and three-dimensional objects. In addition to this, students will be introduced to working with various materials (paper, plaster, sand etc.) and computer simulation.

The assignments will consist of the manufacture of three-dimensional products involving the above principles.

COURSE NO. C-II/03 **Building Construction** CREDITS: 5

Non-core course

Objectives:

1. To introduce timber as a building materials and understand its properties and applications.
2. To undertake a detail study of timber as a building material and its application in the primary building elements.
3. To equip the students in undertaking the detailed drawings for the same.

Contents:

1. Introduction of timber as a building material and its properties
2. Processing Timber -Timber sawing and seasoning and other timber products
3. Detailing of primary building elements with timber and introduction to secondary elements door, windows, railing and sunshades etc.
4. Studio exercise on doors, windows, floor, roof and miscellaneous joinery details.
5. Workshop in carpentry and joinery with respect to each element

Methodology and Assignments:

The course will be taught through lectures and audio-visual presentations, along with site visits and on-site demonstrations. The students are expected to produce sketches and architectural drawings of the subjects under study. Most of the student work is expected to be completed in the studio itself, with a small spillover at home.

COURSE NO. C-II/04 **Structures** CREDITS: 2

Non- Core course

Objectives:

Behaviour of materials and their properties in relation with the strength and durability requirements.

Contents :

1. Understanding the properties of structural material like steel, timber, cement, concrete, bricks, stones etc. and their permissible limits of acceptability for quality control- stress-strain curve for mild steels and its significance (by demonstration of tests in a testing laboratory)
2. Basic knowledge of Stress- Strain-Modulus of Elasticity, bulk modulus, shear modulus, Poisson's ratio, linear and lateral strain.
3. Composite sections, Analysis and design of section, based on loads and permissible stresses.
4. Moment of Inertia- Theorems used in calculating M.I calculation of M.I. of simple sections and built up/compound section used in steels and RCC structures.
5. Effects of temperature on structures- measures to control the stresses within the permissible limit.
6. Concept of strain energy on structure due to application of gradual, suddenly applied loads and loads with impact.
7. Shear force and bending moment and SFD and BMD for cantilever and simply supported beams with various type loading including couple. Simple problems on SF and BM in relation with practical structures.
8. Theory of simple bending-basic concept and assumptions made-Basic equation for the theory of simple bending (Example related to different types of beams such as cantilever, simply supported beam, etc.).
9. Concept of shear stress. Average and Maximum shear stress, variation of shear stress across the cross section of a beam.
10. Types of trusses- and their uses- suitability and limitations- method of analysis of trusses (Analytical and Graphical).

Methodology/Assignment :

Class presentation/discussions complemented with models and on site studies. With focus developing an understanding of structural integrity in buildings.

6.0 SEMESTER III

SEMESTER III (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History–Art–Humanities											
H-III/ 01	**Vernacular Architecture**	2	2	40%	-	40%	20%	50%	Papers, Seminar	50%	Viva-Voce
H-III/ 02	**History & Criticism**	2	2	80%	-	10%	10%	50%	Papers	50%	Test (3 hrs duration)
H-III/ 03	**Visual Arts and Crafts**	4	4	10%	80%	10%	-	50%	Sketches, Drawings, Models, etc	50%	Viva-Voce
Studio (Theory & Design)											
D-III/ 01	**Studio**	10	10	10%	60%	30%	-	50%	Sketches, Drawings, Models	50%	Viva-Voce
Construction– Technology– Management											
C-III/ 01	**Earth Science II** (Climatology, ecology)	2	2	40%	20%	40%	-	50%	Paper, Drawings	50%	Test (3 hrs duration)
C-III/ 02	**Graphic Communications**	3	3	20%	80%	-	-	50%	Drawings	50%	Test (3 hrs duration)
C-III/ 03	**Building Construction**	5	5	25%	50%	25%	-	50%	Sketches, Drawings, Models, Test	50%	Test –3 hrs duration & Viva voce (equal weightage
C-III/ 04	**Structures**	2	2	90%	-	10%	-	50%	Papers, Tests	50%	Test (3 hrs duration)
		30	30								

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachersin their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.

History-Art-Humanities

COURSE NO. H-III/01 **Vernacular Architecture** CREDITS: 2
Non-Core course

Objectives:

1. To discuss the issue of architecture without architects in depth, sensitising students to the great body of traditional knowledge and skills within communities, and also to their self-reliance, as well as economic and other constraints
2. To examine the history of such production by artisans and communities, along with the contemporary vernacular architecture created today in Indian villages, with its deep relationship to the natural and cultural context.
3. To look at the urban vernacular, along with its more industrial and manmade context, and debate the issue of why architects and their creations remain out of reach or even irrelevant for a great many people and communities all over today's world.
4. In all this, the course will essentially revolve around an in-depth examination of Goa's vernacular traditions

Contents:

1. Traditional Vernacular
2. Artisanal Building Traditions
3. Contemporary Vernacular, in villages and cities
4. Vernacular Goa: culture and architecture

Methodology and Assignments:
The course will be conducted through lectures and extensive fieldwork involving documenting of vernacular building, meeting the builders and the users, and studying the natural and man-made environment in which these traditions continue. Home assignments will consist of written papers, sketches and other projects, based on fieldwork and library research.

COURSE NO. H-III/02 **History & Criticism** CREDITS: 2

Non-core course

Objectives:

1. To begin a chronological study of architectural history, in Goa, India and the world, with a focus of 20% on Goa, 40% on India and 40% on the rest of the world.
2. To study the period from the beginnings of architecture to AD 1000, with a focus on Production, Patronage, and Context, i.e. the nature of architecture production, the importance and role of the patron, and the wider context of geography and natural environment, as well as political economy and society.

Contents:

1. Prehistoric Architecture
2. Ancient/River Valleys Civilisations (Iraq, Egypt, China, Americas, Indus, a comparative study)
3. 'Classical' ages and their fallout – India (Maurya-Gupta), China, Greece, Rome) Domestic architecture in India and Goa
4. Rock-cut architecture in India & Goa
5. Age of Temples in India & Goa
6. Beginnings of Islamicate architecture
7. A brief overview of developments elsewhere in the world

Methodology and Assignments:

The course will be taught primarily through lectures and audio-visual presentations. Home assignments will consist of written papers based on fieldwork and library research.

COURSE NO. H-III/03 **Visual Arts and Craft** CREDITS: 4

Non-core course

Objectives:

1. To introduce the students to the theories related to development of traditional and regional styles.
2. To expose them to the various movements in Modern & Contemporary period in India & abroad

Contents:

1. Learning from traditional arts & crafts- understanding their theories and classified examples, both in oriental and occidental histories- this will be done through lectures, film shows, visits to exhibitions, reading and writing analytical essays, and application of some of the approaches in some of the theories and their techniques and applying the same through planned exercises

2. Traditional Indian painting in different regions, miniature, *patta-chitra*, and other styles of painting including the Mathura, Madhubani, Kangra, Rajput, Mughal etc styles of miniature painting. Exercises built on the basis of these studies

3. Modernism in art and art forms including the study of movements in art in the west, familiarising with European modern painting its relevance to architecture

a. Exercise based on these studies

4. Contemporary arts and ideas in art up to 21st century various movements since Modernism, renewed interest in cultural-media and regionalism and their manifestation in visual form in public realm, as well as individualistic attempts.

5. Concern in energy, conservation and equity, and its effect on art-form and visual expression –this will be achieved through lectures by artists, workshops, demonstrations and participation of students in discussion, analyses, and production of art work.

Methodology and Assignments:

The students shall be given assignment based on the Art Movement. They will need to study, analyse and make an imitation or do the assignment in the same style.

Studio (Theory & Design)

COURSE NO. D-III Studio CREDITS: 10

Core course

Objectives:

1. To appreciate the need for energy conscious place-making, with the emphasis on landscape and natural environment
2. To explore the association of the human and the nature in their many manifestations
3. To learn working in groups

Project: Design of a small institution in a natural environment.

Skills:

1. Application of the principles of climatology and energy conservations.
2. Site planning and layouts.
3. Structure and form of simple one/two storied building using local/natural energy-conserving materials.

Key words: Climate, Form, Energy Consciousness, Material, Form-Space Relationship.

Methodology:

1. Detailed site analysis for orientation, climatology, vegetation and surroundings.
2. Interpretation, and formulation of the design brief based on energy conscious approach to design through traditional and technological examples. (group-work).
3. Conceptual framework for architectural form addressing the climate and context for an institutional design.(Individual)
4. Explore form-space relationship through several three dimensional study models

Construction- Technology- Management

COURSE NO. C-III/01 **Earth Sciences 2 (Climate & Ecology)** CREDITS: 2

Non-Core course

Objectives:

1. To understand Buildings and Settlements in the natural context;
2. To study the various concepts related to Climatology and Ecology.

