Institute of Architecture and Planning
Teaching & Examination Scheme
Bachelor of Architecture

Semester-I

w. e. f. Academic Year 2026-27

Course Code	Course Title	Teaching Scheme (hours/semester)							Examination Scheme			
		L	W	T	S	OLA	TH	C	Duration (hours)	Component Weightage		
									SEE	CE	LPW	SEE
	Basic Design and Visual arts	-	-	-	135	135	270	9	-	0.5	0.5	-
	History of Architecture and Culture - I	45	-	-	-	45	90	3	3	0.25	0.25	0.5
	Architectural Documentation Techniques, Surveying and Levelling	30	30	-	-	60	120	4	-	0.5	0.5	-
	Architectural Graphics & Drawings		60	-	-	60	120	4	-	0.5	0.5	-
	Structural Design and Systems - I	15	30	-	-	45	90	3	-	0.5	0.5	-
	Communication Skills	-	45	-	-	45	90	3	-	0.5	0.5	-
	Yoga	-	30	-	-	30	60	-	-	-	1	-
	Social Work/NSS-I	-	30	-	-	30	60	-	-	-	1	-
	Winter School/Summer School*	-	90	-	-	-	90	-	-	-	1	-
	Total	**90**	**315**	**-**	**135**	**450**	**990**	**26**				

1 Credit is equivalent to 30 notional learning hours.

L: Lecture, T: Tutorial, P: Practical, C: Credit TH = Total Learning hours for a particular course in a semester, Other Learning Activities (OLA) includes assignment, expert lecture, site visit, software application, coding, poster/chart preparation, case studies, industrial visit, etc.
CE: Continuous Evaluation, LPW/PW: Laboratory / Project Work SEE: Semester End Examination,

w.e.f. for first year students admitted in 2026-27.

CLO and Course content of the Proposed courses, Semester I

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	
Course Title:	**Basic Design & Visual arts**
Course Type:	Core
Year of introduction:	**2025**

L	**T**	**Practical component**				**C**
		LPW	**PW**	**W**	**S**	
-	**-**	**-**	**-**	**-**	**9**	**9**

Course Learning Outcomes (CLO):

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

- Develop basic vocabulary of Design and Architecture **[BL3]**
- Interpret visual literacy and visual expression **[BL2]**
- Interpret, represent and communicate design using visual expression **[BL5]**

Content: 15 weeks (9 hours/week) **Total Teaching hours: 135 Hrs**

Unit	Content	Teaching hours
Unit-I	Introductory exercises based on 'Learning by doing' and its presentation enhancing visual art (visual grammar in domain of visual design) • To develop representation and communication skills through exercises involving drawing, sketching, graphic language, model-making, collage, etc • Undertake exercises to enhance creative thinking	27 hours (3 week)
Unit-II	Representation and communication of design using visual tools • Sketching, 2D & 3D drawings, painting, collage, graphic (Exploration of various materials for drawing and models) • Model making skills and explore different model making material	27 hours (3 week)
Unit-III	Cognitive skill development • Observation, perception, registration and expression • Critical thinking and application of cognitive skills in design	9 hours (1 week)
Unit-IV	Abstraction and Simplification • Simplification / abstraction of an object using basic principles and elements of design	9 hours (1 week)

	• Use of foreground- background / contrast / color • Design attributes	
Unit-V	Elements of design • The visual components of color, form, line, shape, space, texture, and value • Compositions using elements of design	9 hours (1 week)
Unit-VI	Principles of design • The design principles – Balance, emphasis, movement, proportion, rhythm, unity, and variety • Compositions using principles of design • To critique basic design composition	9 hours (1 week)
Unit-VII	Introduction to Spatial Design. To develop a small-scale design project for comprehension of design criteria and introducing to a studio based iterative process involving the following: • Understanding human activity and behaviour in space by activity mapping, anthropometric studies, etc. And to evaluate human activities in built environment. • To make, explore, feel and mould space based on design ideas/principles triggering new forms of artistic visual expressions. • Introduction to visualization and representation of an architectural environment's spatial qualities like spatial enclosure, depth, height, view, orientation, etc and tectonic characteristics like surfaces, material, shape, texture, etc • To compose architectural space in a design project.	45 hours (5 week)

Self Study:

