ARCH 201: ARCHITECTURAL DESIGN – I

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH 201	PC	AR	STUDIO	ARCHITECTURAL DESIGN -I			8	8					200	200	400	400	

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT, HRS: HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

1ST YEAR / II Semester

ARCH 201: ARCHITECTURAL DESIGN – I

Syllabus: 15 weeks (9 hours/week) Total Teaching hours: 135 Hrs.

COURSE OBJECTIVES:

Architecture as the environment, context, insertions, documentation, site visits, and documentation through text, photographs, and drawings. Design exercises involving small Architectural design problems involving simple spatial organizations starting from a single space and progressing to a small functional grouping of spaces.

COURSE OUTCOME

At the end, of course, students will able to: At the end course, students will be able to –

- Demonstrate basic design to architectural design and design field in general,• Illustrate complex observations, design and expressional skills
- Make use of advanced representation and analytical skills
- Build an idea and design expression,• Select using basic architectural design concepts, tools and methods.
- Interpret spatial organisation, structure, hierarchy and scale using architectural elements.
- Create a design for a particular programme and context.

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

By the end of the course students should have skills in drawing and representation; assimilate learnings of graphics, construction, and structures to apply to the basic design.

FOCUS: Design Language

- Students will get an understanding of how Space becomes a Place
- Students will understand Elements of placemaking such as moods, culture, traditions & aspirations.
- Students will achieve the capacity of analyzing space quality.
- Select using basic architectural design concepts, tools, and methods.
- Interpret spatial organisation, structure, hierarchy, and scale using architectural elements.
- Create design for a particular program and context

COURSE OVERVIEW:

Study the built environment and develop a basic understanding of space and form. This course is intended to provide a framework for understanding design as a process.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
DESIGN		Looking at the immediate built environment and understanding its fundamental components and their impact on the surroundings. Exercises relating personal experiences to behavioural needs and translating them into documented information that can be used as a basis for the design. Problems aimed at drafting and presentation skills in the 2-D format.	

ARCH 201: ARCHITECTURAL DESIGN – I

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STUDIO									INT	EX		INT	EX				
ARCH 201	PC	AR	STUDIO	ARCHITECTURAL DESIGN -I			8	8					200	200	400	400	

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A systematic introduction to issues related to design, its components and space standards; design of a basic shelter; an architectural form with a specific function

- The concept of space & place
- Placemaking through space, surfaces, envelopes, symbols, exploration with colours, textures, symbols, light, shades & darkness in response to culture, technology, time-place-human
- Man- Nature Interface for generating space, place.

Theme & Focus of Design:
User activity analysis; fundamentals of anthropometric studies & architectural design process; Study of building components; Development of forms through sketches, and models; Case studies.
Basic Components: Behavioral Science; Functionality; Building Materials; Theory of Design; Form Development; Tectonic decisions - Structures, Building Materials, Services; Site Planning; Building Control Regulations; Inclusive Design; Design Communication.
Introductory to Anthropometrics: Study of human dimensions; space requirements for human activities; Detailing for human comfort; Furniture details & layouts.
Study of Building Components: Understanding components in buildings; Purpose; Applications in buildings; Interrelations; Designs; Materials; Innovations.

1	Introductory exercises based on 'Learning by doing'	To have a short introductory exercise to: • Understanding Natural and man-made places • Human activity and behaviour in Space • Exploration of spatial qualities like spatial enclosure, depth, volume, view, orientation, etc and tectonic characteristics like form, surfaces, material, shape, texture, etc • Nature of concepts, ideas, and design principles	35hrs
2	Introduction to the studio-based iterative design process	• To develop a design project with a specific site and program of residential or institutional nature. • Introduction to requirements of the project like built-up area, utility, activity pattern, open space, etc. • Introduction to site parameters like landscape, ground morphology, site climate, orientation, etc. • Integrate learning from programmatic and site analysis • Introduction to processes of conceptualization, ideation, diagramming, etc. • Engage in space-making exercises/activities using architectural elements. Explore the relationship of part to the whole and whole to the part. • Explore the relationship between space, order, tectonics, site, use, and concept to create a meaningful experience of Architectural space. • Undertake appropriate exercises/activities to visualize and represent design learning.	35hrs

ARCH 201: ARCHITECTURAL DESIGN – I

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ARCH 201	PC	AR	STUDIO	ARCHITECTURAL DESIGN -I			8	8					200	200	400	400	

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3	Design Resolution with Synthesis of design parameters.	• Develop an understanding of the hierarchy of spaces, nature of architectural spaces and quality of spatial enclosures, etc. • Achieve synthesis of design criteria and parameters like spatial quality, form, function, response to the site, etc. • Develop architectural language using architectural elements	35hrs
4	Representation and communication of design	• Use of appropriate graphic and technical representational skills to communicate architectural design comprehensively	30hrs

DESIGN EXERCISE: Building Design; Complexity - Designing space for single/double user/s; Typology - Kiosk Design such as Security Cabin, Milk Booth, Photocopy Shop, Flower Shop, Gift Shop, Ticket Booth, Book/ Newspaper Stall, Food Stall, etc.; Site extent - Level site up to 100 m2.

GUIDELINES

One Major Monitor Problem is to be set from the entire syllabus
The topic of the project is to be displayed on the Institute Notice Board fifteen days in advance OF the commencement of the classes
At least ONE major exercise and ONE minor design with one - Two-time problems should be given.
The final submission shall necessarily include a model for at least one of the two main problems

NOTE:

- Necessary theoretical inputs to be given highlighting the norms and design issues. The topics not covered as design problems will have to be covered by the Studio faculty members through lecture/slideshow sessions and site visits.
- Evaluation is to be done through viva voce by an external examiner appointed by the university at Institute. Portfolios, after the university exam, shall be retained at the Institute level for the viva - voice In the end exam which is a viva-voce, the students have to present the entire semester's work for assessment.

SUGGESTED READINGS:

Adrover, E. R. (2015). Deployable structures. London: Laurence King Publishing.
Agkathidis, A. (2012). Modular structures in design and architecture. Amsterdam: BISPublishers
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ARCH 201: ARCHITECTURAL DESIGN – I

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
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STUDIO									INT	EX		INT	EX				
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Dodds, George, Robert Tavernor, and Joseph Rykwert. Body and Building: Essays on the Changing Relation of Body and Architecture. Cambridge, MA: MIT, 2002.;
Field, M. City Architecture; Or, Designs for Dwelling Houses, Stores, Hotels, Etc. In 20 Plates. Descriptions and an Essay on the Principles of Design. New York: D. Appleton, 1854.
Hanks, A. David. Decorative Designs of Frank Lloyd Wright, Dover Publications, Inc. New York, 1999.
Hepler, E. Donald, Wallach, I. Paul. Architecture Drafting and Design, 3rd Ed. McGraw-Hill Book Company, New York, 1977.;
Itten, Johannes. Design and Form: The basic course at the Bauhaus, Thames and Hudson Ltd., London 1997.
Johnson, Paul-Alan. The Theory of Architecture: Concepts, Themes & Practices. New York: Van Nostrand Reinhold, 1994. .;
Jones, W. (2011). Architects' sketchbooks. London: Thames & Hudson. ;
Jormakka, K., Schürer, O., & Kuhlmann, D. (2014). Design methods. Basel: Birkhäuser. ;
Karssen, A., & Otte, B. (2014). Model making: Conceive, create and convince. Amsterdam: Frame Publishers. ;
Kim, S., & Pyo, M. (2012). Mobile architecture. Berlin: DOM. ;
Kirk, Paul Hayden, and Sternberg, D. Eugene. Doctors Offices and Clinics, 2nd Ed. Reinhold Pub., USA, 1960.;
Kostof, Spiro. A History of Architecture: Settings and Rituals. New York: Oxford UP, 1985. ;
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Pollio, Vitruvius, and M. H. Morgan. Vitruvius: The Ten Books on Architecture. New York: Dover Publications, 1960. ;
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Wittkower, Rudolf. Architectural Principles in the Age of Humanism. New York: W.W. Norton, 1971. ;
Wucius, Wong. Principles of Two Dimensional Design. Van Nostrand Reinhold 1972.;
Yacobi, Haim. Constructing a Sense of Place: Architecture and the Zionist Discourse. Aldershot, Hants, England: Ashgate, 2004.

ARCH 203: BUILDING MATERIAL & CONSTRUCTION – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY CUM STUDIO									INT	EX		INT	EX				
ARCH 203	BS&AE	TE	THEORY CUM STUDIO	BUILDING MATERIALS & CONSTRUCTION – II	1		2	3	30	30	60	120	15	15	30	150	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS- HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 203: BUILDING MATERIAL & CONSTRUCTION – II

Syllabus: 15 weeks (3 hours/week) Total Teaching hours: 45 Hrs.

COURSE OBJECTIVES:

To understand the elementary construction methods like joinery details in wood, and fixing of hardware.

COURSE OUTCOME

At the end of the course, students will be able to –

• Demonstrate an understanding of basic principles for planning, design, and construction of a loadbearing system of construction.

• Explain the construction of building elements based on material behaviour and its relation to other elements.

• Explain basic principles of building sub-structure.

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

To understand the techniques of constructing doors and windows, staircases, and partitions using different materials

FOCUS: Load Bearing Const. Systems & Timber Const. Systems

• Students will understand the building elements, and their material - behaviour while connecting to other elements (s)

• Students will understand the load-bearing system of construction, basic principles, and materials.