Contents:

1. Built environment, conditions, impact and issues of climatic balance in traditional and contemporary built environments.
2. Examples from different regions in India and other parts of the world, issues of ecological balance.
3. Implications of climatic forces in nature of spaces and forms, patterns of organization, and elements of built form at individual building and collective form. Study of Passive Environmental Control Mechanisms in Traditional or Modern Built Environment.
4. Building climatology - site analysis, application of comfort diagrams, introduction to basic thermal units, theory of heat flow, heat transmission, thermal properties of materials, human heat balance. Physiological comfort, outdoors and indoors, heat *flow* within buildings, steady state conditions and periodic *flow,* thermal performance of building elements, sun protection of buildings. Heat control, solar orientation, shading devices, radiation, outdoor-indoor ventilation, solar energy and its technical applications. Studies through built environment, case analysis, theory and its application, models and testing.

Methodology and Assignments:

The course will be conducted through lectures and field trips.

Home assignments will consist of projects based on fieldwork and library research, and are not to exceed 50% of the total teaching hours, i.e. 18 hours in the semester

COURSE NO. C-III/02 **Graphics Communications 1** CREDITS: 3

Non-Core course

Objectives:

1. To focus on Computer generated representation of two-**dimensional & three-dimensional geometry**.
2. To undertake Computer modelling as a Design tool and its usage in design conceptualization , design development & design documentation/presentation.

Contents :

1. Fundamentals of computer systems, hardware, peripheral devices, OS, applications software's, fundamental basis of computation, overview of tessellation of 2D & 3D.
2. Shape representation, construction of grids, uniform/non-uniform, ortho/free transformation.
3. Diagrammatic construction with representation of distance, scale, proportion, symmetry, order, composition.
4. Coordinate space and metric, geometric primitives & symbols, object properties, basic transformations; absolute & referential, editing, segmentation by colour, layering & grouping, printing /plotting.
5. Basic tools of Navigation – Orthographic & perspective projection, camera control, viewpoints.
6. Basic tools of Modelling /Drafting - 3D construction from profiles, extrusion, surface modeling, transformations, editing solids/2D objects, Groups & components.
7. Walkthrough's / animation basics – camera, use of various projections, light & sciography.
8. Layouts, Project documentation & printing, Exporting & importing.

Methodology:

The course will be conducted through lectures followed by hands-on practice sessions in the studio & completing projects exercises focusing on two-dimensional & three-dimensional objects, sketching, conceptualization & printing/ plotting. Students shall complete the assigned work during studio hours as far as possible.

COURSE NO. C-III/03 **Building Construction** CREDITS: 5

Non-core course

Objectives:

1. To introduce different contemporary building materials and understand its properties and applications.
2. To study various building elements in steel, aluminum etc, its detailing and construction technique.
3. To equip the students in undertaking the detailed execution drawing for the same.

Contents:

1. Introduction to different contemporary building materials, their manufacturing processes, properties and application. Introduction to building elements such as walls, piers, foundations, roofs etc using contemporary materials.
2. Introduction to specialized elements.
3. Studio exercises on walls, piers, foundations, roofs, staircases, show windows, sliding and folding doors, panelling and external paving, grills etc using contemporary materials.
4. Workshops in steel welding and aluminium joinery.

Methodology and Assignments:

The course will be conducted through lectures, audiovisual presentations, site visits, on-site demonstrations, and finally the execution of drawings on the concerned topics by the students.

COURSE NO. C-III/04 **Structures** CREDITS: 2

Non-Core course

Objectives:

1. To understand the behaviour of advanced elements in a structure.
2. To study the stability of supporting elements of structure.

Contents:

1. Determinate and indeterminate structures- finding indeterminacy of structures. Advantages and disadvantages.
2. Analysis of indeterminate structure. Introduction to slope and deflection in case of cantilever, simply supported beams, continuous beams.
3. Introduction to moment distribution methods, stiffness and distribution factor- solution to simple problems on cantilever and simply supported with or without overhang two span and three span structures.
4. Portal frames, importance of Portal frames with different forms of portals with loads such as UDL/ point loads.
5. Arch as a curved element – Three hinged arches with simple problems to illustrate the importance of shape of arch, rise and other conditions of loading.
6. Direct and bending stress- Kennel of section- middle third and middle quarter rule and it's important. Solution to few practical problems on solid and hollow rectangular and circular sections.
7. Stability of retaining wall- conditions of stability for soil and water retaining structures - Basic principle of design with numerical problems with conditions of stability.
8. Columns – short and long columns- Euler's and Rankine's formula for finding crippling load- Assumptions made in Euler's columns theory and end conditions of columns. Solution of few problems using the above formulae.

Methodology/Assignment

The course will be conducted through lectures, audiovisual presentations, site visits, On-site demonstrations, and finally the execution of drawings on the concerned topics by the students.

7.0 SEMESTER IV

SEMESTER IV (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History–Art–Humanities											
H-IV/ 01	**Theory of Landscape Architecture**	2	2	80%	-	-	20%	50%	Papers	50%	Viva-Voce
H-IV/ 02	**History & Criticism**	2	2	80%	-	10%	10%	50%	Papers, Seminar	50%	Test (3 hrs duration)
H-IV/ 03	**Visual Art & Craft**	2	2	80%	-	10%	10%	50%	Paper, Seminar	50%	Viva-Voce
Studio (Theory & Design)											
D-IV	**Studio**	10	10	10%	60%	30%	-	50%	Sketches, Drawings, Models	50%	Viva-Voce
Construction– Technology– Management											
C-IV/ 01	**Building Science 1** (water supply & sanitation)	2	2	25%	50%	25%	-	50%	Sketches, Drawings, Models	50%	Test (3 hrs duration)
C-IV/ 02	**Graphic Communications**	3	3	20%	80%	-	-	50%	Drawings	50%	Test (3 hrs duration)
C-IV/ 03	**Building Construction**	5	5	25%	50%	25%	-	50%	Sketches, Drawings, Models, Test	50%	Test -3 hrs duration & Viva voce (equal weightage
C-IV/ 04	**Structures**	2	2	90%	-	10%	-	50%	Papers, Tests	50%	Test (3 hrs duration)
Elective											
E-IV/ 01	**Elective**	2	2	50%	-	50%	-	100%	Assignments	-	
		30	30								

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachersin their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.
Amended and applied w.e.f. Academic Year 2018-19

History-Art-Humanities

COURSE NO.: H- IV/ 01 **Theory of Landscape Architecture** CREDITS: 2
Non-core course

Objectives:

1. To introduce to the students the basics of Landscape Architecture and to equip them to understand the contexts and carry out the analysis of site at the Macro & Micro-level,
2. To expose them to important theories of landscape design and the paradigms from Asia & Europe from the past and their applicability/ relevance to contemporary era,
3. To lead them to carry out Site Planning that integrates Architecture with Landscaping in their studio project.

Contents:

1. Introduction to Landscape Architecture
2. Design theories of Landscape Architecture with spatial organization through application of landscape elements such as landforms, vegetation and water with contextual reference to various landscape design situations stressing emphasis on Goa's coastal landscapes and its design traditions.
3. Process of Site Analysis and principles of site planning at Macro & Micro-level for design with site specific natural and artificial resources both in rural and urban settings.
4. Early thinking and experiments in the past (from Asia & other continents) in landscape architecture from the history and their relevance in the contemporary era.
5. Study of soft-scape, with theories of plants and design in landscape architecture with reference to physical growth characteristics of plant materials and its application in design
6. Contemporary design trends in landscape architecture.
7. Environmental design strategies in creating self-sustainable landscapes with site planning component of green building certification criteria.
8. Site planning of Studio Project- integration of Architecture & Landscape
9. New Concepts in Landscape Design (such as Roof gardens, water pools at different levels, Urban Farming)
10. Site planning of Studio Project- integration of Architecture & Landscape

Methodology and Assignments:
The course will be taught through lectures, presentations and actual exercises of site planning. The assignments shall be linked to the project taken up in the Design Studio.

COURSE NO. H- IV/02 **History & Criticism** CREDITS: 2
Non-core course

Objectives:

1. To continue the chronological study of architectural developments in the world begun in Semester 3, dividing its time between Goa, India and the world, with a focus of 20% on Goa, 40% on India and 40% on the rest of the world.
2. To study the period AD 1000-1700, with the focus on building as a craft tradition, caste-based in the case of India, and the birth of the contemporary role of the architect.