1. Form, Space, and Order by Francis D.K. Ching
2. The Language of Architecture: 26 Principles every Architect should know by Andrea Simitch, Val Warke
3. A Visual Dictionary of Architecture by Francis D K Ching

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Tilley, A. R., & Henry Dreyfuss Associates. (2002). *The measure of man and woman: Human factors in design*. New York: Wiley.
2. Rowland, K. (1971). *Learning to see*. London: Ginn.
3. Rowland, K. (1969). *Educating the senses*. London: Ginn.
4. Rowland, K. (1964). *Looking and seeing*. Melbourne: Cheshire.
5. Rowland, K. (1981). *Pattern and shape*. Aylesbury: Ginn and Co.
6. Rowland, K. F. (1981). *The development of shape*. Aylesbury: Ginn.
7. Rowland, K. F. (1981). *The shapes we need*. Aylesbury: Ginn.
8. Thomas, R. K. (1969). *Three-dimensional design: A cellular approach*. New York: Van Nostrand-Reinhold Co.
9. Wong, W. (1972). Principles of form and design. New York: John Wiley & Sons, Inc.
10. Bates, K. F. (1979). *Basic design; principles and practice*. London: Barnes & Noble.

11. Karssen, A., & Otte, B. (2014). *Model making: Conceive, create and convince*. Amsterdam: Frame Publishers.
12. Brownell, B. E. (2017). *Transmaterial next: A catalog of materials that will redefine our future*. New York: Princeton Architectural Press.
13. Neufert, E., Neufert, P., & Kister, J. (2012). *Neufert*. Oxford: Wiley-Blackwell.
14. Ching, F. D. K., & Eckler, J. F. (2013). *Introduction to architecture*. Hoboken: Wiley.
15. Ching, F. D. K. (2007). *Architecture–form, space, and order*.
16. Jones, W. (2011). *Architects' sketchbooks*. London: Thames & Hudson.
17. Ching, Francis D. K. Architectural Graphics. New York: Van Nostrand Reinhold, 1975. Print.
18. Berger, John. Ways of Seeing. New York, Viking Press, 1972
19. Lidwell, William; Kritina Holden; Jill Butler (2010). Universal Principles of Design (2nd ed.). Beverly, Massachusetts: Rockport Publishers. ISBN 978-1-59253-587-3.
20. White, Alex (2011). The Elements of Graphic Design. New York, NY: Allworth Press. Pp. 81–105. ISBN 978-1- 58115-762-8.
21. Arthur L Guptill; Rendering with Pen and Ink; Watson-Guptill Publications, 1997. ISBN 0823045293, 9780823045297
22. William Wilson Atkin; Architectural Presentation Techniques; Van Nostrand Reinhold Co., 1976. ISBN 0442203616, 9780442203610
23. Anja Hartmann; Unusual Architectural Presentation Drawings; Page One Publishers, 2007. ISBN 9812452141, 9789812452146
24. Frank Lohan; Pen and Ink Techniques; Contemporary books, 1978. ISBN 0486157686, 9780486137681
25. International library of Technology; Elements of Pen and Ink Rendering, Rendering with Pen and Brush,
26. BiblioBazaar, 2010. ISBN 1171598823, 9781171598824
27. Mike W Lin, Architectural Rendering Techniques: A Color Reference; John Wiley and Sons, 1985. ISBN 0471289396, 9780471289395
28. Tibor K Karsai, The Airbrush in Architectural Illustration; Van Nostrand Reinhold, 1989. ISBN 0442246900, 9780442246907
29. Arthur L Guptill, Drawing with Pen and Ink: And a word about the brush; Literary Licensing, LLLC, 2013.
30. Arthur L Guptill, Drawing and Sketching in Pencil; Courier Corporation 2012. ISBN 0486136485, 9780486136486

Nirma University

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	
Course Title:	**History of Architecture & Culture-I**
Course Type:	**Core**
Year of introduction:	**2025**

L	**T**	**Practical component**				**C**
		LPW	**PW**	**W**	**S**	
3	**-**	**-**	**-**	**-**	**-**	**3**

Course Learning Outcomes (CLO):

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

- Interpret the purpose and place of humans in the world [BL2]
- Infer the concept of culture (Theory and ideology) and the social and cultural environment [BL2]
- Interpret the linkages between social, cultural and Built environment [BL5]
- Illustrate the geography of building materials / resources/ construction [BL2]
- Evaluate the creation of different cultures and the impact of other factors on their architecture [BL4]
- Interpret the impact of factors that shape architecture within a culture [BL5]