• The student will learn the principle of the sub-structure system.

COURSE OVERVIEW:

Exploration of All building elements (From foundations to parapet) using simple manufactured materials and simple constructional systems

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
		• Type of Foundation (Shallow, deep, special-type, etc.) Carpentry and joinery: • Types of the opening in masonry wall (Door, Window, Arch, lintel, etc.) • Understanding of frame structure concerning the specific material – wood and concrete • Various floor and floor systems, partition walls • Various Roof and roof systems, roof coverings • Doors, windows, and openings	
1	Load bearing construction system	Understanding building elements (From foundations to parapets) using simple manufactured materials and simple constructional systems. • Understanding elements of the load-bearing system like foundations, walls, openings, lintels, columns, piers, etc., and their role in a load-bearing system.	12 hrs.

ARCH 203: BUILDING MATERIAL & CONSTRUCTION – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
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ARCH 203	BS&AE	TE	THEORY CUM STUDIO	BUILDING MATERIALS & CONSTRUCTION – II	1		2	3	30	30	60	120	15	15	30	150	3

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2	Foundations: Shallow and Deep	Understand basic principles of foundation design: • Definitions, general requirements, safe bearing capacity of different types of soils, material and foundation type, etc. • Shallow foundation: Strip, Isolated, combined, and raft foundations and their construction techniques. • Introduction to Deep foundation: Grillage foundations, Piles foundations, Caisson foundations, etc.	16 hrs.
3	Building Materials and properties	Understanding of behaviour of elements in a construction system, about the material properties: • Lime: Sources of lime, classification and manufacturing process of lime, properties, and use, tests on lime, etc. • Cement: Composition of ordinary cement, a function of cement ingredients, properties of cement – soundness, setting time, strength, etc. Grade of cement and different types of cement used in construction. The manufacturing process of ordinary cement in the dry and wet method, packing and storage of cement, and use of cement. • Mortar: Sand, sources of sand and its classification, tests on the sand, classification of mortar – lime mortar, mud mortar, surkhi mortar, cement mortar, preparation of mortar and its properties, use and selection of mortar for different construction work, etc. • Timber: Varieties of timber, defects in timber, decay of timber, qualities of timber, seasoning, storage and preservation, properties, and uses.	10 hrs.
4	Carpentry Joinery Details	The behaviour of wood, woodworking, and tools. • Types and applications of timber joinery • Appropriate joinery for different loading conditions	7hrs

NOTE:

- The classwork and home assignments should include appropriate site visits by the students.
- The student will maintain field observations/record books.
- At least two exercises are to be done in the construction yard.
- Each Unit should include a market survey and construction site to visit compulsorily with the studio working on sheets a minimum of 12 to 15 Nos A-1 Sheets
- Emphasis should be laid on making students understand the complete construction details of single-story structures.

SUGGESTED READINGS:

A. Agarwal –Mud: The potentials of earth-based material for third world housing – IIED, London 1981**.**
Agrawal, B. K. Introduction to Engineering Materials. New Delhi: Tata McGraw Hill Education Ltd., 2013
Barry, R. Construction of Buildings Vol - 1: Foundations and Oversite Concrete, Walls, Floors, Roofs. New Delhi: Affiliated East-West Press Pvt. Ltd., 1999
Barry, R. Construction of Buildings Vol - 4: Multi-Storey Buildings, Foundation and Substructures, Structural Steel **Frames,** External Walls and Cladding of Framed Buildings. New Delhi: Affiliated East-West Press Pvt. Ltd., 1999
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ARCH 203: BUILDING MATERIAL & CONSTRUCTION – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
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Ching, Francis D. K. Building Construction Illustrated. Delhi: Wiley India (P) Ltd., 2012
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Duggal, S. K. Building Materials. New Delhi: New Age International (P) Limited, 2012
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Gambhir, M. L. Building Materials: Products, Properties, and Systems. New Delhi: Tata McGraw Hill Education Private Limited, 2011
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, J. K. Building Construction Vol - 3: Metric. Delhi: Pearson Education Pte. Ltd., 2013
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ARCH 204 ARCHITECTURAL GRAPHICS & DRAWING – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
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STUDIO									INT	EX		INT	EX				
ARCH 204	PC	SK	STUDIO	ARCHITECTURAL GRAPHICS & DRAWING - II			3	3					75	75	150	150	

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ARCH 204 ARCHITECTURAL GRAPHICS & DRAWING – II

Syllabus: 15 weeks (3 hours/week) Total Teaching hours: 45 Hrs.

COURSE OBJECTIVE:

At the end of the course, students will be able to –

• Learn various techniques to represent an idea 3-dimensionally making use of the concept of sciography and perspective.

• Maximize the skills of visualization and learn to utilize them to represent basic form and space.

COURSE OUTCOME

At the end of the course, students will be able to –

• Learn various techniques to represent an idea 3-dimensionally making use of the concept of sciography and perspective.

• Maximize the skills of visualization and learn to utilize them to represent basic form and space.

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED: Students should acquire knowledge of the various drawings which effectively communicate their ideas as designers

Freehand, scale drawing, conventional architectural representations in drawings and graphics.

Students will get a sense of visualization and will strengthen it by employing technical representation of Form & Space

The student will learn the design expression of Basic & Complex forms

COURSE OVERVIEW:

The course is intended to develop the techniques of architectural drawing about simple and complex solid geometrical forms of Building geometry Sociography and Documentation. Perspective Drawing, Representation skills, geometrical drawing of special curves.

Graphics

Views isometric, axonometric, Perspective & Sciography exercises (may be done on sketch Landscape outdoor sketching, Anatomy To impart the skills of three-dimensional visualization and presentation

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1	Sciography	• Development of Surfaces: • Interpenetration of solids • Sociography • 1 point, 2 point & 3-point perspective view drawings, using various methods • Geometrical Drawing of Special Curves: • On Flat Surfaces (horizontal, vertical and inclined surfaces) • On Curved Surfaces • Sciography of Architectural Elements (Walls, Steps, Roof, etc..)	17 hrs.
2	Perspective	• Perspective drawing as a representation tool • Different Types of Perspective Drawings and their applications • One Point Perspective • Two Point Perspective	18 hrs.

ARCH 204 ARCHITECTURAL GRAPHICS & DRAWING – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
					L	T	S	CREDIT	THEORY				STUDIO				
									2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH 204	PC	SK	STUDIO	ARCHITECTURAL GRAPHICS & DRAWING - II			3	3					75	75	150	150	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE; SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

3	Allied Techniques (Part 2 of 2)	• Perspective Views of forms and Spaces • Visualization Software (Sketch-UP, Rhino, or equivalents) • Model Making • Various freehand sketching exercises to strengthen visualization and representation.	10 hrs.

GUIDELINES

Assignments /Tasks are to be set from the entire syllabus; The topic of the project is to be displayed on Institute Notice Board fifteen days - a week time in advance OF commencement of the classes

NOTE:

This is a studio subject and students should be made to prepare drawings as studio exercises along with the theoretical inputs. The studio work should be around 12 to 15 A1 sheets for appropriate site visits.
Evaluation is to be done through viva voce by an external examiner appointed by the university at Institute. Portfolios, after the university exam, shall be retained at the Institute level for the viva-voice

SUGGESTED READINGS:

Alan Jefferis, David A. Madsen, David P. Madsen. Architectural Drafting & design.Delmar Cengage Learning
Albert O'Halse Architectural Rendering. The Techniques of Contemporary Presentation. By Pub. McGraw Hill Book Company. New York.
Atkin, William W, Corbelletti, Raniero and Firore, R. Vincent. Pencil Techniques in Modern Design, 4th Ed. Reinhold Pub. Corporation, New York, 1962.
Bhatt, N.D. and Panchal V.M. Engineering Drawing: Plane and Solid Geometry, 42nd ed. Charotar Pub., Anand, 2000.
Billings, Lance Bowen. Perspective-Space and design.
Burden, Ernest. Architectural Delineation: A photographic approach to presentation, 2nd Ed. McGraw-Hill, Inc., New York, 1982.
Censil Jensen. Engineering Drawing & Design.McGraw-Hill
Ching, Francis D. K. Architectural Graphics. New York: Van Nostrand Reinhold, 1975.
Ching, Francis D. K., and Cassandra Adams. Building Construction Illustrated. New York: Wiley,2001.
Ching, Francis D. K., and James Eckler. Introduction to Architecture.
Ching, Francis D. K., and Steven P. Juroszek. Design Drawing. New York: Van Nostrand Reinhold, 1998.
Ching, Francis D. K., Architecture: Form, Space, and Order. Hoboken, N.J: John Wiley & Sons, 2007.
Ching, Francis D. K., Barry Onouye, and Douglas Zuberbuhler. Building Structures Illustrated. Hoboken, NJ: John Wiley & Sons, 2009.
Claude Batley -Design Development of Indian Architecture
Conli, Claudius. Drawings by Architects.
Dana J. Hepler, Paul Ross Wallach, Donald Hepler. Drafting & Design Architecture &Construction.Delmar Cengage Learning
David E. Carter, The Big Book of Design, David E. Carter Books Joyce Rutter Kaye, Design Basics, Rockport.
Dhanajay jolhey. Engineering Drawing.Tata Mcgraw Hill
Douglas Cooper. Drawing and Perceiving.WILEY
Drawing and Painting Architecture by Rayeuans Pub. Van Nostrand Reinhold Company, New York
Ellen Lopton and Jennefer Cole Phillips, Graphic Design The New Basics, Princeton Architectural Press
Eric brought. Islamic Geometric Design.Thames & Hudson
Ernest Burden -Architectural Delineation
George Barnett Johnston. Drafting Culture. The MIT Press
Gill, P.S. T.B. of Geometrical Drawing, 3rd Ed. Dewan Sushil Kumar Kataria, Ludhiana, 1986
Graphics Book, Rotovision
Helmut Pottmann. Architectural geometry.Bentley Institute Press
Henry Wilson. Pattern and ornament in the arts of India.Thames & Hudson
Hilary French. Key Urban Housing of the Twentieth Century: Plans, Sections, and Elevations. W.W.Norton
Hogarth, Paul. Drawing Architecture.
I.H. Morris, Geometrical Drawing for Art Students, Orient Longman Chennai.
Lorraine Farrelly. Representational Techniques.Fairchild Books AVA
M.G. Shah & K.M. Kale, Perspective Principles of Asia publication Mumbai.
Manosi Lahiri. Mapping India.Niyogi Books