Contents:

1. Late Medieval in India/Goa: Later Temples
2. Late Medieval in India/Goa: The beginning of Indian Islamicate
3. Early Modern in India: Vijayanagara and Nayakas
4. Early Modern in India: Mughal and post-Mughal
5. Portuguese Goa: Church, domestic and urban architecture
6. Overview of the rest of the world, including Europe (Gothic, Renaissance and Baroque) and Asia (the Islamicate Renaissance in West Asia; developments in China)

Methodology and Assignments:

The course will be taught primarily through lectures and audio-visual presentations. Home assignments will consist of written papers and/or audio-visual presentations based on fieldwork and library research.

COURSE NO. E – IV / 03 **Visual Art & Craft** CREDITS: 2

Non-core course

Objectives:

To expose the students to various techniques of abstraction, generation of ideas and making of artistic creations

Contents:

The course will be conducted through lectures on theory; and fieldwork around Goa.

- Ideograms, conceptual drawings, editing ideas-both visual & non visual and presenting these in computerised and hand-drawn presentations skillfully.
  Group studies of communities and outdoor environment, analyses thereof and interpretation through art work as the culmination of group or/and individual art-synthesis as a three dimensional artwork/installation etc in mediums that are eco-friendly and/or environmentally responsible.

Methodology and Assignments:

The course will be conducted through lecture-demonstration a technique and hands-on independent work under guidance.

COURSE NO. E – IV / 01 **Elective (Visual Art & Craft)** CREDITS: 2

Non-core course

Techniques in Visual Art - Electives out of the following:

Applied Art & Graphic Techniques, Photography (as a means of expression, analysis & communication), painting, murals and sculptures in different media under the guidance of an artist

- Applied Art & Graphic Presentation Techniques
- Photography (as a means of expression, analysis & communication)
- Modules of Hands-on independent work/ project on painting, murals and sculptures in different media under the guidance of an artist

Studio (Theory & Design)

COURSE NO. D-IV/ 01 **Studio** CREDITS: 10

Core course

Objectives:

1. Exploring themes for a dwelling design
2. To study & design small-scale human habitat.
3. To understand the relationship between the part & the whole.

Projects:

- Morphology of habitat, and the modules and variations thereof for the planning of a neighbourhood.
- An urban/rural context to design a group of dwellings along with detail design of an individual unit

Skills:

1. To analyse site conditions; interpreting community aspirations and economics or the design of neighbourhood habitat
2. To understand of a hierarchy of spaces for private semiprivate and community uses;
3. To understand the use of appropriate materials.
4. To conceiving of structures and details at various scales.

Key words: Thematic Design, Morphology, Habitat, Modules, Hierarchy of spaces, construction detail

Methodology and Assignments:

Students will learn to work in groups during this course. The methodology will consist of site-studies, including detailed site analysis for orientation, climatology, vegetation and surroundings; analysis, interpretation, and formulation of the design brief (group-work); process of design of individual and neighborhood units for scale proportions and uses Methodical process of developing sketches and 3D conceptual models up to the final stage. Students will be expected to produce detailed documentation of site conditions through varied media, and finally architectural drawings and models of their design proposals, to be reviewed at regular intervals through the semester.

Construction- Technology- Management

COURSE NO. C-IV/01 **Building Science 1** CREDITS: 2

Non-core course (Water Supply, Sanitation and Surface Drainage)

Objectives:

1. To impart the knowledge and skills required for understanding the Building Services of Water Supply and Sanitation and their integration with Architectural Design.
2. To study the services which will be exclusively for a simple (e.g. residence) to a high rise building only (such as apartments, commercial complexes, public buildings, etc.,) using the National Building Code.
3. To study the above services at a Macro Level as well as Micro Level.

Contents:

Part-1: Water Supply

1. Introduction to assessment of water requirements.
2. Sources of supply of water (Natural and Manmade)
3. Purification of water (Treatment)
4. Distribution of water (Macro and Micro level) with reference to NBC Code
5. Sizing components like Storage Tanks, Sumps and location of pipe appurtenances
6. Water Conservation (Rain Water Harvesting, Recharging, etc.,)

Part-2: Sanitation and Surface Drainage.

1. Collection and Conveyance of Refuse. (Macro and Micro Level)
2. House Drainage. (Introduction to components of a drainage system)
3. Disposal and Treatment of waste for Urban and Rural Context
4. Solid Waste Management

Methodology and Assignments:

The course will be taught through lectures and audio visual presentations, along with site visits (to Water Treatment Plant/ Sewage Treatment plant, to particular built typologies for studying water supply and sanitary arrangements) and recording observations in the form of sketches/drawings by students.

COURSE NO. C-IV/ 02 Graphics Communications 2 CREDITS: 3

Non-Core course

Objectives:

1. To use Building Information Modeling as a building design & documentation methodology that enables to create & manage information of a building in a single database.
2. To manage changes in the Project database in a way that change in any part is reflected in all other associated parts of database thereby making the information consistent & updated in real-time.

Contents:

1. *Think & work 'live' in 3D* – designing & editing building model in 3D views, navigate in real-time to check the design, automated updation of changes in floor plans, sections/elevations, bills of material etc
2. *Intelligent objects* – working with parametric building elements like doors,windows,columns, etc that understand & react to their environment thereby accelerating work, making management of project easier & allowing to design instead of drafting.
3. *Visualization* – navigation in real-time, rendering & animation tools.
4. *Documentation* – publishing project documents from building model, schedule & biils of material, dimensioning, labeling, detailing, annotation etc.
5. *Layouting* – master layouts, composition of architectural documentation of project views, external drawings, element schedules, project indexes etc.
6. *Material & texture Mapping*.
7. *Lighting & Energy simulation*.
8. *Collaboration* – Individuals & teams collaborating with single project.
9. *Interoperability* – multidisciplinary data exchange.

Methodology :

The course will be taught through lectures followed by hands-on practice sessions & completing projects exercises of varying complexities followed by Architectural Documentation & printing/plotting . Students shall complete the assigned work during studio hours as far as possible.

COURSE NO. C-IV/03 **Building Construction** CREDITS: 5

Non-core course

Objectives:

1. To introduce R.C.C. as a contemporary building materials and understand its properties and applications.
2. To study various building elements in R.C.C., its detailing and construction technique.
3. To equip the students in undertaking the detailed execution drawing for the same.

Contents:

1. **I**ntroduction to R.C.C as a contemporary building materials and its application
2. Introduction and detailing of different types of R.C.C. footings in different soil conditions.
3. Layout and detailing of footings, columns, beams, slabs (simply supported and cantilevered) for a two storied structure.
4. Designing and detailing of elements of vertical and inclined movements, like staircases, ramps, etc. and other elements involved in an R.C.C. structure.
5. Detailing of R.C.C elements with respect to the services involved like Storm water drainage, water supply and sanitation, ducts etc.
6. Introduction to R.C.C formwork like shoring, scaffolding, underpinning etc
7. Detailing of structures and its elements with Seismic consideration
8. Workshop in shuttering, bar bending and concreting

Methodology and Assignments:

The course will be conducted through lectures, audio-visual presentations, site-visits, and the supervised execution of drawings by the students. The time available will be utilised as follows: Lectures, audio-visual presentations: 33%; Site visits, on-site demonstrations, supervised execution of drawings in the studio: 67%.

COURSE NO. C-IV/04 **Structures** CREDITS: 2

Non-Core course

Objectives :

To study steel as a structural material and their appropriate use according to the nature of forces acting on structural system.

Contents :

1. Importance of steel structure- types of sections with designation used in steel structures- Advantages and disadvantages- field applications.
2. Types of connections-Bolted-Rivetted and welded. Analysis and design of welded connection with lap and butt joints.
3. Analysis and Design of Tension Member with single angles, double angle, T and channel section.
4. Analysis and design of compression members including struts, columns, slab base, gusseted base- brief idea of lacing and battening.
5. Analysis and design of steel girder for different forms of loading using IS 800 and steel tables- Web buckling and web crippling failures-Restrained and unrestrained beams-effect on structures.
6. Roofs- types of loads- design of purlin- principal rafter, base plate etc., based on wind load, live load and super imposed load- simple problems on the above.
7. Plate Girder- components and functions of each – situation under which they are used.

Methodology/Assignment

The course will be conducted through lectures, audiovisual presentations, site visits, on-site demonstrations, and finally the execution of drawings on the concerned topics by the students.