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

Unit	Content	Teaching hours
Unit-I	• Geographical Cultures and Human Diversity • Organization, social stratification • Making a Living -Economics • Gender, Marriage, Family, and Domestic Groups	6 hours
Unit-II	• The Idea of Culture - Theory and History • Elements of culture • Symbols and culture • Culture and Religion, • Creative Expressions – Art, Craft and Culture	6 hours
Unit-III	• Introduction to Indian Society- Roots of Indian Society • Social Structure – Rural and Urban Contexts • Social Institutions in Indian Society; Caste, Tribe, women etc • Languages and Literature in India	6 hours
Unit - IV	• Culture and Built Environment	6 hours

	• People, shelter and Home • Place making and cultural expressions	
Unit – V	Prehistoric architecture – • Introduction to early and prehistoric architecture • Logical and structural transformation of building system	6 hours
Unit – VI	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	15 hours

Self Study:
Suggested List of Experiments:
Suggested Case List:

Suggested Readings/ References:

1. Bronowski, Jacob. (1974). The Ascent of Man. Boston: Little, Brown.
2. Brown, Percy. (1965). Indian Architecture. Bombay: D. B. Taraporevala.
3. Ching, Francis D. K., Mark Jarzombek, and Vikramaditya Prakash. (2007). A Global History of Architecture. Hoboken, NJ: John Wiley & Sons.
4. Giddens, Anthony. (1996). Introduction to Sociology. New York: W.W. Norton.
5. Jarzombek, Mark. (2013). Architecture of First Societies: A Global Perspective. Hoboken, NJ: Wiley.
6. Johnson, Harry Morton. (1960). Sociology: A Systematic Introduction. New York: Harcourt, Brace.
7. Pearce, F. G. (1965). An Outline History of Civilization. Bombay: Oxford University Press.
8. Soergel, Philip M. (2005). Arts & Humanities through the Eras. Detroit: Thomson Gale.
9. Stallabrass, Julian. (2006). Contemporary Art: A Very Short Introduction. Oxford: Oxford University Press.
10. Tadgell, Christopher. (1990). History of Architecture in India. London: Architecture Design and Technology Press.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	
Course Title:	**Architectural Documentation Techniques, Surveying and Levelling**
Course Type:	Core
Year of introduction:	**2025**

L	**T**	**Practical component**				**C**
		LPW	**PW**	**W**	**S**	
-	**-**	**-**	**-**	**4**	**-**	**4**

Course Learning Outcomes (CLO):

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

- Infer the role of architectural documentation, surveying, and leveling in the architectural design and construction process. **[BL2]**
- Illustrate and apply various architectural documentation techniques, including accurate measured drawings of buildings and architectural elements. **[BL4]**
- Demonstrate basic surveying skills, including leveling and contouring, to document site topography and prepare survey drawings for architectural applications. **[BL2]**

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

Unit	Content	Teaching hours
Unit-I	Introduction to Architectural Documentation • Importance of documentation in architecture • Types of architectural documentation: drawings, written records, photographs • Architectural drawing standards and conventions • Scales, dimensioning, symbols, and notation • Introduction to measured drawings • Tools and techniques for architectural documentation • Introduction of surveying & Levelling	9 hours (3 week)
Unit-II	• Measured Drawing Techniques • Principles of measurement and accuracy • Methods of measuring buildings and spaces • Documentation of small structures and building elements • Recording plans, sections, elevations, and details • Introduction to photographic documentation and sketching on site • Compilation and presentation of measured drawing sets	21 hours (7 week)
Unit-III	Surveying & Levelling Techniques • Linear Measurements • Measurements of Angles • Plane table surveying • Curve Setting • Construction surveying	15 hours (5 week)

	• Advanced Surveying (Total Station, GPS, Photogrammetry, Remote Sensing)	