Chairperson	Chairperson	Controller of Examination	Joint Registrar
Board of Studies	Faculty of Studies	Shri Vaishnav Vidyapeeth	Shri Vaishnav Vidyapeeth
Shri Vaishnav Vidyapeeth	Shri Vaishnav Vidyapeeth	Vishwavidyalaya Indore	Vishwavidyalaya Indore
Vishwavidyalaya Indore	Vishwavidyalaya Indore		

ARCH 204 ARCHITECTURAL GRAPHICS & DRAWING – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH 204	PC	SK	STUDIO	ARCHITECTURAL GRAPHICS & DRAWING - II			3	3					75	75	150	150	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ND Bhatt. Engineering Drawing.Charotar Publishing House
Nichols, T.B. and Keep, Norman. The geometry of Construction, 3rd ed. Cleaver – Hume Press Ltd., London, 1959.
Owen Jones. The grammar of ornament.B. Quaritch
Pierre von Meiss. Elements of Architecture: From Form to Place.Routledge
Pranchlay, H. Perspective
Richard Rush.The Building Systems Integration Handbook.Architectural Press
Richard Weston. Key Buildings of the 20th Century: Plans, Sections and Elevations.W. W. Norton & Company
Robert W. Gil. Rendering with pen and ink. Thames & Hudson
Shah, M.G., Kale, C.M. and Patki, S.Y. Building Drawing: with an integrated approach to the built environment, 7th Ed. Tata McGraw Hill Pub., Delhi, 2000.
Shankar Mulik, Perspective & Sciography, Allied Publishers
Thomas Obermeyer. Architectural Drafting Residencial & Commercial.Glencoe/McGraw-Hill
Thoms, E. French. Graphic Science and Design, New York: Mc Graw Hill.

ARCH 205: HISTORY OF ARCHITECTURE & CULTURE – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 205	PC	AR	THEORY	HISTORY OF ARCHITECTURE & CULTURE - II	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION, IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 205: HISTORY OF ARCHITECTURE & CULTURE – II

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

COURSE OBJECTIVE:

To expose the students to a wide spectrum of architectural styles ranging from pre-historic to modern times.

To explain to the students the evolution of architecture over time with special emphasis on social, religious, and environmental factors and to make the students understand the developments in the construction technology in different periods.

The course creates awareness about the various architectural movements that influenced the building traditions of the three European nations. Development of the ability to sketch Plans, sections, elevations, and architectural details is also intended.

COURSE OUTCOME:

At the end of the course, students will be able to – Acquire knowledge to identify the

- **Illustrate the geography of building materials/resources/ Construction**
- **Examine the creation of different cultures and the impact of other factors on their architecture**
- **Discuss methods for understanding sociological background – Degree of the dominance of religious/political/economical class**

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

- Acquire graphic skills to present a building, analyze its elements and explain the composition.
- Acquire knowledge of good practices of architecture in the past.

FOCUS: Early Civilization of the World

- Students will understand & become aware of the culture in small-scale communities of early agro-urban civilizations
- Students will understand Architecture as a direct response to contextual factors

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 205	PC	AR	THEORY	HISTORY OF ARCHITECTURE & CULTURE - II	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION, IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ornamentation. The study should focus on the gener… g., of

COURSE CONTENTS: SYLLABUS TOPIC SUBTOPIC TEACHING HOURS:

Detailed study & analysis of architectural design fundamentals through significant e.g., in the light of the following for the periods mentioned in the modules – Genesis of seed ideas & concepts; Timeline; Socio-political background, key people involved; Climatic & geographic influence; General settlement pattern; Cities & its civic places;

		Construction technology & material; Design principles; Typology; Evolution; Spatial organization; Form & Detailing. The e.g., to represent the following historical styles are suggestive & students are encouraged to explore additional e.g. for a comprehensive understanding of the respective styles. • Some nomadic and tribal communities in India – settlement, dwelling, and community space – are a reflection of social, economic, and contextual factors. • A comparative community in Africa/Polynesia/ America. • Indus Valley culture – City building, large-scale organizations, urban form, dwelling, social institutions • Comparison to early urban cultures of Egypt, Mesopotamia, China, and Central America • Cities and early religious architecture in India. Rock-cut architecture and early temple forms • A comparison to the urbanism and architecture of Greece & Rome • Architectural configurations and elements as a response to contextual factors: land, topography, climate; materials and techniques; social organization. • Spatial organization and form as an expression of social and political order: Scale, geometry, form as architectural tools and disciplines. • Architectural form is an expression of the cosmology and philosophy of culture; geometry, proportion, orientation, hierarchy, and precision of the tools.	
1	Prehistoric architecture	• Introduction to early and prehistoric architecture • Logical and structural transformation of building system	10 hrs
2	Early civilizations (Mesopotamian, Egyptian, Indus, Chinese, Minoan, Mycenaean, Pre-Columbian Americans, etc.)	• Introduction to early civilizations, their societies, culture, material, structural and technological features leading towards the progress of their architecture	4 hrs

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 205	PC	AR	THEORY	HISTORY OF ARCHITECTURE & CULTURE - II	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

3	Greek architecture	Architecture is understood in terms of material, belief, and social systems. • Exposure to systems of proportion and scaling	8 hrs
4	Roman Architecture	Architecture is a realisation of the ideals of society. The development of architecture through different phases of the roman empire and its decline. The influence of such architecture on later times.	8hrs

NOTE

Emphasis should be laid on the understating of building evolution and form. The continuous evaluation shall be made of students' work based on various models, assignments, and sketching

SUGGESTED READINGS:

Bindoo. D.D, History of Architecture, Milind P Lakshana, Hyderabad – 2006.
Wittkaner R Architectural Principles in the Age of Humanism, Chichester: Academy Editions 1998
Copplistone, Trewin, and Others. World Architecture: An Illustrated History, 11th Ed. Hamlyn, London, 1979.
Fletcher, Sir Banister. A History of Architecture, 19th Ed. CBS Pub., Delhi, 1992.
G.K.Hiraskar, Great Ages of World Architecture, Dhanpat Rai & Sons, Delhi.
Pier Liugi Nervi, General Editor - History of World Architecture - Series, Harry N.Abrams, Inc. The pub, New York, 1972.
Pub., New York, 1981.
S.Lloyd and H.W.Muller, History of World Architecture Series, Faber and Faber Ltd., London, 1986
Schulz, Christian Norberg. Meaning in Western Architecture, 2nd Ed. Rizzoli Intl.
Spiro Kostof - History of Architecture - Setting and Rituals, Oxford University Press, London, 1985
Yarwood, Doreen. A Chronology of Western Architecture. B.T. Batsford Ltd., London, 1987.
Fletcher, Banister. Sir Banister Fletcher's A History of Architecture. London: Butterworths, 1987.
Kostof, Spiro. A History of Architecture: Settings and Rituals. New York: Oxford UP, 1985.
Brown, Percy. Indian Architecture. Bombay: Taraporevala's Treasure House of.
Tadgell, Christopher. A History of Architecture. London: Ellipsis, 2000.
Tadgell, Christopher. The History of Architecture in India: From the Dawn of Civilization to the End of the Raj.
Ching, Francis D. K., Mark Jarzombek, and Vikramaditya Prakash., A Global History of Architecture. Hoboken, NJ: J. Wiley & Sons, 2007.
Havell, Ernest Binfield., Encyclopedia of Architecture in the Indian Subcontinent. New Delhi: Aryan International, 2004.
Albanese, Marilia., Architecture in India. New Delhi: Om Book Service, 2000.
Grover, Satish., The Architecture of India: Islamic (727-1707 A.D.). New Delhi: Vikas Pub. House, 1981.
Kramrisch, Stella, and Raymond Burnier., The Hindu Temple. Delhi: Motilal Banarsidass, 1976. .
Volwahsen, Andreas., Living Architecture: Indian. New York: Grosset & Dunlap, 1969.
Sandström, Gösta E., Man, the Builder. New York: McGraw-Hill, 1970.
Maisels, Charles Keith; The Emergence of civilization, 1990.History of World Architecture. London: Faber, 1979.
Lloyd, Seton, and Hans Wolfgang Müller., Ancient Architecture: History of World Architecture. Milan: Elect architecture, 2004.
Norberg-Schulz, Christian, and Pier Luigi Nervi. History of World Architecture. New York: Abrams, 1971.
Bagenal, Philip. The Illustrated Atlas of the World's Great Buildings: A History of World Architecture. S.1. Leisure, 1980.
Fazio, Michael W., Marian Moffett, Lawrence Wodehouse, and Marian Moffett. A World History of Architecture. Boston: McGraw-Hill, 2008. **Michell, George, and Philip Davies.** The Penguin Guide to the Monuments of India. London, England: Viking, 1989.
Cotterell, Arthur (ed.); The Penguin encyclopedia of ancient civilizations, 1980