8.0 SEMESTER V

SEMESTER V (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History-Art-Humanities											
H-V/01	**Theories of Architecture 1**	2	2	70%	-	20%	10%	50%	Test,Papers, Sketches, Seminar	50%	Viva-Voce
H-V/02	**History, Criticism and Context**	4	4	80%	-	10%	10%	50%	Papers	50%	Test (3 hrs duration)
Studio (Theory & Design)											
D-V	**Studio**	11	11	10%	60%	30%	-	50%	Sketches, Drawings, Models, Test	50%	Viva-Voce
Construction- Technology- Management											
C-V/01	**Building Science II** **Part I:** fire fighting, electrical & lighting **Part II:** HVAC, acoustics & mechanical systems	4	4	25%	50%	25%	-	50%	Sketches, Drawings, Models, Test	50%	Test (3 hrs duration)
C-V/02	**Building Construction**	5	5	25%	50%	25%	-	50%	Sketches, Drawings, Models, Test	50%	Test -3 hrs duration & Viva voce (equal weightage
C-V/03	**Structures**	2	2	90%	-	10%	-	50%	Papers	50%	Test (3 hrs duration)
Elective											
E-V/01	**Elective**	2	2	50%	-	50%	-	100%	Assignments	-	
		30	30								

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachersin their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.
Amended and applied w.e.f. Academic Year 2018-19

History-Art-Humanities

COURSE NO. H- V/ 01 **Theories of Architecture 1** CREDITS: 2
Non-core course

Objectives:

1. To introduce Architectural Theory, and the acts of thinking, writing of, and discussing architecture.
2. To get a broad understanding of the evolution of the field, through an overview of Theory/Ideology/Philosophy across the world, both general and in architecture, up to the end of the 19^{th} c.

Contents:

1. Introduction to Theory and Philosophy: Ontology, Epistemology, Logic, Ethics
2. Vitruvius and other European Classical philosophies
3. The Chinese approach
4. Indian philosophies: Orthodox, Heterodox, the Vastushastras
5. Early Modern, Bhakti, the Age of Enlightenment
6. The Industrial Age: Romanticism, Positivism, Darwinism, Socialism, Nihilism

Methodology and Assignments:
The course will be taught primarily through lectures and audio-visual presentations. Home assignments will consist of written papers based on fieldwork and library research.

COURSE NO. H- V/02 History, Criticism, and Contexts CREDITS: 4

Non-core course

Part 1: History & Criticism

Objectives:

1. To continue the chronological study of architectural developments in the world begun in Semester 3, dividing time between Goa, India and the world, with a focus of 20% on Goa, 40% on India and 40% on the rest of the world.
2. To study the architecture of the period AD 1700-1900, with the focus on revivals and heterogeneous styles; the rise of industry and mass production; new urban issues; new building materials, technologies and types; and the conflict between traditionalism, identity, and revolution.

Contents:

Colonial and Industrial Architecture, and the beginnings of Modernism

1. Colonialism: Classical Revivals at home and in the Colonies, esp. Colonial India and Goa
2. The Industrial Revolution and its impact
3. Pre-Modernist Movements

Methodology and Assignments:
The course will be taught primarily through lectures. Home assignments will consist of written papers based on fieldwork and library research, and are not to exceed 50% of the total teaching hours

Part 2: Architecture in Changing social context

Objectives:

1. To understand the impact of changing society on architecture
2. To get a broad understanding of the economic, political and social context of 20th century India and the world

Contents:

1. Economic Change: Industrial capitalism to finance capitalism; and the rise and decline of welfare states, and their impact on architecture
2. Political Change: Colonialism, Post-colonial India and Goapost-1947, the development of democratic institutions and processes, and their impact on architecture

3. Social Change: Tradition and Modernism, Caste and Gender transformations, Rural and Urban divides, and the impact of all this on architecture

Methodology and Assignments:

The course will taught through lectures, along with film shows, and individual and group assignments. Home assignments will consist of written papers based on fieldwork and library research.

COURSE NO. E- V/ 01 **Elective** CREDITS: 2

Non-core course

To be offered each year from the Master List given in the Curriculum Document, according to availability of faculty and other resources.

Studio (Theory & Design)

COURSE NO. D-V Studio CREDITS: 11

Core course

The objectives:

1. To explore the urban context in terms of communities functional complexities to find architectural and planning solutions that are culturally and contextually relevant.
2. To develop visual perception, visualization, and the skills of the students to comprehend and design layouts of buildings, site planning addressing issues that include construction techniques, infrastructural services, environment and landscape.

Projects:

An architectural design in a live urban situation e.g. urban neighborhoods, institutions addressing various community needs.

Understanding appropriate constructional materials both traditional and contemporary.

Skills:

Site studies to map, appreciate, and analyse physical features, socio-economic, cultural, and environmental conditions, both at micro and macro level, landscape and other characteristics.

Understanding of building regulations

Following a design process methodically and systematically presenting the critique and the design solutions in seminar format Communicative and design skills.

Methodology:

Understanding the context through discussions with stake holders by preparing questionnaires and formats for narratives.

Critiquing the collected data, presenting the same through seminars.

Examining similar cases in real life situations and/or through secondary sources, including appropriate architectural theories, critiquing the same.

Formulation of the Design Brief

Following various stages of Design Development from concept to final presentation through drawings and three dimensional models.

Key words/Focus: Communities, topography, neighborhood context for scale, techniques of construction, aesthetics, critiquing data, site planning**,**

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Construction- Technology- Management

COURSE NO. C-V/01 **Building Science 2** CREDITS: 4
Non-core Course [Part-1: Fire Fighting Services and Electrical and Lighting Systems
Part-2: HVAC, Acoustics and Mechanical Conveyance Systems]

Objectives:

1. To introduce the students to Fire-Fighting and Electrical/ Lighting services and to sensitize them with respect to their integration into Architectural Design.
2. To develop the knowledge and skills required for understanding the HVAC, Acoustics and Mechanical Services in Buildings and their integration with Architectural Design.
3. To study the services which will be exclusively for a simple (e.g. residence) to a high rise building only (such as apartments, commercial complexes, public buildings, etc.) using the National Building Code.
4. To study the above services at a Macro Level as well as Micro Level with a concern for sustainability.

Contents:

Part-1: Fire Fighting Services and Electrical and Lighting Systems

Fire Fighting Services

1. Introduction to Types of fire and causes of fire.
2. Planning Criteria for Fire Safety in Buildings (including Fire Escape routes and staircase design as per NBC)
3. Fire Rating and briefing on Combustible and Non-Combustible Materials.
4. Components of a Fire detection and control system (Smoke Alarms, Sprinklers, etc.)
5. Fire Protection- Study of fire regulations, Rules for fire protection and fire-fighting requirements for high rise buildings in India.
6. Case studies of buildings from the perspective of fire protection requirements.

Electrical and Lighting Systems

1. Macro Level Electrical Services- the Power Generation and the general distribution of electric power in towns and cities.
2. Alternative Sources of Energy.
3. Electrical Systems in Buildings

4. Supply and Distribution of Electricity to Buildings. (Mains and sub distribution) - transformers, low tension panels, back-up systems, overhead versus underground distribution systems, panel boards, etc., Internal Supply and Distribution- brief description of various types of wiring, conduit, PVC Casing and Capping Wiring systems. House wiring (wiring thicknesses, colour code usages, distribution of power to various appliances).
5. Layout systems for lighting, fans , telephones, etc., with Implications in Building Construction.
6. Lighting Systems- Quality and Quantity of light / the Basics if light, Different systems & methods of lighting (ambient, tasking and accent lighting), Systems of luminaires (Direct / Indirect.
7. Various types of electrical lamps (Incandescent, Fluorescent, CFL, HID's/ Neon Lamps) and their lighting characteristics.
8. Design considerations for different types of occupancies and task lighting.

Part-2: HVAC, Acoustics and Mechanical Conveyance Systems.

HVAC (Heating, Ventilation and Air Conditioning)

1. Passive and active cooling systems, in traditional and present day buildings (with examples)
2. Fundamentals of Air Conditioning which includes the definition of Refrigeration Cycle
3. Types of Air Conditioning Systems (Local and Central), Different systems in current use from chilled water cooling systems, to air handling package units ,etc., their installation requirements and demands in building layout
4. Distribution Components of Air Conditioning Systems and requirements within building systems and their co-ordination
5. Central Plant, supply systems, Calculations of basic sizes of components and layout of the system
6. Energy and Power Saving Air Conditioning Systems

Acoustics

1. Introduction to the study of acoustics- nature of sound, basic terminology- frequency, pitch tone, sound pressure, sound intensity, decibel scale, loudness, threshold of audibility and pain, masking, sound distance- inverse square law.