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Arora, K. R. (2012). Surveying (Vols. 1–2). Standard Book House.
2. 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
3. Barry, R.. Construction of Buildings Vol - 1: Foundations and Oversite Concrete, Walls, Floors, Roofs. New Delhi: Affiliated East-West Press Pvt. Ltd., 1999
4. Ching, F. D. K. (2014). Architectural graphics (6th ed.). John Wiley & Sons.
5. Ching, Francis D. K.. Visual Dictionary of Architecture. Delhi: Wiley India (P) Ltd., 2012
6. Ching, Francis D. K.. Building Construction Illustrated. Delhi: Wiley India (P) Ltd., 2012
7. Chudley, R.. Building Construction Handbook. Oxford: Butterworth-Heinemann Ltd., 2010
8. Ford,Edward R. Details of modern architecture, Vol. 2: 1928 to 1988. London: Mit Press, 2003
9. Gambhir, M. L.. Building Materials: Products, Properties and Systems. New Delhi: Tata McGraw Hill Education Private Limited, 2011
10. McKay J. K.. Building Construction Vol - 2: Metric. Delhi: Pearson Education Asia Pte. Ltd., 2014
11. McKay, J. K.. Building Construction Vol - 3: Metric. Delhi: Pearson Education Pte. Ltd., 2013
12. McKay, J. K.. Building Construction Vol - 4: Metric. Delhi: Pearson Education Pte. Ltd., 2013
13. Mckay, W. B.. Building Construction Vol - 1: Metric. New Delhi: Pearson Education Asia Pvt. Ltd.; India, 2013
14. Neufert, E., & Neufert, P. (2012). *Architects' data* (4th ed.). Wiley-Blackwell.
15. Patel, Nimish. Stone Buildings of Gujarat. Ahmedabad: CEPT University, 2010
16. Pramar, V. S.. Wood Carvings of Gujarat. India: Publications Division Govt. of India, 2001
17. Punmia, B. C. (2014). Surveying and leveling (Vol. 1). Laxmi Publications.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	
Course Title:	**Architectural Graphics and Drawing**
Course Type:	Core
Year of introduction:	**2025**

L	**T**	**Practical component**				**C**
		LPW	**PW**	**W**	**S**	
-	**-**	**-**	**-**	**4**	**-**	**4**

Course Learning Outcomes (CLO):

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

- Make use of Orthographic Projection Drawing as a representation tool & medium of effective visual communication. [BL3]
- Maximize the potential of two-dimensional drawing as tool of design development and representation. [BL6]
- Determine various techniques to represent an idea 3-dimensionally making use of the concept of sciography and perspective [BL5]
- Develop skills related to Computer-aided design [BL6]

Content: 15 weeks (4 hours/week) **Total Teaching hours: 60 Hrs**

Unit	Content	Teaching hours
Unit-I	Orthographic Projection and Isometric views – • Geometric Construction • Drafting skills • Orthographic projection and auxiliary projection • Axonometric views, isometric views, and other views. • Projections of points, Lines and Planes • Projections of solids (Prisms & Pyramids) • Tilted Objects • Sections of Solids • Interpenetrations of Solids (Basic) • Development of Surfaces (D.O.S)	20 hours
Unit-II	Representation Techniques using drafting software – • Fundamentals of Drafting software (Setting up Scale & Units, Working with Layers, Line weights, Composition of different scaled drawings in single sheet, Plotting etc) • Advanced Geometry, Pattern making and analysis • Uses of computer-generated drawings to execute basic design ideas (Physical model & Drawings)	20 hours
Unit-III	Representation Techniques using basic 3D visualization software -	

	• Sciography On Flat (horizontal, vertical, and inclined) & Curved Surfaces • Sciography of Architectural Elements (Walls, Steps, Roof etc.) • Different Types of Perspective Drawings and it's applications. (One, Two- and Three-Point Perspective Drawing)	20 hours

Self Study: Suggested List of Experiments

Suggested Case List:

Suggested Readings/ References:

1. Bhatt, N. D. (2014). *Engineering Drawing: Plane and Solid Geometry*. Anand: Charotar Publishing House Pvt.
2. Ching, F. D. (2015). *Architectural graphics*. Hoboken: John Wiley & Sons.
3. Ching, F. D., & Juroszek, S. P. (2018). *Design drawing*. Hoboken, NJ: John Wiley & Sons.
4. Chopra, A., Town, L., & Pichereau, C. (2013). *Introduction to Google Sketchup*. New York: Wiley.
5. Cooper, D. (2007). *Drawing and perceiving: Life drawing for students of architecture and design*. Hoboken: Wiley.
6. Donley, M., & Sonder, N. (2016). *SketchUp & LayOut for architecture: The step-by-step workflow of Nick Sonder*. Bristol, RI: Bizfound.
7. Helsel, J. D. (2007). *Engineering drawing and design*. Place of publication not identified: Glencoe Mcgraw-Hill Post.
8. Johnston, G. B. (2008). *Drafting culture: A social history of architectural graphic standards*. Cambridge, MA: MIT Press.
9. Torossian, A., & Brigham, G. B. (1937). *Architectural graphics; orthographic projection, the principal branch of descriptive geometry*. Ann Arbor, MI: Edwards letter shop.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	
Course Title:	Communication Skills
Course Type:	Core
Year of introduction:	**2025**