ARCH 206: ENVIRONMENTAL SCIENCE FOR ARCHITECTURE

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 206	BS&AE	TE	THEORY	ENVIRONMENTAL SCIENCE FOR ARCHITECTURE	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 206: ENVIRONMENTAL SCIENCE FOR ARCHITECTURE

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

COURSE OBJECTIVE:

Understanding the impact of man's activities on the environment & knowledge about the methods to ameliorate the negative impacts. To sensitize the students towards a sustainable environment. Natural Environment, Ecology and Ecosystems, Biodiversity and co-existence of Built & Natural Environments

COURSE OUTCOME:

At the end of the course, students will be able to -

- Illustrate the importance of the component of the Environment and the ecosystem.
- Summaries of the importance of Energy resources:
- Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, their uses,
- impact and mitigation to be Understood.
- Classify the Biogeographical zones of India; Biodiversity patterns and global biodiversity hot spots and conservation of biodiversity.
- Relate environmental pollution and mitigation policies through Environmental laws.
- Analyze various human impacts on the environment and simple ecosystems Understand the impact of man's activities on the environment & knowledge about the methods to ameliorate the negative impacts. To sensitize the students towards a sustainable environment.

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

understanding architecture about the natural and built environment.

COURSE OVERVIEW:

Provides knowledge of natural systems and technology to support environmentally sensitive design; highlights the significance of maintaining balance and sustainability of various components of the environment.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1		• Introduction to Environment & Built Environment • Built Environment: Urbanization; Resources; Climate change; urban sprawl, urban congestion; Pollutions; Carbon foot; Basics of Sustainable Development.	5Hrs
2		• Natural systems; Complex relationships between the built and natural environments; Impact of pollution on natural and man-made environments; Strategies to transform the built environment to meet the risks of climate change; Biomimicry - the study of natural structures and	8Hrs

ARCH 206: ENVIRONMENTAL SCIENCE FOR ARCHITECTURE

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 206	BS&AE	TE	THEORY	ENVIRONMENTAL SCIENCE FOR ARCHITECTURE	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM; ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

	processes- in helping to solve man-made problems and enabling design; Concepts of urban ecology and landscape urbanism; case studies; integration of Renewable Energy Systems in the built environment.	
3	• Passive & Active Environmental Design: Case studies in the Indian context - spatial design, openings, courtyards, balconies, building materials & construction techniques; Introduction to Mud & Bamboo architecture, Organic architecture, Earth-sheltered buildings. Introduction to Active Environmental Design - for water resources; solid waste management, energy efficiency; Managing construction waste	7 Hrs
4	• Disaster Management: Relief & Rehabilitation, Management of relief supplies; Relocation & reconstruction, repair & retrofitting of buildings & infrastructure; Role of Architect; Architectural Design Considerations.	5Hrs
5	•Case Studies for Eco-Friendly Design: Case studies of various contemporary designs done with principles of sustainability; Philosophies & works of eco-sensitive architects like - Nari Gandhi, Hassan Fathy, Geoffrey Bawa, Peter Busby, Norman Foster, Eric Corey Freed, R. Buckminster Fuller, Thom Mayne, William McDonough, Glenn Murcutt, Renzo Piano, Frank Lloyd Wright, Ken Yeang and others.	5Hrs

NOTE: -Emphasis should be laid on understating of building evolution and form concerning the context. The continuous evaluation shall be made of students' work based on various models, assignments, and sketching

SUGGESTED READINGS:

Albert J. Rutledge – Anatomy of a park – Mc Graw Hill Book Co., - USA 1971
De, Environment Chemistry;
Harvey M. Rubenstein – A guide to Site and Environmental planning, 3rd vol. – John Wiley & Sons – New York, 1987;
John Ormsbee Simond Earths cape - A Manual of Environmental Planning and Design, Van Nostrand Reinhold Company 1978;
Richard P. Dober – Environmental Design – VNR company - New York, 1969
Sharma and Kaur, Environmental Pollution;
Eachucha, A Text Book of Environmental Studies for Undergraduate Courses, University Grants Commission.

ARCH 207: THEORY OF STRUCTURES – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 207	BS&AE	TE	THEORY	THEORY OF STRUCTURE - II	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 207: THEORY OF STRUCTURES – II

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

COURSE OBJECTIVE:

To provide knowledge of different forces, force systems, Beam types sectional Properties behaviour of different members due to applied forces.

COURSE OUTCOME:

At the end of the course, students will be able to –

- Explain the structural behaviour of materials.
- Built about basic structural systems
- Make use of load mechanism in structural systems

Basic principles of mechanics and behaviour of elements of structures.

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

At the end of the course, students will be able to –

- Explain the structural behaviour of materials.
- Built about basic structural systems
- Make use of load mechanism in structural systems

Basic principles of mechanics and behaviour of elements of structures.

- The student will develop conceptual understanding by using the abstract method of analysis of structures.
- The student will develop an understanding of the basic requirement of stability, the strength of the material
- The student will learn the behaviour of basic structural elements and their importance in the Structural System.

COURSE OVERVIEW:

- Gives an in-depth understanding of the concepts associated with different Elements of Structures.
- Structural systems- ways to create inner space; Understanding loads of various types understanding the forces and Moments –
- Definition, cause, effect, units Types of forces, Conditions of equilibrium Beam reactions

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
		STRUCTURAL CONCEPTS IN ARCHITECTURE Theory of simple bending Introduction, pure bending & ordinary bending, Assumption's derivation of flexure formula section modulus Numerical on flexure equation. • Centre of gravity, determining the centroid of simple figures. Moment of inertia, its application to sections subjected to bending, determining M.I. of simple and compound sections, Welded joints: Introduction, Advantages and disadvantages of welded joints, types, the strength of fillet weld, the design of welded joint for plates and unsymmetrical sections for axial loading • Resolution of forces	

ARCH 207: THEORY OF STRUCTURES – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 207	BS&AE	TE	THEORY	THEORY OF STRUCTURE - II	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

		• The concept of triangulation and its application in pin jointed trusses • The assumption about the strength of materials, basic terminology, and a brief history of the strength of materials. • Concept & importance of the shear force and the bending moment. • Pure Bending stress & combined direct and bending stresses. • Stability, buckling of columns, short and long columns. • Deflection and its importance, code provisions, the study of the deflected shape of simple structures. Solutions to problems. Propped Cantilevers Introduction, Reaction of a prop, Cantilevers with Udl's, point loads, prop at the end & intermediate positions, slope & deflection • The concept of shear stress, average and maximum shears stress. Horizontal shear stress and its variation across the cross-section of the beam. • Shear stresses in beams Introduction, stress distribution for standard shapes like rectangle circle triangle I, T L, C Section, Direct &bending Stresses Introduction,	
1	Methods of categorization of structural system	Structure types • Solid - wall, arch, vault etc. • Surface - Grid, plates, shells, stressed skin • Skeleton - truss and frameworks •Membrane - Cable/membrane tents, cable nets, pneumatics • Hybrids - Tension-assisted structures	10 hrs.
2	Mechanical properties of structural material	• strength, stiffness, shape • Tensile, compressive, shear, torsion, bending • the dead load, imposed load, thermal load, Dynamic load	10 hrs.
3	Structural systems based on the mechanism of transfer of load	• Strut, tie, beam, slab/plate, panel • Vertical, Horizontal, Rational • settlement and earthquake behaviour • Tensile, compressive, shear, torsion, bending	10 hrs.

SUGGESTED READINGS:

Ambrose, James E. Building Structures. New York: Wiley, 1988.
Bali, N. P., Textbook of Engineering Mathematics, New Delhi, Laxmi Publications Pvt. Ltd., 2011
Barry, R., Construction of Buildings Vol. 1: Foundations and Oversite Concrete, Walls, Floors, Roofs, New Delhi, Affiliated East-West Press Pvt. Ltd., 1999;
Biggs, John M., Introduction to Structural Dynamics, New Delhi, McGraw Hill Education India Pvt Ltd, 2014
Burns, John A. Recording Historic Structures. Washington, D.C.: American Institute of Architects, 1989.
Charleson, Andrew., Structure as Architecture: Sourcebook for architects and structural engineers, London, Taylor & Francis, 2015;
Ching, Francis D. K., Building Structures Illustrated, New York, John Wiley & Sons, Inc., 2014
Corkill, P. A., H. L. Puderbaugh, and H. K. Sawyers. Structure and Architectural Design. Iowa City: Sernoll, 1974.
Cowan, Henry J. Architectural Structures: An Introduction to Structural Mechanics. New York: Elsevier, 1976.