2. Behavior of sound in enclosed spaces- reflection of sound, nature of reflection from plane, convex and concave surfaces, sound diffraction, absorption of sound, sound absorption coefficient, reverberation, reverberation time calculation, sound absorbents, porous materials, panel or membrane absorbers and cavity or Humboldt resonators, role of functional absorbers.
3. Acoustical design requirement for halls used for speech, drama and music- general purpose halls used for both- speech and music, cinema theatres, open air theatres.

Mechanical Conveyance Systems.

1. Brief History –Types of Elevators like (Traction elevators, gearless traction elevators, geared traction elevators, hydraulic elevators, double deck elevators, passenger lifts, Hospital Lifts/Goods Lift, Service Lifts or Dumb Waiters).
2. Spatial Requirements of lifts in special cases like Hospital Lift/ Goods Lift/ Passenger Lift and Service Lift. (Definitions and Components).
3. Lift location in buildings, grouping of lifts in buildings, Zoning of elevators in High Rise Buildings.
4. Criteria for lift / Elevator Design, Passenger Handling Capacity.
5. Architect's Role for installation of elevators or information to be provided by Architect to Lift Company.
6. Relationship of staircases and lifts and their location in plan.
7. Definition and components, types of Escalators, Arrangements in Buildings, Capacity, size and speed of escalators, criteria for their design.

Methodology & Assignments:

The course will be taught through lectures and audio visual presentations, along with site visits and recording observations in the form of sketches/drawings by students.

Fire-Fighting Services

The students will be asked to study an existing layout of firefighting systems in large or multi-storeyed buildings.

Electrical and Lighting Systems

Assignments where the students will be asked to prepare lighting and electrical layouts explaining the scheme showing electrical fixtures using terminology and Load distribution diagram (For small residential Building or for a small industrial work area, classroom, etc)

HVAC

The students will be asked to study an existing layout of HVAC systems in large or multi-storeyed buildings.

Acoustics

Design sketch of a small auditorium for a capacity up to 200 persons for Speech, Dance & Drama plus multipurpose hall, Film Theater. Design & draft plans, sections, and acoustical details at least any two of the above. Noise attenuation technique, inside and outside (with examples and sketches). Submission of portfolios with material finishes and samples.

Lifts

Lift & Escalators- study & design of hospital lifts, Capsule lifts- finishes & precautions

COURSE NO. C-V/03 **Building Construction** CREDITS: 5

Non-Core course

Objectives:

1. To introduce construction techniques employed in large scale structure like industrial, commercial, institutional buildings and its construction techniques
2. To equip the students in undertaking the detailed execution drawing for the same.

Contents:

Introduction to issues on large scale structures (industrial, commercial and institutional buildings)

1. Detailing of building components with respect to large scale structures such as basements, large span roof, floors and cavity walls.
2. Introduction of various building system for large scale structure.
3. Curtain walls and other structural glazing systems.
4. Advanced cladding systems such as aluminium composite panel etc.
5. Studio exercise related to large scale structure comprising of some of the above components.
6. Workshops on claddings, glazing and large span steel fabrication etc.

Methodology and Assignments:

The course will be conducted through lectures, audio-visual presentations, site-visits, and the supervised execution of drawings by the students.

COURSE NO. C-V/03 **Structures** CREDITS: 2

Non-Core course

Objectives :

To understand the basic design concepts of RCC structures and their uses in different situations.

Contents:

1. Concept of RCC structures, composition and properties of concrete and steel with different grades and appropriate use.
2. Concept of limit state design and its types and assumptions made in the design.
3. Balanced, under reinforced and over reinforced section-partial safety factors and its importance as per IS456-2000.
4. Analysis and design of singly reinforced beam.
5. Analysis and design of doubly reinforced beam.
6. Analysis and design of shear reinforcement - concept of truss analogy.
7. Bond and its significance - factors affecting bonds-local and average bond- code provisions.
8. Analysis and design of one way slab, two way slab, continuous slab, chajja/balcony/canop slab, check for deflection
9. Design of dog legged stair- Basic principles involved in the design of other types of stairs.
10. Analysis and design of columns (circular, square and rectangular)
11. Design of spread footing- check for one way and two way punching shear.
12. Principles and practices followed in earthquake resistant structures.

Methodology/Assignment

The course will be conducted through lectures, audio-visual presentations, site-visits, and the supervised execution of drawings by the students.

9.0 SEMESTER VI

SEMESTER VI (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History–Art–Humanities											
H-VI/ 01	**Theories of Architecture II**	2	2	70%	-	10%	20%	50%	Papers	50%	Viva-Voce
H-VI/ 02	**History, Criticism and Context 2**	4	4	80%	-	10%	10%	50%	Papers	50%	Viva-Voce
Studio (Theory & Design)											
D-VI	**Studio**	11	11	10%	60%	30%	-	50%	Sketches, Drawings, Models	50%	Viva-Voce
Construction– Technology– Management											
C-VI/ 01	**Working Drawing**	6	6	20%	80%	-	-	50%	Drawings	50%	Viva-Voce
C-VI/ 02	**Building Construction**	5	5	25%	50%	25%	-	50%	Sketches, Drawings, Models, Test	50%	Test –3 hrs duration & Viva voce (equal weightage
Elective											
E-VI/ 01	**Elective**	2	2	50%	-	50%	-	100%	Assignments	-	
		30	30								

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachers in their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.

Amended and applied w.e.f. Academic Year 2018-19

History-Art-Humanities

COURSE NO. H- VI/01 **Theories of Architecture 2** CREDITS: 2
Non-core course

Objectives:
To understand the key theories and writings of the 20th c, and their impact on architecture

Contents:

1. Modernism
2. Marxism
3. Existentialism
4. 20th c. Epistemology
5. Structuralism and Post-Structuralism
6. Post-Modernism, Orientalism, Feminist and Culture Studies
7. Phenomenology

Methodology and Assignments:
The course is conducted primarily through lectures. Home assignments consist of written papers based on fieldwork and library research.

COURSE NO. H-VI/02 History, Criticism, and Contexts CREDITS 4

Non-core course

Part 1: History & Criticism

Objectives:

1. To continue the chronological study of architectural developments in the world begun in Semester 3, dividing time between Goa, India and the world, with a focus of 20% on Goa, 40% on India and 40% on the rest of the world.
2. To study the period AD 1900 to today, with the focus on the ideas of Modernism and Post-Modernism, and on contemporary contexts (social, economic, political and environmental) of architecture.
3. To examine some of the challenges before contemporary architectural practice in Goa and India.

Contents:

1. Origins and evolution of Modernism: Bauhaus, CIAM, Vkutemas, FLW
2. Modernism in the World, India, and Goa; internationalisation, critiques and consequences
3. Successors of Modernism: Post Modernism, Traditionalism, Deconstruction, Revivals, Critical Regionalism
4. The contemporary scene in Goa and India
5.

Methodology and Assignments:
The course will be taught primarily through lectures. Home assignments will consist of written papers based on fieldwork and library research.

Part 2: Architecture in changing cultural context

Objective:

1. To understand the changing nature of contemporary culture, and its relation to architecture
2. To understand the cultural context of contemporary Goa

Contents:

1. Contemporary Cultures and their evolution
2. Traditional and Popular cultures, and their expression in the arts and architecture
3. Subaltern cultures, and their expression in the arts and architecture
4. Post-Modern cultures, and their expression in the arts and architecture
5. Globalisation, culture, and architecture

Methodology and Assignments:
The course will be taught primarily through lectures (also by experts as available), student presentations, and fieldtrips. Home assignments will consist of written papers based on fieldwork and library research.

COURSE NO. E-VI/01 **Elective** CREDITS: 2

Non-core course

To be offered each year from the Master List given in the Curriculum Document, according to availability of faculty and other resources.

Studio (Theory & Design)

COURSE NO. D-VI **Studio** CREDITS: 11

Core course

Objectives:

1. To understand the interface between technology and architecture in their various manifestations including energy and environment consciousness and their inter-dependence in design and construction of buildings.
2. To create an awareness of the context, site planning, and landscape architecture

Projects:

Project with emphasis on technologies and building sciences in a institutional / industrial building.

Skills:

Appreciating and analyzing the complexity of requirements of services and structural systems in a building.

To be able to conceive an architectural design solution that embodies the demands of services, utilities, and functions in a building.