L	**T**	**Practical component**				**C**
		LPW	**P**	**W**	**S**	
-	**-**	**-**	**-**	**3**	**-**	**3**

Course Learning Outcomes (CLO):

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

- Demonstrate proficiency in fundamental communication skills (listening, reading, speaking, and writing) with a focus on clarity, grammar, and vocabulary. **[BL2]**
- Make a use of architectural vocabulary and language to interpret, articulate, and present design concepts, spatial organization, and the use of architectural elements through both verbal and written communication **[BL3]**
- Develop structured presentations and narratives that convey architectural design principles, drawing connections between form, space, and meaning. **[BL3]**

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

Unit	Content	Teaching hours
Unit – I	Introduction to Communication • What is communication? • Types of communication • Why is it important?	3 hours
Unit – II	Basic components of Communication • Non-verbal communication • Body language exercises • Gestures • Reading non-verbal cues • Vocabulary development	6 hours
Unit – III	Reading Skills • Understanding SQRR technique with the aid of literary texts • Note taking • Outlining and summarizing • Vocabulary development	3 hours

Unit – IV	Listening Skills • Concentration to improve listening • Courteous and Responsive Listening • Practice listening through literary texts • Follow-up discussions • Vocabulary development	3 hours
Unit – V	Grammar Review and Reinforcement • Grammar categories • English word order (SVO) • Writing exercise through literary texts* • Common grammatical error analysis • Vocabulary development**	3 hours
Unit – VI	Vocabulary development reinforcement • Homonyms, homographs, homophones, heteronyms, elisions etc. • Introduction to Architectural Keywords • Meanings to Architectural Keywords • Making Sense of Architectural Keywords through the Masters' Works	3 hours
Unit – VII	Effective Writing Skills • Note taking • Outlining and summarizing • Drafting a paragraph and essay • Writing with a descriptive focus, a personal narrative, an expository focus, business letter, etc.	3 hours
Unit – VIII	Oral Presentation • Impromptu speeches • Group Discussions • Assignment based interaction*** • Vocabulary development • Planning, Developing and Delivering speech	3 hours
Unit-IX	Introduction to key architectural design principles (symmetry, rhythm, hierarchy, balance, etc.) • Analyzing how these principles are communicated visually and verbally • Practice exercises: describing design principles through precedent studies, sketches, models, and writing	6 hours
Unit-X	Expressing Spatial Organization and Elements in Architecture • Communicating architectural elements (walls, columns, voids, planes, thresholds) • Understanding space-making through organization: axis, grid, datum, movement, and circulation	9 hours

- *vocabulary list will be based on the key words in Architecture.
- **Reading of literary texts and writing exercises based on the "Masters" in the field of architecture, their biographies and philosophies.
- Assignments will be based on interviews/interactions with different architects.

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Babette K. Lemon. Reading, Writing, and Speaking. The School Review 1941 49:7, 554-555
2. Alfonso Caramazza. Issues in Reading, Writing and Speaking: A Neuropsychological Perspective. Kluwer Academic Pub., 1991.
3. Simon. S. Montefiore. Speeches that changed the world. Quercus.
4. Jones, Leo. Working in English: Teacher's Book. Cambridge: Cambridge University Press, 2003.
5. Taylor, Grant. English Conversation Practice. New York: McGraw-Hill, 1967. Print.
6. Mudambadithaya G. S., Communicative English for Professional Courses
7. Communication Skills for Technical students, CDC, TTTI, Bhopal, Somiya Publications Pvt. Ltd. 4th revised Edition, July, 1995
8. Hornby, A.S., Advanced Learner’s Dictionary of current English Geoffrey Leech and Jan Svartivik, Communicative grammar of English, ELBS.
9. Ching, F. D. (2023). *Architecture: Form, space, and order*. John Wiley & Sons.
10. Ching, F. D. (2011). *A visual dictionary of architecture*. John Wiley & Sons.
11. Alexander, C. (1977). *A pattern language: towns, buildings, construction*. Oxford university press.
12. Rasmussen, S. E. (1964). *Experiencing architecture* (Vol. 2). MIT press.
13. Unwin, S. (2020). *Analysing architecture: The universal language of place-making*. Routledge.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	
Course Title:	**Structural Design and Systems - I**
Course Type:	Core
Year of introduction:	**2025**