ARCH 207: THEORY OF STRUCTURES – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 207	BS&AE	TE	THEORY	THEORY OF STRUCTURE - II	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT, HRS: HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION, IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

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Forsyth, Michael. Structures & Construction in Historic Building Conservation. Oxford, UK: Blackwell, 2007.

Gordon, J. E. The New Science of Strong Materials, Or, Why You Don't Fall through the Floor.Princeton, NJ: Princeton UP, 1984.

Hibbeler, Russell C., Structural Analysis, India, Pearson Education Asia Pte. Ltd., 2013

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James Ambrose, Building Structure, Canada Wiley, 2012

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Junnarkar, S. B., Mechanics of Structures Vol – 1, Anand, Charotar Publishing House, 2012

Khurmi, R. S., Strength of Materials: Mechanics of Solids, New Delhi, S. Chand & Company Ltd.,2013

Khurmi. R.S. Engineering Mechanics, S. Chand and Co.Ltd., New Delhi, 1999.

Kumar, Ashok, Theory of Structures, New Delhi, Laxmi Publications Pvt. Ltd., 2004

Laudner T.J. and Archer R.R., Mechanics of Solids in Introduction, McGraw - Hill International Editions, 1994

Laursen, Harold I., Structural Analysis, New Delhi, McGraw Hill Education India Pvt Ltd, 2014

Levy, Matthys, Why Buildings Fall: How Structures Fail, New York, W. W. Norton and Co.,2002

Mainstone, R. J. Structure in Architecture: History, Design, and Innovation. Aldershot, Hampshire: Ashgate, 1999.

Millais, Malcolm. Building Structures: From Concepts to Design. London: Spon, 2005.

Miret, Eduardo Torroja, J. J. Polivka, and Milos Polivka. Philosophy of Structures: English Version by J.J. Polivka and Milos Polivka. Berkeley, CA: U of California, 1962.

Morgan, William, Daniel Williams, and Frank Durka. Structural Mechanics: A Revision of Structural Mechanics. Harlow: Longman, 1996.

Muttoni, A. The Art of Structures: Introduction to the Functioning of Structures in Architecture.Abingdon, Oxford, UK: EPFL/Routledge, 2011.National Building Code of India, 1983, Part VI, Structural Design.

Onouye, Barry S., Statics and Strength of Materials for Architecture and Building Construction, Chennai, Pearson India Education Services Pvt Ltd., 2015

Pandit, G. S., Structural Analysis: A Matrix Approach, New Delhi, Tata McGraw-Hill Publishing Company Ltd., 2008

Parikh, Janak, Understanding Concept of Structural Analysis and Design, Anand, Charotar Publishing House, 2000

POPOV, E.P., Mechanics of Solids, Prentice-Hall Inc, Englewood Cliffs, New Jersey - 1976

Ramamrutham, S., Theory of Structures, Delhi, Dhanpat Rai & Sons, 2013

Ramamrutham. S. Engineering Mechanics, 7th Ed. Dhanpat Rai Pub. Co. Ltd., Delhi, 2004.

Rosenthal, Hans Werner., and Hans Werner. Structural Decisions: The Basic Principles of Structural Theory, Their Application to the Design of Buildings and Their Influence on Structural Form. London: Chapman & Hall, 1962.

S. Ramamrutham and Narayanan R., Strength of Materials, Dhanpat Rai Publications, New Delhi, 2002

Salvadori, Mario, and Robert A. Heller. Structure in Architecture: The Building of Buildings. Englewood Cliffs, NJ: Prentice-Hall, 1975.;

Salvadori, Mario, Saralinda Hooker, and Christopher Ragus. Why Buildings Stand Up: The Strength of Architecture. New York: Norton, 1980.;

Salvadori, Mario, Why Buildings Stand Up: The Strength of Architecture, New York, W. W. Norton and Co., 198 0;

Sandaker, Bjørn Normann, and Arne Petter. Eggen. The Structural Basis of Architecture. New York: Whitney Library of Design, 19 92.;

Schodek, Daniel L. Structures. Englewood Cliffs, NJ: Prentice-Hall, 1980.

Seward, Derek. Understanding Structures: Analysis, Materials, Design. Basingstoke: Palgrave Macmillan, 2003.

Timoshenko, C.P., and Gere., Mechanics of Materials, McGraw - Hill Book Company, New York, 1984

Timoshenko. S. and Young, D.H. Engineering Mechanics, McGraw-Hill International Editions

Watson, Donald, Time saver Standards for Building Materials and Systems: Design Criteria and Selection Data, New Delhi, Tata McGraw Hill Education Private Limited, 2009

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH 208	PC	SK	STUDIO	WORKSHOP II			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT, HRS: HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 208: WORKSHOP -II

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hr.

COURSE OBJECTIVE:

To introduce various fabrication skills and techniques necessary to produce scale- models, and encourage the preparation of models as an essential phase in design development and evaluation. Developing overall skills in understanding various tools, processes, and materials.

COURSE OUTCOME:

At the end of the course, students will be able to

-• Explore different materials for 3-dimensional representation
• Software to represent the design idea
• Students will learn the skill of rendering using different mediums

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

Knowledge of software and other materials and their properties; craft skills; visualization skills;
FOCUS: Manual Skills

COURSE OVERVIEW:

The course provides the foundation and capability to represent the concepts three-dimensionally.
Sketching Techniques

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1	**Sketching**	▪ Architectural Renderings (Plan, Section, Elevation, Views) ▪ Building Expressions, Simplifications, Analytical Diagrams	8Hrs
2	**Model Making**	• Model Making II (Wood & Other materials)	8Hrs
3	**Basic Use of Computers**	• Editing & Composition Software (Photoshop, Illustrator, Etc.) • Infographics	8Hrs
4	**Photography**	• inbuilt models, using lighting and natural background.	6Hrs

SESSIONAL WORK: ASSIGNMENTS.

All the above modules will be evaluated in the form of verbal or written presentation of artwork, drawing work, model making, photography, etc. At least three major assignments involving the individual

ARCH 208: WORKSHOP -II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH 208	PC	SK	STUDIO	WORKSHOP II			2	2					50	50	100	100	

L - THEORY, S- STUDIO, T -TUTORIAL, C - CREDIT, HRS- HOURS, MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION, IA - INTERNAL ASSESSMENT PROGRESSIVE, SS-FOLIO FINAL Sessional(INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

Students to fabricate
Scale model of a piece of furniture, Presentation of models, mock-up of an Everyday Object
Three-dimensional Forms etc.
Documentation of the important phases of fabrication is a must which shall become the basis for internal evaluation.

GUIDELINES

Continuous Evaluation shall be made of students' work based on various models, sketches assignments, and market surveys.
One Major And the rest minor tasks are to be set from the entire syllabus
The topic of the project is to be displayed on the Institute Notice Board fifteen days in advance OF the commencement of the classes

NOTE:

Evaluation is to be done through viva voice. Portfolios, after the university exam, shall be retained at the Institute level for the viva-voice

SUGGESTED READINGS:

Aditi Ranjan, M. P. Ranjan.Handmade in India.Council of Handicraft Development Corporations
Alan Jefferis, David A. Madsen, David P. Madsen. Architectural Drafting & design.Delmar Cengage Learning
Albert O. Halse.Architectural Rendering: The Techniques of Contemporary Presentations.McGraw-Hill
Arthur L. Guptill, Susan E. Meyer. Rendering in Pen and Ink. Watson-Guptill; 60 Anv edition
Barbara glasner, Petra Schmidt.CROMA designs architecture and art in colour.Birkhäuser Architecture
Bernald, S and Copplene, Myers. History of Art.
Catherine Norman, Ryland Peters & Small, Paper Scissor Glue
Ching, Francis D. K. Architectural Graphics. New York: Van Nostrand Reinhold, 1975. .
Ching, Francis D. K., and James Eckler. Introduction to Architecture.
Ching, Francis D. K., and James Eckler. Introduction to Architecture.
Ching, Francis D. K., and Steven P. Juroszek. Design Drawing. New York: Van Nostrand Reinhold,1998. .
Ching, Francis D. K., and Steven P. Juroszek. Design Drawing. New York: Van Nostrand Reinhold, 1998. .
Ching, Francis D. K., Architecture: Form, Space, and Order. Hoboken, N.J: John Wiley & Sons, 2007.
Ching, Francis D. K., Architecture: Form, Space, and Order. Hoboken, N.J: John Wiley & Sons, 2007.
Craven, C. Roy. Indian Art a Concise History.
Deepak John Mathew.Principles of design through photography.Wisdom Tree Publishers
Donna Kato & Natson Guptill, The art of Polymer Clay
Douglas Cooper., Drawing and Perceiving. John Wiley & Sons.
Douglas Cooper.Drawing and Perceiving.WILEY
Edward D. Levinson., Architectural Rendering Fundamentals. McGraw-Hill
Edward D. Levinson. Architectural Rendering Fundamentals.McGraw-Hill
Eric brought. Islamic Geometric Design.Thames & Hudson
Eugene Felder & Emmett Elvin, The complete book of drawing techniques, by
George Michell, Snehal Shah. Ahmadabad. Marg Publications, 1988
Helmut Pottmann., Architectural geometry. Bentley Institute Press Illustrated story of art. DK Publications.
Helmut Pottmann. Architectural geometry.Bentley Institute Press
Henry Wilson.Pattern and ornament in the arts of India.Thames & Hudson
Hilary French.Key Urban Housing of the Twentieth Century: Plans, Sections, and Elevations. W.W.Norton
Jaya Jaitly.Craft atlas of India. Niyogi Books
K. Mankodi. The queen's stepwell at Patan.Project for Indian Cultural Studies
Krier, Rob. The element of Architecture. Academy Editions, London, 1992.
Lorraine Farrelly. Representational Techniques. Fairchild Books AVA
Lorraine Farrelly.Representational Techniques.Fairchild Books AVA
Magnet, Jacque. The Aesthetic Experiences: An anthropologist looks at Visual Art.
Manosi Lahiri. Mapping India.Niyogi Books