To appreciate various standards on environmental issues *(GRIHA, LEED, Green, Eco-friendly) etc*: and evolving methodologies for an appropriate design.

Methodology:

Field studies and lectures by experts to acquaint about the complexity of technologies and services in an institutional/industrial building.

To collect data, analyse and formulate the design brief.

Following various stages of Design Development from concept to final presentation through drawings and three dimensional models.

Key words/Focus: Environment, Landscape, Site-Planning, Energy, Building Services, Co-ordination, Technologies, Manufacturing Processes.

Construction- Technology- Management

COURSE NO. C-VI/01 **Working Drawings** CREDITS: 6

Non-core course

Objective:

1. To equip the students to prepare detailed execution drawing for the proposed project.
2. To understand implications of technology in design during the execution drawing stage.
3. To integrate structural and services requirements and its implication on the design and construction.

Contents:

1. To understand the concept of co-ordination drawings.
2. Working drawing of design projects, indicating to required scale, plans, sections, elevations, and other relevant details and information required to obtain the building permission from local authorities.
3. Working drawings in terms of construction of a structure which will include all the drawings required to build a structure e.g. column-beam layouts, floor plans, sections, elevations, and other structural details.
4. Details of doors, windows, floor,
5. Layouts for all services.
6. Landscape for exterior spaces.
7. Interior design and layout and their details

Methodology and Assignments:

The course will be conducted through lectures, audio-visual presentations, site-visits, and the supervised execution of drawings by the students.

COURSE NO. C-VI/02 **Building Construction** CREDITS: 5

Non-core course

Objectives:

1. To expose students to the current trends and advancements in construction systems and technology
2. To understand dynamics of large span and special structures
3. To equip the student undertake construction based project in studios in subsequent semester
4. To equip the students in undertaking the detailed execution drawing for the same.

Contents:

Introduction to Advanced Building Technology

1. Pre-stressing, prefabrication, pre-cast systems in building construction
2. Mass production, transportation, storage and handling of materials of prefabricated and pre-cast systems.
3. Advance constructional methods specially related to large span and multistoried building like expansion joints etc
4. Special structures like shell, folded plates, portal frames, cable stayed structures, etc. design and structural principles, construction details, applications, etc.
5. Studio exercise on advance construction methods / technology comprising of some of the above components
6. Workshops on precast and prefabricated building system

Methodology and Assignments:

The course will be conducted through lectures, audio-visual presentations, site-visits, and the supervised execution of drawings by the students.

10.0 SEMESTER VII

SEMESTER VII (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History–Art–Humanities											
H-VII 01	**Settlement Studies**	2	2	50%	-	30%	20%	50%	Papers, Documentation, Tests	50%	Viva-Voce
H-VII 02	**Research Methods**	2	2	90%	-	-	10%	50%	Papers	50%	Viva-Voce
H-VII 03	**Planning & Urban Theories**	2	2	80%	-	10%	10%	50%	Papers	50%	Viva-Voce
Studio (Theory & Design)											
D-VII 01	**Studio** urban design, housing #	20	20	10%	60%	30%	-	50%	Sketches, Drawings, Models	50%	Viva-Voce
D-VII 02	**Studio** construction & technology #	20	20	10%	60%	30%	-	50%	Sketches, Drawings, Models	50%	Viva-Voce
Construction– Technology– Management											
C-VII 01	**Professional Practice**	2	2	80%	-	-	10%	50%	Test,Paper,Viva, Seminar	50%	Test (3 hrs duration)
C-VII 02	**Specification & Estimation**	2	2	50%	50%	-	-	50%	Project	50%	Viva-Voce
		30	30								

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachersin their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.

 # Indicates choice between the two Studios

Amended and applied w.e.f. Academic Year 2022-23 (Batch 2019-20)

History-Art-Humanities

COURSE NO. H-VII/01 **Settlement Studies** CREDITS: 2

Non-Core course

Objectives:

1. To understand evolution of urbanity.
2. To document and study settlements in and around Goa.
3. To understand theories of settlement studies.
4. To bridge the gap between architecture and urban design.

Contents:

1. Rise and evolution of settlements
2. Components and structures of settlements
3. Settlements in India through history
4. Comparison with European and Asian cultures
5. Comparison: Architecture & the City
6. Historic cities and formal composition in designed cities
7. Legibility, imagibility, structure, identity, meaning, and quality of life, in various urban forms

Methodology and Assignments:

The course is conducted through lectures, along with fieldwork around Goa. Assignments consist of documentation of existing settlements and preparation of a working paper relating to morphological issues.

COURSE NO. H-VII/02 Research Methods CREDITS: 2

Non-Core course

Objectives:

1. To acquaint the student with concepts and methods involved in research.
2. To expose the students to the basic processes involved in scientific inquiry into social sciences as well as architecture.
3. To help the students learn essential techniques of research.

Contents:

1. Research and Theory
2. The Research Process
3. Defining the Research Problem
4. Research Design
5. Types of Research
6. Literature review
7. Data Collection Methods
8. Secondary Sources of Data
9. Quantitative Techniques
10. Analysis and Interpretation
11. Research Report (writing)
12. Applications of research

Methodology and Assignments:

The course is conducted through lectures and discussions. By the end of the course the students are expected to identify a research area for dissertation of the ninth semester, formulate a proposal, select a guide and submit the proposal.

COURSE NO. H-VII/03 Planning & Urban Theories CREDITS: 2

Non-core course

Objectives:

1. To expose the students to the theories connected to the evolution of settlements and growth of towns.
2. To understand the contemporary theories of land-use planning, transportation, housing and their impact on architecture and urban development in the 20th century.
3. To study the emerging concepts of New Towns in India & abroad.

Contents:

1. Evolution of Urban Settlements – a historical overview

2. 20th c. Planning
   - -Levels of Planning
   - -Process of Planning
   - -Densities & Planning Standards
   - -Types of planning

3. Urban Planning
   - -Land use theories
   - -Transportation theories
   - -Land uses- All major land uses
   - -Zoning regulations & Bye-laws and their implications on the building sites

4. The Techniques of Data Collection in Planning and Analysis

5. Study of New Towns in India & abroad

6. Urban Studies - Current issues in Housing, Mass Transportation Systems and Urban development

Methodology and Assignments:

The course is conducted through lectures and library research.

Assignments are related to research on current urban issues in the form of written papers based on fieldwork and library research.

Studio (Theory & Design)

There shall be a minimum of two modules offered from Urban Design, Urban Housing, and Technology.

COURSE NO. D-VII/01 A **Urban Design Studio** CREDITS: 20

Core course

Objectives:

1. To understand the relationship between the 'part and the whole': 'the architecture and the city'.
2. To intervene effectively and aesthetically in an existing urban precinct as an architect.

Project:

An **urban design intervention** ranging from the master-plan level to an architectural project.

Skills:

Resourcing the available visual, legal, historical, and other data of place and people, through processes resolving the parameters of the urban design situation; recognizing the stakeholders of the place and through narratives discerning their aspirations; drawing conclusions relevant in the context of the design; skills of mapping and presentation.

Methodology:

1. Creatively collecting data through various modes
2. Study of Development Plan and building regulations
3. Formation of urban design strategies and guidelines
4. The dialectic process of designing the whole and the part of city until the final culmination into the architectural design of an area.

Key words:

Urban morphology, Figure-Ground, Building Typology, Equity, Urban Infrastructure, Landscape, Existing v/s Proposed, Retrofitting and Regeneration, Urban Conservation,

OR

COURSE NO. D-VII/0I B **Urban Housing Studio** CREDITS: 20

Core course

Objectives:

1. To understand the process of Housing as an urban phenomenon.
2. To develop and draw references from the existing built morphology/typology for the new extensions for Housing.
3. To understand the needs and aspirations of the communities and societies through interaction and participation.
4. To understand and evaluate the potential and the environmental condition of the site with respect to new development.
5. To develop a complete housing design proposal for the area including principles of site planning, natural features and environment, density pattern and lessons from tradition.

Projects:

An Urban Housing Project

Skills:

- Inventories & Mapping
- Program formulation
- Site Planning
- Feasibility Studies & exploring design options
- Services & Landscape Design
- Real Estate Analysis
- Traffic & Transportation Planning

Methodology:

Study and analysis:

- Regional understanding, City Structure, road network, hierarchy,
- Urban Development trends and issues,
- Defining urban issues and urban linkages to the site,
- Develop a broad structure plan for the site.
- Site analysis – topography, natural elements, existing development.

Design

- Structure Plan showing land divisions, road network, elements,
- Response to topography and environmental issues
- Demonstration of built form, streetscape, urban space,
- Sites and services,
- Phases of development and economic feasibility,
- Appropriating Construction Technology

Key words:

Equity, Density, Housing infrastructure, Structure Plan, Landscape, Building Typology, heritage, Construction Technology

OR

COURSE NO. D-VII/02 Technology Studio CREDITS: 20

Core course

The Technology Studios which begin in the Semester VIII shall include and focus on:

1. Contemporary manufacturing processes, planning, and installations.
2. Utilization of natural resources for the purpose of habitation, the processes of conversion of the same into construction materials and their appropriate applications
3. Chemical and other processes of manufacturing building material, their appropriate applications.
4. Pre-fabrication, Pre-stressing, Pre-casting, mechanically installed elements of buildings and the contextual place in design and construction
5. Designing applying using various soft ware that are devised to compliment the contemporary technologies for scale, operations environmental and other controls as well as aesthetics.

The assignment shall be so conceived as to introduce the industrial processes that otherwise seem to a designer/ architect, by making this the above as the resource for design Familiarization with newer software their specific application in architecture and in designing advance software shall be considered integral to the course Technology Construction Management.

Objectives:

1. The Technology studio shall be conceived in such a way as to address various integral issues having direct, as well as indirect impact on Design, Conception, Act of construction, and Maintenance in architecture.
2. The Architect shall be the catalyst who comprehends the relevance of the material and technologies for a judicious, appropriate use in architectural design and construction, through a process of critical analyses for relevance, appropriators in interpretation shall be critically applied by the architect to evaluate the usefulness / appropriation of technologies a social – economic – environmental context and with reference to equity, Issue of sustainability, reuse, recycle, rejection and innovative.

Projects:

The projects may be similar as are conceived for the Urban streams, but with the stress on the above mentioned processes thereby making modular planning pre-fabrication of units – elements, pre-stressing and other methods that may address temporary structure, skyscraper constructions, large span structure, repetitive or modified unit on a large scale, devising technological solutions of waste disposal at source within the campus and utilization of natural energy in various scientific ways.

This may be applied to housing, skyscrapers, industrial building modular planning rapid construction, environmental planning, and so forth.

Skills:

1. Awareness of methodologies and manufacturing processes in industries relevant to design processes.
2. Analysis and critique of the industrial produce employed for use in construction industry.
3. Application of technologies in construction, services, infrastructure etc.
4. Designing, adapting, and applying computer software for appropriate applications in architecture.
5. Recognizing the relevance of maintenance in architecture from the level of conceptualization.

Methodology:

1. Exposing students to the process of design conception manufacture, utilization / application at various stages through presentation by industry, visit to industry, visits to sites of construction.
2. Observation, Analysis and critique of the process and presenting the same
3. Conceiving design strategies primarily based on the studies utilizing a particular available process, theory, methodology or other solutions.
4. Designing and detailing the work in response to the above data and constraints.

Key words:

Industrial Processes, Manufacturing, Modules, Environmental, Ecological Relevance, Appropriation, Waste Generation, Software Design, Advanced Construction Processes, Unit: Whole, Maintenance and Regeneration, Biomimicry, Biomimetric Engineering

Construction- Technology- Management

COURSE NO. C-VII/01 Professional Practice CREDITS: 2

Non-core course

Objectives:

1. To understand historical development of the profession and its correlation with important movements in architectural history
2. To understand the legal and statutory provisions concerning architectural practice
3. To examine the typologies of architectural practice & career in India and abroad
4. To introduce the Office, Project and Human Resource Management in an architectural practice

Contents:

1. Evolution and Role of the Architectural Profession
2. Classification of Architectural Practice
3. Professional Practice and Code of Conduct
4. Professional Role and responsibilities
5. Office Organisation and Management
6. Competitions, Higher Education and future of the profession

Methodology and Assignments:

The course will lay more emphasis on learning through lectures, discussion along with guest lectures. The internal assessment will consist of home assignments, seminars and tests and external assessment will be done through exam papers / mock interview viva.

COURSE NO. C-VII/02 Specifications & Cost Estimation CREDITS: 2

Non-core course

Objective:

1. To learn how to specify building materials and practices in architectural projects.
2. To understand the various methods of carrying out cost estimation for architectural projects.

Contents:

1. Materials, labour, transportation and profit.
2. Methods of recording measurements.
3. Schedule of quantities.
4. Rate Analysis of various items of work.
5. Specification in brief.
6. Principal material requirement and their co-relation with estimates.
7. Understanding of the nature of building specifications and contracts and its relevance to architectural practice.

Methodology and Assignments:

The course is conducted through lectures, audio-visual presentations and site-visits. Assignments include specification and cost estimation for actual or proposed building projects as decided by the faculty.

11.0 SEMESTER VIII

SEMESTER VIII (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
Studio (Theory & Design)											
PT-VIII	**Practical Training**	30	30	-	-	100%	-	-	-	100%	Viva-Voce

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching.

Amended and applied w.e.f. Academic Year 2022-23 (Batch 2019-20)

COURSE NO. P-VIII **Practical Training** CREDITS: 30

Core course

Objectives:

To expose the student to architectural practices, through professional training under an Architect (who is registered with the Council of Architecture).

Duration: 20 weeks (minimum)

Contents:

The student is expected to gain experience in the following**:**

1. Office organisation
2. Client contacts
3. Formulation of project briefs
4. Site analysis
5. Process of design development
6. Construction drawings
7. Contract documents
8. Exposure to consultants
9. Cost implications on building design
10. Site supervision

Certification: The architectural firm employing the student must certify that the student has completed the required training.

Evaluation: Viva-voce examination at the end of the semester.

12.0 SEMESTER IX

SEMESTER IX (18 WEEKS)												
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History–Art–Humanities												
H-IX/ 01	**Design Theory (Pre-Thesis)**	2	2	20%	-	-	80%	50%	Paper/Report	50%	Viva-Voce
Studio (Theory & Design)												
D-IX/ 01	**Dissertation** Architecture#	24	24	-	30%	50%	20%	50%	Report, Seminar	50%	Viva-Voce
D-IX/ 02	**Dissertation** Construction Technology & Management #	24	24	-	30%	50%	20%	50%	Report, Seminar	50%	Viva-Voce
Construction– Technology– Management												
C-IX/ 01	**Project Management**	2	2	50%	25%	25%	-	50%	Papers, Report	50%	Test (3 hrs duration)
Elective												
E-IX/ 01	**Elective**	2	2	50%	-	50%	-	100%	Assignments	-	
		30	30									

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachersin their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.

 # Indicates choice between the two Studios

History-Art-Humanities

COURSE NO. H -IX/ 01 **Design Theory (Pre-Thesis)** CREDITS: 2
Non-core course

Objective:
To achieve a vertical integration of design theory learnt through theory courses across semesters, and its application to the architectural thesis.

Contents:
1. Design theories
2. Design approaches
3. Design proposal

Methodology:
This course prepares the students for design thesis of semester ten. The students are expected to identify a project area/theme, formulate a proposal, select a guide and submit the proposal. On approval of the proposal, they are required to carry out field work, investigate into the theme/ issue, and present it with their interpretations and learning's. This needs to culminate as data/analysis clearly represented, theme/issues of concern, evolved project brief and possible design directions.
Requirements: Submission of Thesis Proposal developed through the semester, presentations for reviews, and submission of final report.

COURSE NO. E -IX/ 01 **Elective** CREDITS: 2
Non-core course

To be offered each year from the Master List given in the Curriculum Document, according to availability of faculty and other resources.

Studio (Theory & Design)

COURSE NO. D-IX/01,02 Dissertation CREDITS: 24

Core course

Objectives:

1. To understand the importance of research in architecture.
2. To undertake original research, literature studies, and analyses of real life situations, as also phenomenological and historical studies, to form a critical outlook.
3. To develop confidence, articulation, and the skills of writing and communication of complex ideas.

Research Parameters:

- The area of research work chosen by the student would be finalized with the guidance of the faculty member through the process of presentation.
- The emphasis would be on fieldwork as well as methodical studies of contextual references including literature
- Both local and global sources of information would be considered essential.

Skills:

1. Resourcing the available textual, theoretical, visual, legal, historical, and other data of place and people.
2. Interdisciplinary understanding to interpret the data as well as strategies evolved in the course of work.

Presentation of work at every stage with an emphasis on communication skills including verbal, writing, graphic design, editing, composing, diagramming, etc.

Methodology:

1. Presentation of the theme of research, and finalization through debates.
2. Planning field-work studies.
3. Identifying literary sources, resource material, resource persons for specialized advice, etc.
4. Finalizing methodology and field studies appropriate to the topic.

The study may involve within the chosen area:

1. An in-depth investigation into any aspect of the chosen area.
2. Analysis of data, inferences to establish underlying principles.
3. Evaluation of existing theory in new contexts.
4. Establishment of a hypothesis and its substantiation.
5. The emphasis will be on the Indian context.

Reading references to be prepared by the students on anthropological, social, cultural, political, historical, as well as linguistics and philosophical resources, in addition to references from architecture, physical planning and allied visual disciplines, wherever applicable.

Key words/Focus: Field-work, existing body of available research, originality, critique and defense of work, methodologies, editing, communication and presentation.

Guide policy: The main guide shall be an architect. Additionally there may be specialists and resource persons as co-guides.

Construction- Technology- Management

COURSE NO. C-IX/01 Project Management CREDITS: 2

Non-core course

Objectives:

1. To understand the basics of project management and project life cycle.
2. To understand project scoping, work definition, work breakdown structure, time estimation and project scheduling.
3. To learn the use of computer software in project management.

Contents:

1. Project Management Fundamentals
2. Project Network Techniques
3. Monitoring Project, Project Resource Allocation & Risk Management
4. Project Human Resource, Procurement & Materials Management
5. Computer Based Project Management

Methodology and Assignments:

The course emphasises 'learning by doing'. It is taught through lectures and audio-visual presentations, case studies, guest experience sharing, and the use of study projects. The assignments consist of papers/presentations based on case studies and/or a project on computer-based project management.

13.0 SEMESTER X

SEMESTER X (18 WEEKS)											
Course Code	Course	Credits	Hours/ Week	Teaching				Internal Evaluation		External Evaluation	
				Lecture	Studio	Field work	Seminar	Weightage	Form	Weightage	Form
History-Art-Humanities											
E-X/ 01	**Elective**	2	2	50%	-	-	50%	50%	Assignments	-	
E-X/ 02	**Elective Seminar I** issues in contemp. architecture	2	2	10%	-	60%	30%	100%	Seminar, Presentation	-	
Studio (Theory & Design)											
D-X	**Design Thesis**	26	26	-	80%	20%	-	50%	Sketches, Drawings, Models, Report, etc	50%	Viva-Voce
		30	30								

Note: *1. One credit is equivalent to one hour of Teaching (Lecture/Studio/Field work/Seminar) per week for all courses.*
2. Each semester shall comprise of 90 days (18 weeks) of Teaching, which would include programmes such as Tours, Workshops etc.
3. The percentage distribution of Teaching hours (course wise) are suggestive and need to be confirmed by the individual teachersin their teaching plans at the beginning of the semester.
4. The weightage of the assignments given in all courses shall be commensurate to the credit weightage assigned for that course in a semester.

Humanities-Art-Humanities

COURSE NO. E -X/ 01 **Elective** CREDITS: 2
Non-core course

To be offered each year from the Master List given in the Curriculum Document, according to availability of faculty and other resources.

COURSE NO. E - X/02 **Elective Seminar** CREDITS: 2
Non-core Course

Issues in Contemporary Architecture

This is a seminar course on Issues in Contemporary Architecture, in which students will independently investigate diverse issues within a general theme, and present their findings first in classroom discussions and finally in a seminar and papers.

Content:
Will vary according to the issues of the day; about 6-8 issues per semester. Could include: Gender, Cities, Old and New, Tradition, Organic, New Materials, Journalism, Digital Architecture, Psychology, Site and Settings, Symbolism...
Assignments:
Assignments to consist of preparations for the seminar presentations as well as written papers, both based on fieldwork and library research

Studio (Theory & Design)

COURSE NO. D-X **Design Thesis** CREDITS: 26

Core course

Objectives:

1. To develop the ability to research and explore the subject, and formulate the brief.
2. To make a design contribution that would add to existing knowledge on place-making.
3. To conceptualise, develop, and finalise design solutions from a study into the subject, site, social, historical, and other references.

Design Parameters:

- Strategies derived for design from the researched material would be based on fieldwork and scholarly studies of existing available texts on the subject.
- Explicit analytical processes and synthetic conclusion towards strategizing the design.
- Conclusion in terms of a competent and imaginative architectural solution expressed innovatively.

Skills:

- Resourcing the available textual, theoretical, visual, legal, historical, and other data of place and people.
- Interdisciplinary understanding to interpret the data as well as strategies evolved in the course of work.
- Processing the collected and analyzed data through presentation and debate.
- Formulating the design programme and methodology.
- Following the chosen methodology of design to its logical culmination in a comprehensive architectural design, with drawings, written report, models, 3d images, etc. as maybe necessary to communicate effectively the theme and details of the work.

Projects:

The students will choose independent project/s in architectural design.

Methodology:

- Research and exploration of design approaches within a situation or context.
- Interdisciplinary interfaces for decoding data for an architectural language.
- Stage wise evolution of ideas and its documentation.

- Process of critique at every stage of design through presentations and discussions.

Reading references to be prepared by the students on anthropological, social, cultural, political, historical as well as linguistics and philosophical resources, in addition to references from architecture, physical planning, and allied visual discipline, wherever applicable.

Key words/Focus: Inter-disciplinary-ness, interpretations, linguistics, local and global contexts, self and society, the act and aesthetics of building

Guide policy: The Thesis work shall be co-ordinated and monitored at regular intervals in studio by a team of faculty. The main guide shall be an architect. Additionally there may be specialists and resource persons as co-guides.

14.0 ELECTIVE

The Elective courses shall be wide-ranged courses offering choices to students in the pursuit of their areas of interest and specific needs. The Electives shall be either knowledge based or skill based courses. They could be courses which are needed to support the input for Design Projects/Studio. They may also be courses, which are not directly connected to the B. Arch. Course programme at all, but add to the general skills or wider social involvement and sensitivity of students.

The duration of the course in a semester shall be based on the number of credits assigned multiplied by the number of weeks for the semester. In order to make a course feasible in the institute, a minimum of 5 students must opt for the same.

The student shall have to complete one Elective each in the Semester IV, V, VI, IX and two electives in semester X. The Elective courses shall have only Internal Assessment.

In case the student does not complete the Elective course in a Semester, they shall have to re-register for an additional course offered in the subsequent Semester.

Elective courses shall be classified as follows:

Humanities-Arts	**Design Theory**	**Technology**	**Miscellaneous/ Special focused**
• Culture & Society	• Sustainable Development	• Energy	• Photography
• Historical Studies	• Housing	• Sustainable Technologies	• Film/Music Appreciation
• Social/Economic/ Political Commentaries	• Landscape	• Environmental Science	• Communication Techniques • Graphic design
• The Visual Arts • Art history & movements	• Conservation	• Advanced Building Technology	• Social involvement projects, e.g. educational/ environmental/etc
• Performing Art • Applied Art	• Interior Designs	• Special Structures	• Languages
• Psychology of Space	• Pre-design Strategies	• Building Automation	• Welding • Carpentry
• Literature	• Urban Design	• Professional Practice	
	• Spatial Planning	• Construction Management	

Note:
Apart from the regular lecture based electives conducted in the college, there shall be the following categories of Elective:

1. **Seminar based electives** wherein students shall carry out independent research/studies within the duration of the course.
2. **Hands-on electives,** which shall be conducted in the form workshops or hands-on exercises carried out on the week-ends or in concentrated slots of time e.g. 3,6,12 hours etc., subject to a minimu
3. **Outside the institute,** the students shall be able to register for elective offered by other institutes/departments with a written permission prior to registering. They shall have to produce the certificate of attendance and grades obtained at the end of that semester.

15.0 EDUCATIONAL TOURS

The Educational Tours are proposed for all years from Year I to Year IV. They should be need based and integrated with the academic programmes, preferably with the Design Studios. The Study tour shall be of the duration of a maximum of 12 days.

In the Fifth Year, the students shall undertake the study visits related to their Dissertation & Thesis projects as per the individual requirement at their own cost.

The **objectives** of the tour shall be:

1. Field Study in understanding communities and their contexts from the Architectural point of view;

2. To develop the methodologies and skills of observation & interpretation;

3. To understand and critically analyse Architectural Theories (i. e. Historical, Socio-economic, Technological and Planning Theories), which are put in practice;

4. To develop/ inculcate the analytical thinking and evolve new vision.

Any two faculty members from the concerned Year or Studio Team can accompany the students.