L	**T**	**Practical component**				**C**
		LPW	**PW**	**W**	**S**	
1	**-**	**-**	**-**	**2**	**-**	**3**

Course Learning Outcomes (CLO):

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

- Illustrate the basic concepts and principles of structural behaviour in architectural design. [BL2]
- Classify different types of structural systems and forms used in nature and architecture. [BL2]
- Identify fundamental structural elements and predict their behaviour under different types of loads. [BL3]

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

Unit-I	**Content**	**Teaching hours**
	Understanding Structural Behavior • Introduction to structural systems and their importance in architecture • Basic concepts of load transfer, force paths, and structural integrity • Common structural failures and learning from them	9 hours
Unit-II	Types of Structural Systems • Solid, surface, skeletal, membrane, hybrid systems • Structural analogies from nature and application in buildings • Real-world architectural examples using various systems Internal Forces and Structural Response • Forces: Tension, compression, shear, torsion, bending • How these forces act in different structural elements • Force flow diagrams and conceptual sketches	9 hours
Unit-IV	Materials and Stability • Material properties: strength, stiffness, ductility, form • Structural stability: Equilibrium (vertical, horizontal, rotational) • Introduction to settlement, sway, and seismic considerations	9 hours
Unit- V	Elements and Load Analysis	9 hours

	• Load types: Dead, live, wind, seismic, accidental • Structural elements: Beam, slab, tie, strut, panel • Behavioral patterns under applied loads	

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. James Ambrose, Building Structure, Canada Wiley, 2012
2. Millias, Malcolm, Building structures from concept to design, London, Spon Press, 2005
3. Ching, Francis D. K., Building Structures Illustrated, New York, John Wiley & Sons, Inc., 2014
4. Biggs, John M., Introduction to Structural Dynamics, New Delhi, McGraw Hill Education India Pvt Ltd, 2014
5. Sandaker, Bjorn N. Structural Basis of Architecture, UK, Taylor & Francis, 2011
6. Charleson, Andrew., Structure as architecture : Source book for architects and structural engineers, London, Taylor & Francis, 2015
7. Schodek, Daniel L., Structures, New Delhi, PHI Learning Private Limited, 2014
8. Ramamrutham, S., Theory of Structures, Delhi, Dhanpat Rai & Sons, 2013
9. Kumar, Ashok, Theory of Structures, New Delhi, Laxmi Publications Pvt. Ltd., 2004
10. Parikh, Janak, Understanding Concept of Structural Analysis and Design, Anand, Charotar Publishing House, 2000
11. Levy, Matthys,Why Buildings Fall Down: How Structures Fail, New York, W. W. Norton and Co., 2002
12. Salvadori, Mario. Structure in Architecture. Englewood Cliffs, NJ: Prentice-Hall, 1963.
13. Corkill, P. A., H. L. Puderbaugh, and H. K. Sawyers. Structure and Architectural Design. Iowa City: Sernoll, 1974.
14. Deplazes, and Söffker. Constructing Architecture: Materials, Processes, Structures. Basel: Birkhäuser Verlag, 2013.
15. Hunt, Tony. Tony Hunt's Structures Notebook. Oxford: Architectural, 2003.
16. Mainstone, R. J. Structure in Architecture: History, Design, and Innovation. Aldershot, Hampshire: Ashgate, 1999.
17. Muttoni, A. The Art of Structures: Introduction to the Functioning of Structures in Architecture. Abingdon, Oxford, UK: EPFL/Routledge, 2011.
18. Salvadori, Mario, Saralinda Hooker, and Christopher Ragus. Why Buildings Stand Up: The Strength of Architecture. New York: Norton, 1980.
19. Cowan, Henry J. Architectural Structures: An Introduction to Structural Mechanics. New York: Elsevier, 1976.
20. Gordon, J. E. The New Science of Strong Materials, Or, Why You Don't Fall through the Floor. Princeton, NJ: Princeton UP, 1984.
21. Anderson, Stanford, and Eladio Dieste. Eladio Dieste: Innovation in Structural Art. New York: Princeton Architectural, 2004.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**0FT001VA23**
Course Title:	Yoga
Course Type:	Value Added Course
Year of introduction:	**2021**