ARCH 208: WORKSHOP -II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
STUDIO									INT	EX		INT	EX				
ARCH 208	PC	SK	STUDIO	WORKSHOP II			2	2					50	50	100	100	

L - THEORY, S - STUDIO, T - TUTORIAL, C - CREDIT, HRS: HOURS, MST - MIDTERM TEST, A MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS FOMO FINAL Session of INTERNAL, EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

Martin Dawber. Contemporary illustration. Batsford, 2007
Martin Dawber. Contemporary illustration.Batsford, 2007
Meenakshi Jain, Kulbhushan Jain, Meghal Arya.The architecture of a royal Camp.AADI Centre
Michael E. Doyle. Colour Drawing. Wiley
Michael E. Doyle. Colour Drawing. Wiley
Michell George, Snehal Shah. Ahmadabad.Marg Publications
Owen Jones.The grammar of ornament.B. Quaritch
Phil Metzger. The Art of Perspective: The Ultimate Guide for Artists in Every Medium. North Light Books, 2007
Phil Metzger. The Art of Perspective: The Ultimate Guide for Artists in Every Medium.North Light Books, 2007
Pierre von Meiss. Elements of Architecture: From Form to Place.Routledge
Preble, Duame. Art Forms.
Ray Smith. Artists Handbook. DK Publications.
Ray Smith. Artists Handbook. DK
Richard Poulin., Graphic design +architecture. Rockport Publishers
Richard Poulin.Graphic design +architecture.Rockport Publishers
Richard Rush.The Building Systems Integration Handbook.Architectural Press
Richard Weston. Key Buildings of the 20th Century: Plans, Sections and Elevations.W. W. Norton & Company
Robert W. Gil. Rendering with pen and ink. Thames & Hudson
Robert W. Gil., Rendering with pen and ink., Thames & Hudson
Roger H. Clark, Michael Pause. Precedents in Architecture.John Wiley & Sons
Snyder, C. James and Catanese, J. Anthony. Introduction to Architecture.
Tapert, Annette. Swid Powell: Objects by Architects. Rizzoli, New York, 1990.
The illustrated story of art. **DK**
Thyagarajan. Basic practical photography
Tim Mc Creight & Nicole Bsullak Color on Metal
V S Parmar. Design Fundamentals of Architecture.Somaiya Publications
Wilson William Atkin. Architectural Presentation Techniques. Van Nostrand Reinhold
Wilson William Atkin. Architectural Presentation Techniques.Van Nostrand Reinhold

ARCH 209: BUILDING SYSTEMS AND SERVICES -II WATER SUPPLY & SANITATION

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 209	BS&AE	TE	THEORY	BUILDING SYSTEMS & SERVICES-II (WATER SUPPLY & SANITATION)	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 209: BUILDING SYSTEMS AND SERVICES -II WATER SUPPLY & SANITATION

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hrs.

COURSE OBJECTIVE:

To introduce and expose the students to various ways to provide information on the principles and appurtenance of water supply and sanitation systems.

COURSE OUTCOME:

At the end of the course, students will be able to -

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

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

To enable students to design sanitary and water supply systems for buildings, and prepare water supply and drainage plans for building sites.

COURSE OVERVIEW:

Understanding the significance, design, and functioning of water and sewerage systems as essential components in building design and site planning.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1	Water supply, Plumbing & Drainage	• Water supply, Sanitation & Drainage System: Principles & Design • Water Supply. • Piping systems - in low, medium, high-rise buildings & residential layouts; • Case studies & design problems; Codes & standards; Symbols for representation. • Sanitation: Plumbing drawing. • Drainage: • Rainwater's harvesting & Clearance system. • Solid Waste Management: • Roads and Pavements • Plumbing And Fire Fighting Layout Of Simple Buildings: Water supply, Plumbing Water-related supply systems Potable & Usable water's supply-storage and sewage, Rainwater's harvesting & Clearance system. Water	10 hrs.

ARCH 209: BUILDING SYSTEMS AND SERVICES -II WATER SUPPLY & SANITATION

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY									INT	EX		INT	EX				
ARCH 209	BS&AE	TE	THEORY	BUILDING SYSTEMS & SERVICES-II (WATER SUPPLY & SANITATION)	2			2	20	30	50	100				100	3

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW- INTERMEDIATE REVIEW

	consumption for various activities & designing the plumbing system.	
2	• Drainage General principles of drainage, manholes, grease chambers Principles of design of drainage lines, drainage layouts Refuse, different forms of refuse garbage, sullage, toilet waste, and stormwater collection and disposal systems. Drainage in non-municipal areas – soak wells and septic tanks.	10 hrs.
3	• Solid Waste Management: • Roads and Pavements Plumbing And Fire Fighting Layout of Simple Buildings:	10 hrs.

SUGGESTED READINGS:

A. Kamala & DL Kanth Rao, Environmental Engineering, Tata McGraw – Hill publishing company Limited.
Charanjit Shah, Water supply and sanitary engineering, Galgotia publishers.
E.G.Butcher, Smoke control in Fire-safety Design.
Husain, S.K. T.B. of Water Supply and Sanitary Engineering, 3rd Ed. Oxford and IBH Pub. Ltd., New Delhi, 1994.
Kshirsagar, S.R. Water Supply Engineering, 6th Ed. Roorkee Pub., Roorkee, 1980.
M.David Egan, Concepts in Building Fire Safety.
National Building Code 2005.
S.C.Rangwala, Water supply, and sanitary engineering, Charotar publishing house.
Technical Teachers Training Institute (Madras), Environmental Engineering, Tata McGraw Hill Publishing Company Limited.
V.K.Jain, Fire Safety in Building; Olgay, Victor. Design With Climate – Bio-Climatic Approach to Architectural Regionalism. New Jersey: Princeton University Press,1963
Laureano.Water conservation techniques in traditional human settlements.Ghaziabad: Copal,2013
Water.London:Dorling Kindersley,2006
Construction Technology Volume -1 & 2 - BY R. Chudly ;Construction Technology Volume -1 & 2 BY R. Barry 18. Construction Technology - BY B.C. Punamiya; Building Construction Illustrated - Franis D.K. Ching

ARCH 210: INTERNSHIP – I

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
FIELD WORK									INT	EX		INT	EX				
ARCH 210	SEC	SU	INTERNSHIP	INTERNSHIP I			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 210: INTERNSHIP – I

SUMMER INTERNSHIP

Syllabus: 5 weeks (6 hours/week) Total Teaching hours: 30 Hr.

COURSE OBJECTIVE:

- To allow the student to see how classroom concepts and skills are professionally practised.
- To expose students to aspects of landscape architecture, planning, and design that are best experienced in practice.

COURSE OUTCOME :

At the end of the course, students will be able to

- Gain an understanding of workplace dynamics, professional expectations, and the influence of culture on both.
- Build proficiency in a range of business or industry skills appropriate to the field of the internship placement, including professional and inter-cultural communication through written, verbal, and non-verbal means.
- Refine and clarify professional and career goals through critical analysis of the internship experience or research project
- Give academic value to the internship.
- Add an analytical dimension to the overall experience
- Encourage a professional approach to academic work

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

At the end of the course, students will be able to

- Ability to translate skills and knowledge of architecture acquired at university into a professional setting.
- Knowledge of the professional practice of architecture.
- Increased skills in performing tasks in a professional office
- Increased ability to communicate in a professional setting
- Increased understanding of the social and ethical role of the architect
- Advanced skills in using software applications in a professional context

By the end of this course, students will be able to articulate a reflection and draw personal insights related to their own beliefs and worldviews about individuals and society, based on the cultural and professional dimensions of their experience, namely:

• what makes their company succeed – or not – in its field, how it operates as a community and in the community, what main issues it has to face, both internally and on the market;

• what it takes to work in/with other cultures (and/or languages) and to adapt to an unfamiliar environment to be part or at the service of a new community, how to approach cultural differences in their daily experience and what they can learn from them, both about themselves and others – as individuals but also as part of a global world;

• what they can bring to a professional environment, how they can draw skills from experience and process challenges, how they can contribute to a company's project and community ;

• who they are as a result of this growing process, in terms of civic-mindedness, cultural awareness, professional goals, and personal aspirations.

COURSE OVERVIEW:

Students will develop professional skills & understanding.

COURSE CONTENTS:

COURSE CONTENT

ARCH 210: INTERNSHIP – I

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
FIELD WORK									INT	EX		INT	EX				
ARCH 210	SEC	SU	INTERNSHIP	INTERNSHIP I			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL, C - CREDIT; HRS: HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
		This course provides an opportunity for students to experience a working environment in an architecture firm in which to observe and apply their knowledge and skills for the degree. Projects will be negotiated between the School and the host organisation, involving students in a variety of design stages from preliminary design, design development, documentation, and presentation to a client. Students may also be involved in meetings, clerical work and administration to gain insight into the day-to-day functioning of a business. The course will be offered to students based on academic merit through a competitive application and interview process. Students must complete the course to the satisfaction of the host organisation and academic supervisor	

GUIDELINES

The place of the internship is to be finalised and displayed on the Institute Notice Board fifteen days in advance of the commencement of the vacation

Internship: During the internship phase (last seven weeks of the program), students will be working at their internship placement around 28 hours a week, from Mondays to Thursdays

NOTE: Evaluation is to be done through viva voce by an external examiner appointed by the university at Institute. Portfolios, after the university exam, shall be retained at the Institute level for the viva–voice

Evaluation: Stages: Proposal and on final submission of the paper /DOCUMENTATION of places visited Students contribute to the topic/area is of critical importance.

detailed out as per the academic calendar

a paper presentation on any subject of interest in the core or elective subjects.

The student needs to identify an area for research and in consultation with a guide propose first. On approval, this is to be developed through the summer and culminate as a research paper. Requirements (from students): Proposal, reviews, final presentation and paper.

a summer case study where the student has to select a built building by one of the architects and have a live document the building and analyse the building and a word of the concept according to the architect.

FRAUD AWARENESS

Students are reminded that to maintain the academic integrity of all programs and courses, the university has a zero-tolerance approach to students offering money or significant value goods or services to any staff member who is involved in their teaching or assessment. Students offering lecturers or tutors or professional staff anything more than a small token of appreciation is unacceptable, in any circumstances. Staff members are obliged to report all such incidents to their supervisor/manager, who will refer them for action under the university's student disciplinary procedures.

ATTENDANCE PENALTIES FOR THIS COURSE*

1 absence from a workshop = 1 point off the course final grade

ARCH 210: INTERNSHIP – I

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
FIELD WORK									INT	EX		INT	EX				
ARCH 210	SEC	SU	INTERNSHIP	INTERNSHIP I			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

1 absence from work (internship placement) = 1 point off the course final grade
more than 3 unexcused absences = f for the course
unsubmitted written work* = f (0 points) for the assignment in question
work handed in late = 1 point off the assignment per day
unsubmitted midterm evaluation = 2 points off the course final grade
poorly filled out midterm evaluation = 1 point off the course final grade
plagiarism = f (0 points) for the assignment in question
* past Friday – week 15 (11:59 pm), no written work will be accepted (grade for the assignment = 0).

WRITTEN WORK Total length for all assignments combined: 15 pages in English General goal These written assignments will cover all aspects of the internship experience: the company, the sector, the intercultural experience, and the individual professional development. The final result will be a comprehensive account of the experience and its impact. Each section must incorporate elements related to the student's internship credits.

Analytical Approach

The general idea for this course is to encourage students to truly reflect on the varied subjects it covers, and not merely state facts and observations. The first crucial step for this consists in raising the right questions. Investigation (within the company, through research, through self-questioning) follows, allowing to find nuanced answers or further questions. Organized Outline This writing process is the opportunity to put into practice, a method consisting in organizing ideas in a structured outline. The format includes visible titles and subparts with explicit titles for all sections. Specific angles General Introduction The introduction will present the student's background, motivations and initial goals for the internship.

The Company and its Sector: In this section, the student must show an insider's understanding of the organization, not only through a clear description of the company, what it does/offers, and how it operates internally, but also through an analysis of its strengths and weaknesses, of the general context in which it operates, of the challenges it faces, of its identity as a community and position in a border community. It should NOT be written in the first person.

The Intercultural Experience: In this section, the student will account for his/her experience and understanding of cultural differences, both on a general scale, as a process of adjustment, and through specific examples related to human relationships, work environment and ethics, the vision of life or society and issues related to the sector.

The Professional Experience: In this section, the student will recount his/her internship experience in terms of missions and tasks, but also in terms of accomplishments, challenges, lessons, developed skills or competencies, and contribution to the community.

General Conclusion The conclusion will focus on the outcomes of this experience, how the student has evolved, what kind of professional they aspire to be and how this experience will impact future professional or personal choices. Assignments will be emailed as Microsoft Word documents. Methodological handouts and readings are available on Blackboard. Please note: it is the students' responsibility to organize their time and respect deadlines.

Employment Requirements and Internship Initiation Summary:

1. Minimum of 4-5 weeks (summer semester) of full-time work. For summer interns, this allows securing a position as late as June 1st, and working until fall classes begin. Note that internships may begin as early as 4th-year schedules can be arranged, providing a 7-8 month opportunity.
2. Must be under the supervision of a graduate Architect or other design professional. Registered Architects, Engineers, and Certified Planners also qualify.
3. Submit 2 copies of the Internship Program Application to the Internship Coordinator, before starting the internship.

Notes

• the internship should be supervised by a licensed or registered design professional (LA, Architect, Planner, Engineer). However, the qualification as a graduate design professional is also acceptable.

ARCH 210: INTERNSHIP – I

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
FIELD WORK									INT	EX		INT	EX				
ARCH 210	SEC	SU	INTERNSHIP	INTERNSHIP I			2	2					50	50	100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS; MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

• For Design-Build settings, there must be another landscape architect on the staff (if not registered, then someone with an LA degree). Internship work must have a design/office component, preferably at least 50% of the time. Credit is not given for "build" work only.
• For Arboretum/Botanical Garden settings, must be supervised by an LA or professional horticulturist. An office component is desirable, but if the internship involves outdoor training, etc., there should be no problem.
• With unusual internship opportunities, it's required to talk with the Intern Coordinator ahead of time.
• If you are having trouble locating an internship, contact the Intern Coordinator. For year students and Grads: even if an internship has not been secured for the summer, advance enrols. If an internship is not secured, an incomplete will be given in the fall, allowing an additional year to satisfy the requirements. If you fall in this category, talk to the Internship Coordinator.
• Intended primarily to give students office experience, the program is flexible enough to allow a balance of both in the field, and in the office situations, if appropriate. Positions involving only site construction or maintenance, while valuable in their own right, are not permitted for internship credit.

Requirements:

1. Submit at least 3-weekly reports during the internship (form will be sent to internship location, by intern coordinator).
2. Paper – A 2-page, single-spaced, paper describing your experience, specifically discussing office structure, clients, responsibilities, and accomplishments, is due the first Monday of October.
3. An 8 1/2" x 11" graphic brochure describing your place of employment with appropriate contact information is due the first Monday of October.
4. Mentoring – Work with at least one student and assist them in focusing their search and acting as a resource. Identify students, contact them and meet with the Internship coordinator. Work with them to create a one-page plan by the first Monday of December.
5. Panel display – A panel will be assigned for you to create an interesting display describing your internship and place of employment. This will be up for 2 weeks beginning It is the responsibility of the student to display and remove it promptly.

ARCH 219: ELECTIVE – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/ STUDIO									INT	EX		INT	EX				
ARCH 219	SEC	SU	ELECTIVE-II(POOL I)	ELECTIVE- II (POOL I)			2	2					100		100	100	

L - THEORY, S- STUDIO, T -TUTORIAL, C - CREDIT, HRS: HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

ARCH 219: ELECTIVE – II

Syllabus: 15 weeks (2 hours/week) Total Teaching hours: 30 Hr.

2 Sem		ELECTIVE- II (POOL I)
	219.1	TRADITIONAL ARTS & CRAFTS/BUILDING & VILLAGE DOCUMENTATION
	219.2	MS OFFICE /PREZI/PPT /PHOTOSHOP
	219.3	FILM & ART APPRECIATION
	219.4	MOOC: Models in Architecture – design through physical & digital models EDX

COURSE OBJECTIVES:
overall nurturing of the student with issues in practice and field outside

COURSE OUTCOME
At the end of the course, students will be able to -overall nurturing of the student with issues in practice and field outside
better grooming than just books and theories.:
EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:
better grooming than just books and theories.

COURSE OVERVIEW:
The following is a representative list of Institute projects: Seminars, Tutorials/ additional classes for any course, Guest Lectures, Workshops, Providing knowledge to support students being sensitive design;

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
1		The creative electives provide an opportunity to express talents that are different from architecture but related to imagination, visualization & creation. They offer hands-on experience of unique ingenuity & workmanship. The essence of a creative domain can be achieved by exploring different materials, techniques, and processes; developing creative products; finishing & presenting the product for the concepts evolved. The outcome will be through portfolio & presentations. • As Per Pool Electives Choices Stage I odd semester pool	

GUIDELINES
The topic of the project is to be displayed on the Institute Notice Board fifteen days in advance of the commencement of the classes

NOTE: Evaluation is to be done through viva voce, Portfolios after the university exam shall be retained at the Institute level for the viva–voice

Traditional arts and crafts	Students will be learning about the field of Art and Craft from a traditional point of view, Students will learn the culture and heritage of vernacular arts and craft The student will be able to interpret a work of art and craft Overview of the theories prevalent in Traditional Arts and Craft, To Identify, map, document and analyze Traditional & Vernacular Building (TVB) and Space Making Crafts

ARCH 218: ELECTIVE – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/ STUDIO									INT	EX		INT	EX				
ARCH 219	SEC	SU	ELECTIVE-II(POOL I)	ELECTIVE- II (POOL I)			2	2					100		100	100	

L - THEORY; S- STUDIO, T -TUTORIAL; C - CREDIT; HRS: HOURS, MST - MIDTERM TEST, A.MST - AVERAGE OF MIDTERM, ESUE - END SEMESTER UNIVERSITY EXAMINATION; IA - INTERNAL ASSESSMENT PROGRESSIVE, SS- FOLIO FINAL Sessional (INTERNAL), EV - EXTERNAL VIVA VOICE, RVW - INTERMEDIATE REVIEW

(SMCs) & Space Surface Crafts (SSCs). And to conduct research and analysis of craftspeople, craft communities and clusters related to the building sector. The chronological history of Traditional Art and Craft (India and Abroad). Application of selected Arts and crafts in a different industry. Develop an understanding of the field through hands-on workshops. Exposure to other cultures has greatly influenced the traditions and culture of the different region

MS Office/PREZI/PPT/PHOTOSHOP

The student will learn about Word, PowerPoint, Excel and other related software Student will learn various aspects, and use of software in a professional manner
Getting started - The Word/PowerPoint/Excel window, new documents. Document navigation Editing text, Working with text, The Undo and Redo commands, Cut, copy, and paste, Find and replace Text formatting, Character formatting, Tab settings, Paragraph formatting, Paragraph spacing and indents Tables, Creating tables, Working with table content, Changing the table structure Page layout, Headers and footers, Page setup Graphics, Adding graphics and clip art, Working with graphics Proofing, ing, and exporting, Spelling and grammar, AutoCorrect, ing and exporting documents

Course Outcomes:

At the end of the course, students will be able to –

- Find out about using, PowerPoint, Excel and other related software
- Find out about various aspects, use of software in a professional manner
- Demonstrate the use of MS Office as a holistic software.

Syllabus: 15 weeks (3 hours/week) **Total Teaching hours: 45Hr**

Unit No.	Syllabus: Topic	Sub Topic	Teaching hours:
1	Getting started	The Word/PowerPoint/Excel window New documents Document navigation	3 hours
2	Editing	Working with text The Undo and Redo commands Cut, copy, and paste Find and replace	6 hours

ARCH 219: ELECTIVE – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/ STUDIO									INT	EX		INT	EX				
ARCH 219	SEC	SU	ELECTIVE-II(POOL I)	ELECTIVE- II (POOL I)			2	2					100		100	100	

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3	Text formatting	Character formatting Tab settings Paragraph formatting Paragraph spacing and indents	9 hours
4	Tables	Creating tables Working with table content Changing the table structure	6 hours
5	Page layout	Headers and footers Page setup	9 hours
6	Graphics	Adding graphics and clip art Working with graphics	5 hours
7	Proofing, printing, and exporting	Spelling and grammar AutoCorrect Printing and exporting documents	5 hours

ART AND ARCHITECTURAL APPRECIATION/ Film Appreciation	to understand and appreciate art in terms of its form, content and context through the study of works of art over history to develop a sensitivity towards aesthetics which is a necessary component of architecture. Introduction to art: fundamentals of art: principles: content: nature/issues of art: central problems of design theory, form and formalism elements: Introduction to the field of cinema. The student will be able to develop a sensitivity towards cinema as a medium, and the student will learn about the key moments in the history of cinema. The students will understand the process of filmmaking. An overview of the history of cinema, Understanding and analysis of critically important films

ARCH 219: ELECTIVE – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
									THEORY				STUDIO				
					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/ STUDIO									INT	EX		INT	EX				
ARCH 219	SEC	SU	ELECTIVE-II(POOL I)	ELECTIVE- II (POOL I)			2	2					100		100	100	

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course Outcomes:

At the end of the course, students will be able to –

- Relate to different works of art
- Demonstrate the processes involved in artistic production
- Analyse and interpret the role and effect of arts in society, history and world culture

Unit No.	Syllabus: Topic	Sub Topic	Teaching hours:
1	Introduction to Art Appreciation	Explore the concept of art Theories of art aesthetics and how to apply them to an artwork Formal art criticism and will apply these steps to various artworks	3 hours
2	Elements of Art	Elements of Art include: line, shape, form, value, colour, space, and texture Elements in a variety of artworks to increase fluency in artistic perception Basic representations of the elements to develop confidence in creative expression	3 hours
3	Principles of Design	Principles of Design include: balance, rhythm, movement, contrast, emphasis, and unity Principles in a variety of artworks to increase their fluency in Artistic Perception Basic representations of the elements to develop confidence in creative expression	6 hours
4	Art Making	Art-making techniques of drawing, painting, sculpture, printmaking, and photography Materials used and the techniques artists most often utilize in their artmaking understanding of the materials and methods of creative expression	6 hours
5	Art History Early Civilizations	Art from the earliest known civilizations including rock/wall art, sculpture, and architecture Artworks and architecture from Ancient Egypt, Ancient Greece, and Rome Cultural background and context for a holistic understanding of the historical and cultural	3 hours
6	Early Christian to Gothic	Artworks and architecture from the Early Christian Era, Byzantine Era, and Islamic cultures	3 hours

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
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					L	T	S	CREDIT	2 -TERM EXAM 20%	TA 20%OR 30%	ESUE 40%OR 50%	TOTAL	TA 10% OR 50%	EV 10% OR 50%	TOTAL		
THEORY/ STUDIO									INT	EX		INT	EX				
ARCH 219	SEC	SU	ELECTIVE-II(POOL I)	ELECTIVE- II (POOL I)			2	2					100		100	100	

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7	Renaissance to Rococo	Art of the Proto-Renaissance, Renaissance, Mannerism, Baroque, and Rococo eras, including major socio-political changes, artmaking differences, stylistic differences, and accompanying works Shifts in medium (introduction of oil paints) and techniques (chiaroscuro and tenebrism) as part of	6 hours

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

- Take part in active viewing of cinema and develop one's informed perspective through personal engagement with films using analytical tools and techniques
- Analyse that content, form, and contexts work together to create meaning in the film
  Adapt to using the key concepts, models and tools used in film criticism

Syllabus: **15 weeks (3 hours/week)** **Total Teaching hours**: **45 Hrs.**

Sr.No.	Syllabus: Topic	Sub Topic	Teaching hours:
1	Film vs. Theatre	Differences and similarities between film and theatre • Stage vs. screen	6 hours
2	Films	• Types of films Timeline of filmmaking – black and white to 3D experience	9 hours
3	Movies for Fun & Profit, Art & Communication	• Movies and their roles in our lives • Film: looking for meaning • From theatres to Netflix to iPhones• The current film landscape	9 hours
4	Film and Its Impact on Society	• Films beyond just entertainment • Pushing the envelope: Case studies	12 hours
5	Criticism and Analysis	• What is a critic? • Approaches to analysis and interpretation	9 hours

Methods of Architectural documentation/ Building and village documentation	The student will be able to create a measure drawing set of a building at the end of the course. The student will be able to measure a building. The student will be able to use different ways like sketching, photography, etc. to document a building

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
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THEORY/ STUDIO									INT	EX		INT	EX				
ARCH 219	SEC	SU	ELECTIVE-II(POOL I)	ELECTIVE- II (POOL I)			2	2					100		100	100	

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Different modes of Documentation: Measured Drawings, Sketches & Diagrams, Photographic Documentation, Texts - Audios, Video – Documentary

COURSE OUTCOMES:

At the end of the course, students will be able to -

- Illustrate the use of various techniques of architectural documentation
- Demonstrate the skills and prepare the framework of an architectural documentation
- Create an architectural work portfolio

Syllabus: 15 weeks (3 hours/week) **Total Teaching hours: 45 Hrs**

Sr.No.	Syllabus: Topic	Sub Topic	Teaching hours:
1	Introduction to techniques of documentation	• Written and visual documentation • Photographic documentation • Video documentation	12 hours
2	Content writing and a framework of a portfolio	How to create content for making an effective portfolio? Graphics and framework of a portfolio Learn the skills required for making a portfolio	15 hours
3	Portfolio	• Compositions and layouts Create a portfolio	18 hours

4. MOOC

COURSE OBJECTIVE:

overall nurturing of the student with issues in practice and field outside

COURSE OVERVIEW:

The following is a representative list of what may :
Tutorials/ additional classes for any course on online mode of platforms, Provides knowledge to support student being sensitive to design;

- a paper presentation

ARCH 219: ELECTIVE – II

COURSE	CORE	COURSE AREA	COURSE TYPOLOGY	NAME OF THE COURSE	TEACHING SCHEME				EVALUATION SCHEME							TOTAL MARKS	EXAM DURATION (HRS)
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THEORY/ STUDIO									INT	EX		INT	EX				
ARCH 219	SEC	SU	ELECTIVE-II(POOL I)	ELECTIVE- II (POOL I)			2	2					100		100	100	

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COURSE OUTCOME:

EXPECTED SKILLS / KNOWLEDGE TRANSFERRED:

better grooming than just books and theories.

COURSE CONTENTS:

SR. NO.	SYLLABUS: TOPIC	SUBTOPIC	TEACHING HOURS:
		• The creative MOOC provide an opportunity to access a different form of architecture related to imagination, visualization & creation. They offer the experience of unique ingenuity, theory or workmanship. The essence of the creative domain can be achieved by exploring different materials, techniques, and processes; developing creative products/theories; finishing & presenting the product for the concepts evolved. The outcome will be through portfolio & presentations. Where these workshops or MOOCs help them explore the different topics relevant to individual interests and in the palette of choices for the semester •	