-

L	**T**	**Practical component**				**C**
		LPW	**PW**	**W**	**S**	
-	**-**	**-**	**-**	**2**	**-**	**-**

Course Learning Outcomes (CLO):

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

- To develop understanding of Yoga, its role in promoting healthful life and be able to perform Yoga Asanas **[BL2]**
- To understand the benefits of Yoga and meditation for positive health, prevention of stress related health problems and rehabilitation. **[BL2]**

Content: 15 weeks (2 hours/week) **Total Teaching hours: 30 Hrs**

Unit	Content	Teaching Hours
Unit-I	• Introduction to Yoga • Yoga Asanas • Benefits of Yoga Asanas - B*andhas and Mudras* • Breath awareness	20
Unit-II	• Definition & Importance of Health and routine – *"Dincharya" and "Ritucharya"*	05
Unit-III	• Practices leading to Meditation: Breath Meditation, Om Meditation, Vipassana Meditation, etc	05

Self Study:
Suggested List of Experiments:
Suggested Case List:
Suggested Readings/ References:

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	
Course Title:	**Social Work/NSS - I**
Course Type:	Value Added Course
Year of introduction:	**2025**

-

L	T	Practical component				C
		LPW	PW	W	S	
-	-	-	-	2	-	-

Course Learning Outcomes (CLO):

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

- Appraise the role and need of social work in the society **[BL5]**
- Appraise the methods and techniques of social work and its practice **[BL5]**
- Develop awareness and participate in social welfare work towards society development **[BL6]**

***This course can be taken as a Block or as a 7-day residential camp of minimum 30 hours**

Content: 15 weeks (2 hours/week) **Total Teaching hours: 30 Hrs**

Unit	Content	Teaching hours
Unit-I	Understanding social in social work – • Sensitive to the needs of different people within the society and to social problems in changing social, cultural and techno-economic context;	10 Hours
Unit-II	Social work as a practice – • To inculcate in the need for inquiring and research to understand the social issues/ problems within a context • Develop problem solving and decision making abilities for relevant concerns through the medium of social work as a practice	20 Hours

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Banks, S. (1995). Ethics and Values in Social Work: Practical Social Work Series, London: Macmillan Press Ltd.
2. Friedlander, Walter A. (1977) Concepts and Methods of Social Work, New Delhi: Prentice Hall of India Pvt. Ltd
3. Heun, Linda R., Heun, Richard E. (2001) Developing Skills for Human Interaction, London: Charles E. Merrill Co.
4. Skidmore, Rex A.(1982), Introduction to Social Work, New Jersey, Thackeray, Milton G. Prentice-Hall, Englewood Cliffs.

5. Surendra Singh (Chief Editor). (2012): Encyclopedia of Social Work in India. Lucknow: New Royal Book Company.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	
Course Title:	**Summer School/Winter School**
Course Type:	Core
Year of introduction:	**2025**

L	**T**	**Practical component**				**C**
		LPW	**PW**	**W**	**S**	
-	-	-	-	**90**	-	-

Course Learning Outcomes (CLO):
At the end of the course, students will be able to -

- Appraise various built environment at different places of architectural relevance across the state, region, country and the world. **[BL5]**
- Appraise the relevance of built environment by observing & photo documentation of selected places. **[BL6]**

Content: 3 weeks (30 hours / week - Block Course) **Total Teaching hours: 90 Hrs**

Unit	Content	Teaching hours
Unit-I	Multidisciplinary study of parts of urban structures, planning, regulations, building, landscape, conservation issues, study analysis, development proposals – • Student and faculty members stay at the selected city/ metro city for 8 to ten days. • Students will get comprehensive awareness of the city/ metro city. • Students will explore the built environment in terms of Social, educational, political institutes, settlement pattern etc. • Students will understand the typology, design style, material-construction system, etc. • Students will also documents the social, cultural, environmental aspects of that city/ metro city	60 hours
Unit-II	Compilation and documentation – • Students came back at institute and make the final Documentation report within remaining days.	30 hours

Self Study:
Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References: