NIRMA UNIVERSITY
NAAC ACCREDITED 'A' GRADE

NU/AC/AC-300621/8(B)/21-80
Date: 21.09.2021

NOTIFICATION

Read:
1. **R-44 – Empowering the Academic Council to approve Teaching & Examination Scheme, Syllabi, etc published vide notification No. NU-442 dated 27.01.2004**
2. **Notification No. NU-22 dated 24.07.2020 – Revision in TES and Syllabi of Semester-I of B.Arch. programme**
3. **Resolution No. 3(B) – Faculty of Architecture & Planning meeting – 09.04.2021**
4. **Resolution No. 8(B) – Academic Council meeting – 30.06.2021**

Sub: **Revision in the Teaching & Examination Scheme and Syllabi of Semester-I and II of B.Arch. programme in suppression of existing curricula**

It is hereby notified for information of all concerned that the Academic Council in its meeting held on 30.06.2021 under resolution No. 8(B) in exercise of powers conferred upon it by the Board of Governors under regulation mentioned at serial 1 above and taking into consideration the recommendations of the Faculty of Architecture & Planning, has resolved to approve the revision in the Teaching & Examination Scheme and Syllabi of Semester-I and II of **B.Arch.** programme in suppression of existing curricula in pursuance to the new guidelines of Council of Architecture published on 11.08.2020, to be made effective for the students to be admitted from academic year 2021-22 onwards as per ***Appendix*-A** attached herewith.

Executive Registrar

Encl.: Appendix-A [Pages: 1 to 50]

To,
1. Dean, Faculty of Architecture & Planning
2. Academic Coordinator
3. Dy. Registrar: Exam; IAP

Copy to,
1. Exam Sec.
2. OS
3. Library
4. P.A. to ER

c.f.w.cs to: Director General

Appendix-A
Noti. No. NU- 80
Acad. Gen. mtg.- 30.06.21

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Year of introduction:	**2021**

INSTITUTE OF ARCHITECTURE and PLANNING NIRMA UNIVERSITY

TEACHING AND EXAMINATION SCHEME FOR SEMESTER I - B.ARCH. A.Y.2021-22)

Name of the Programme: Bachelor of Architecture

SEMESTER I

Course Code	Name of the Course	Teaching Scheme					Scheme of Examination		
		Hours/ Week			Credit	Hours	Component Weightage		
		L	W	S	C	SEE	SEE	CE	LPW
2AR181	Architectural Design Studio - I	-	-	9	9	-	-	0.5	0.5
2AR182	History & Theory - I: Sociology & Culture	2	-	-	2	3	0.5	0.5	-
2AR183	Building Construction & Technology - I	2	2	-	4	3	0.3	0.5	0.2
2AR184	Architectural Graphics Skills and Representation - I	-	4	-	4	-	-	0.5	0.5
2AR185	Structure -I	1	2	-	3	-	-	0.5	0.5
2AR186	Basic Design -I	-	4	-	4	-	-	0.5	0.5
Total		**5**	**12**	**9**	**26**				

#4 RSP is to be completed during the entire duration of B.Arch programme out of which 2 RSP is to be completed before registration in Semester VII and remaining 2 RSP up to Semester X.

ELECTIVE COURSES

No Elective will be offered in this semester

SUPPLEMENTARY COURSES/ VALUE ADDED COURSES

Course Code	Course Name	L	W	S	C	SEE	SEE	CE	LPW
2ARS101	Visual Representation	-	2	-	-	-	-	-	1
2ARS102	Yoga and Meditation	-	2	-	-	-	-	-	1

$ Credit of RSP will be given to those students who registers for RSP in the respective semester

L: Lecture T: Tutorial P: Practical W: Workshop S: Studio C: Credit

CE: Continuous Evaluation, LPW: Lab/Project/Studio Work, SEE: Semester End Examination

Supplementary Courses:

1. Visual Representation
2. Yoga and Meditation

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR181**
Course Title:	**Architectural Design Studio – I**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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:

- Interpret basic vocabulary of design and architecture
- Identify and map human activity in space
- Develop an understanding of design as an iterative process
- Infer, represent and communicate design

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

Unit	Syllabus	Teaching hours
Unit-I	Introductory exercises based on 'Learning by doing' – • To develop representation and communication skills through exercises involving drawing, sketching, graphic language, model-making, collage, etc by the medium of exercises channelizing creativity	45 hours
Unit-II	Introduction to studio-based iterative design process – To develop a small scale design project for comprehension of design criteria involving the following: • Exploring exercises that nurture the relationship and express the linkage between human activity and built-environment • Understanding human activity and behaviour in space by activity mapping, anthropometric studies, etc. • To make, explore, feel and mould space based on design ideas/principles • Undertake hands-on work and creative thinking. Explore 'making' through various mediums and techniques of representation • Introduction to visualization and representation of an architectural environment's spatial qualities like spatial	54 hours

enclosure, depth, height, view, orientation, etc and tectonic characteristics like surfaces, material, shape, texture, etc

Unit-III Representation and communication of design. 36 hours

- Use of graphic language and representational techniques for communication of design
- Introduction to the consensus of visualization skills and creative thinking for depiction of ideas and concepts

Self Study:

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.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR182**
Course Title:	**History & Theory - I: Sociology & Culture**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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

Course Learning Outcomes (CLO):

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

- Review various cultural expressions and relation between culture and society
- Compare Indian history and its cultural values
- Develop an understanding of the relationship between people and place

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

Unit	Syllabus	Teaching hours
Unit-I	Culture and society – • What is culture and society • Elements of culture • Symbols and culture • Introduction to the symbolic and spatial manifestation of cultural expressions in built-environment	10 hours
Unit-II	Indian culture – • History of India • Unity and diversity • Cultural values and identity • Understand the diversity of cultural expressions in Indian context	8 hours
Unit-III	People and places • Culture and shelter (Indian context) • Culture, people and place – role of culture in place-making • Attribution of meanings in built-environment as an expression of cultural values	12 hours
Self Study:		

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Jarzombek, M. (2013). Architecture of first societies: A global perspective. Hoboken, NJ: Wiley.
2. Stallabrass, Julian, and Julian Stallabrass. (2006) Print. Contemporary Art: A Very Short Introduction. Oxford: Oxford UP.
3. Giddens, Anthony. (1996) Print. Introduction to Sociology. New York: W.W. Norton.
4. Johnson, Harry Morton. (1960) Print. Sociology: A Systematic Introduction. New York: Harcourt, Brace.
5. Bronowski, Jacob. (1974) Print The Ascent of Man. Boston: Little, Brown.
6. Soergel, Philip M. (2005) Print. Arts & Humanities through the Eras. Detroit: Thomson Gale.
7. Pearce, F. G. (1965) Print. An Outline History of Civilization. Bombay: Oxford U.P.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR183**
Course Title:	**Building Construction & Technology - I**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

L	T	Practical component				C
		LPW	PW	W	S	
2	-	-	-	2	-	4

Course Learning Outcomes (CLO):

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

- Explain properties of building construction materials and their use in building construction.
- Give an outline of building construction systems and use of related building elements therein.
- Develop understanding of basics of building elements and building construction processes.

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

Unit	Syllabus	Teaching hours
Unit-I	Introduction to Building Construction Materials – • Introduction to building construction materials and their classification based on their properties: ceramic, metals, composite, polymers and organic materials. • Relationship of material properties to techniques and processes of working with materials.	12 hours
Unit-II	Introduction to elements of Super Structure and Sub - Structure – • Introduction to basic building elements and their role in a building: foundation, plinth, walls, opening, roof, floor etc. • Introduction to building construction system and its elements eg: - Load Bearing, Framed and Composite structures. • Explanation through case studies, measure drawing etc.	16 hours
Unit-III	Introduction to masonry structures Understanding principles of Brick and Stone Masonry: • Composition of brick earth and their properties, manufacturing process of bricks, classification of bricks, test for bricks, special type of bricks, substitutes for bricks, etc. • Bonds, principles and applications in buildings.	32 hours

- Brick walls in different bonds, ends, corners and junctions.
- Types of Masonry walls: load bearing, partition, cavity, jali, etc.
- Introduction to Mud and Stone construction and techniques of building with mud and stone.
- Demonstration of understanding by making models, drawings, hands-on work etc.

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Kotadiya A. S. . Building Construction. : Mahajan Publishing, 2014
2. Agrawal, B. K.. Introduction to Engineering Materials. New Delhi: Tata McGraw Hill Education Ltd., 2013
3. Bhavikatti, S. S.. Materials of Construction Vol - 2. New Delhi: I. K. International Publishing House Pvt. Ltd., 2014
4. Ching, Francis D. K.. Visual Dictionary of Architecture. Delhi: Wiley India (P) Ltd., 2012
5. Ching, Francis D. K.. Building Structures Illustrated. New York: John Wiley & Sons, Inc., 2014
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. Gambhir, M. L.. Building Materials: Products, Properties and Systems. New Delhi: Tata McGraw Hill Education Private Limited, 2011
9. Kumar, Sushil. Building Construction. New Delhi: Standard Publishers Distributors, 2012
10. Lyons. Materials for Architects & builders. New York: Taylor & Francis, 2014
11. McKay, J. K.. Building Construction Vol - 2: Metric. Delhi: Pearson Education Asia Pte. Ltd., 2014
12. Mckay, W. B.. Building Construction Vol - 1: Metric. New Delhi: Pearson Education Asia Pvt. Ltd.; India, 2013
13. Onouye, Barry S.. Statics And Strength Of Materials For Architecture And Building Construction. Chennai: Pearson India Education Services Pvt Ltd., 2015
14. Patel, Nimish. Stone Buildings of Gujarat. Ahmedabad: CEPT University, 2010
15. Punmia, B. C. Building Construction. New Delhi: Laxmi Publications Pvt. Ltd., 2008
16. Rangwala, S. C.. Engineering Materials: Material Science. Anand: Charotar Publishing House, 2014
17. Singh, Gurcharan. Building Construction and Materials. Delhi: Standard Book House, 2012
18. Watson, Donald. Time saver Standards for Building Materials and Systems: Design Criteria and Selection Data. New Delhi: Tata McGraw Hill Education Private Limited, 2009

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR184**
Course Title:	**Architectural Graphic Skills & Representation– I**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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.
- Appraise skills of visualization
- Maximize the potential of two-dimensional drawing as tool of design development and representation.
- Develop skills related to Comptuter-aided design

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

Unit	Syllabus	Teaching hours
Unit-I	Geometrical Construction – • Constructing and dividing lines and angles • Constructing and dividing circles and arcs • Constructing Regular Polygons • Develop an understanding of 2D geometry by means of drafting	10 hours
Unit-II	Orthographic Projection and Isometric views – • 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)	30 hours
Unit-III	Development of Surfaces (D.O.S.) – • Introduction of D.O.S • Regular Polygons and Platonic Solids • D.O.S of hip roof & Gable roofs • D.O.S of sectioned objects	10 hours

Unit-IV Allied Techniques –

- Develop skills in visualization softwares
- Learn about 3D representation of concepts and ideas through model-making

10 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:	**2AR185**
Course Title:	**Structure I**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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:

- Explain conceptual understanding of structural behavior
- Identify and relate to basic structural systems.
- Apply and identify technical vocabulary related to structural design.

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

Unit	Syllabus	Teaching hours
Unit-I	Process of building structure – • Structure and Structural form • Significance of structure in Architecture • Identification of basic vocabulary pertaining to structures	9 hours
Unit-II	Broad categorization of structural system – • Structural form - solid, Surface, skeleton, Membrane, hybrid • Structural form - in Nature • Structural form - man made	9 hours
Unit-III	Broad categorization of structural system – • Tensile, compressive, shear, torsion, bending • Introduction to identifying stresses in structures	9 hours
Unit-IV	Basic requirements of structure – • Structural material: strength, stiffness, shape • Equilibrium: Vertical, Horizontal, Rational • Settlement and earthquake behavior	9 hours
Unit- V	Types of loads & supports – • Structural Elements: Strut, tie, beam, slab/plate, panel • Structural Element behavior: Tensile, compressive, shear, torsion, bending	9 hours

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:	**2AR186**
Course Title:	**Basic Design – I**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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:

- Interpret visual literacy and visual expression
- Interpret elements and principles of design
- Develop the basic skills & abilities to design
- Construct representation and cognitive skills
- Enhance and learn to channelize their creative thinking through constructing representation of their ideas/ concepts

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

Unit	Syllabus	Teaching hours
Unit-I	Representation skill development – • Sketching, 2D & 3D drawings, painting, graphic • Model making skills • Exploration of various materials for drawing and model-making • Visualization of concepts by appropriate medium	12 hours
Unit-II	Cognitive skill development – • Observation, perception, registration and expression • Critical thinking and application of cognitive skills in design	8 hours
Unit-III	Elements of design – • The visual components of color, form, line, shape, space, texture, and value • Concept representation using composition of elements of design	8 hours
Unit-IV	Basic requirements of structure – • Structural material: strength, stiffness, shape • Equilibrium: Vertical, Horizontal, Rational • Settlement and earthquake behavior	8 hours

Unit- V Abstraction and Simplification – 16 hours

- The design principles - Balance, emphasis, movement, proportion, rhythm, unity, and variety
- Compositions using principles of design and understand design attributes

Unit- V Design vocabulary – 8 hours

- Simplification / abstraction of an object using basic principles and elements of design
- Use of foreground- background / contrast / color

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Ching, Francis D. K., and James Eckler. Introduction to Architecture. Print.
2. Ching, Francis D. K. Architectural Graphics. New York: Van Nostrand Reinhold, 1975. Print.
3. Ching, Francis D. K., and Steven P. Juroszek. Design Drawing. New York: Van Nostrand Reinhold, 1998. Print.
4. Ching, Francis D. K., Architecture: Form, Space, and Order. Hoboken, N.J: John Wiley & Sons, 2007. Print.
5. Aldo Tanchis and Huw Evans. Bruno Munari, Design as Art. Cambridge: MIT Press, 1987
6. Gombrich, E H. The Story of Art. New York: Phaidon Publishers; distributed by Oxford University Press, 1966
7. Berger, John. Ways of Seeing. New York, Viking Press, 1972
8. Lidwell, William; Kritina Holden; Jill Butler (2010). Universal Principles of Design (2nd ed.). Beverly, Massachusetts: Rockport Publishers. ISBN 978-1-59253-587-3.
9. White, Alex (2011). The Elements of Graphic Design. New York, NY: Allworth Press. pp. 81–105. ISBN 978-1- 58115-762-8.
10. Arthur L Guptill; Rendering with Pen and Ink; Watson-Guptill Publications, 1997. ISBN 0823045293, 9780823045297
11. William Wilson Atkin; Architectural Presentation Techniques; Van Nostrand Reinhold Co., 1976. ISBN 0442203616, 9780442203610
12. Anja Hartmann; Unusual Architectural Presentation Drawings; Page One Publishers, 2007. ISBN 9812452141, 9789812452146
13. Frank Lohan; Pen and Ink Techniques; Contemporary books, 1978. ISBN 0486157686, 9780486137681
14. International library of Technology; Elements of Pen and Ink Rendering, Rendering with Pen and Brush,
15. BiblioBazaar, 2010. ISBN 1171598823, 9781171598824
16. Mike W Lin, Architectural Rendering Techniques: A Color Reference; John Wiley and Sons, 1985. ISBN 0471289396, 9780471289395
17. Tibor K Karsai, The Airbrush in Architectural Illustration; Van Nostrand Reinhold, 1989. ISBN 0442246900, 9780442246907
18. Arthur L Guptill, Drawing with Pen and Ink: And a word about the brush; Literary Licensing, LLLC, 2013.
19. 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:	**2ARS101**
Course Title:	**Visual Representation**
Course Type:	Value Added Course
Year of introduction:	**2021**

Credit Scheme

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:

- Develop the basic skills & abilities to visualize and sketch
- Comprehend the methods of developing different visual art forms
- Make use of different visual art type (i.e Drawing, Painting, Sketching, Print making, Collages, Montages, Sculpting etc) to communicate ideas

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

Unit	Syllabus	Teaching hours
Unit-I	Sketching skill development – • Sketching, 2D & 3D drawings, painting, graphic etc • Exploration of various materials and methods for sketching	08 hours
Unit-II	Introduction to different types of visual arts – sketching, painting, making diagrams, collages, montages, print making, sculptures etc • Introduction of great artists and their methods • Understanding the relationship of visual art in architecture. 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	08 hours
Unit-III	Make use of different visual art type to communicate ideas • Undertake hands-on work and creative thinking. Explore 'making' through various mediums and techniques of representation.	14 hours

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Ching, Francis D. K., and James Eckler. Introduction to Architecture. Print.
2. Ching, Francis D. K. Architectural Graphics. New York: Van Nostrand Reinhold, 1975. Print.
3. Ching, Francis D. K., and Steven P. Juroszek. Design Drawing. New York: Van Nostrand Reinhold, 1998. Print.
4. Ching, Francis D. K., Architecture: Form, Space, and Order. Hoboken, N.J: John Wiley & Sons, 2007. Print.
5. Aldo Tanchis and Huw Evans. Bruno Munari, Design as Art. Cambridge: MIT Press, 1987
6. Gombrich, E H. The Story of Art. New York: Phaidon Publishers; distributed by Oxford University Press, 1966
7. Berger, John. Ways of Seeing. New York, Viking Press, 1972
8. Arthur L Guptill; Rendering with Pen and Ink; Watson-Guptill Publications, 1997. ISBN 0823045293, 9780823045297
9. William Wilson Atkin; Architectural Presentation Techniques; Van Nostrand Reinhold Co., 1976. ISBN 0442203616, 9780442203610
10. Anja Hartmann; Unusual Architectural Presentation Drawings; Page One Publishers, 2007. ISBN 9812452141, 9789812452146
11. Frank Lohan; Pen and Ink Techniques; Contemporary books, 1978. ISBN 0486157686, 9780486137681
12. Mike W Lin, Architectural Rendering Techniques: A Color Reference; John Wiley and Sons, 1985. ISBN 0471289396, 9780471289395
13. Arthur L Guptill, Drawing with Pen and Ink: And a word about the brush; Literary Licensing, LLLC, 2013.
14. 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:	**2ARS102**
Course Title:	Yoga and Meditation
Course Type:	Value Added Course
Year of introduction:	**2021**

Credit Scheme

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
- To understand the benefits of Yoga and meditation for positive health, prevention of stress related health problems and rehabilitation.

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

Unit	Syllabus	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**
Year of introduction:	**2021**

INSTITUTE OF ARCHITECTURE and PLANNING
NIRMA UNIVERSITY

TEACHING AND EXAMINATION SCHEME FOR SEMESTER I - B.ARCH. 2021-22)

Name of the Programme: Bachelor of Architecture

SEMESTER II

Course Code	Name of the Course	Teaching Scheme					Scheme of Examination		
		Hours/ Week			Credit	Hours	Component Weightage		
		L	W	S	C	SEE	SEE	CE	LPW
CORE COURSES									
2AR281	Architectural Design Studio - II	-	-	9	9	-	-	0.5	0.5
2AR282	History & Theory - II	2	-	-	2	3	0.5	0.5	-
2AR283	Building Construction & Technology - II	2	2	-	4	3	0.3	0.5	0.2
2AR284	Architectural Graphics Skills & Representation - II	-	4	-	4	-	-	0.5	0.5
2AR285	Structure - II	1	2	-	3	-	-	0.5	0.5
2AR286	Basic Design- II	-	4	-	4	-	-	0.5	0.5
2AR287	Surveying and Levelling	1	1	-	2	-	-	0.5	0.5
2AR288#	Related Study Programme –I #	-	-	-	3#	-	-	-	1
Total		**6**	**13**	**9**	**28/ 31$**				

#4 RSP is to be completed during the entire duration of B.Arch programme out of which 2 RSP is to be completed before registration in Semester VII and remaining 2 RSP up to Semester X.

No Elective will be offered in this semester

SUPPLEMENTARY COURSES/ VALUE ADDED COURSES

Course Code	Course Name	L	W	S	C	SEE	SEE	CE	LPW
2ARS201	Communication Skills	-	2	-	-	-	-	-	1
Yet to be decided	Value Added Courses*	-	2	-	-	-	-	-	1

$ Credit of RSP will be given to those students who registers for RSP in the respective semester

*** Value Added courses offered in respective semester as offered by the Dean, FoAP,IAP,NU (As per attached Annexure-C)**

L: Lecture T: Tutorial P: Practical W: Workshop S: Studio C: Credit

CE: Continuous Evaluation, LPW: Lab/Project/Studio Work, SEE: Semester End Examination

Supplementary Courses:

1. Communication Skills 2. Value Added Course

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR281**
Course Title:	**Architectural Design Studio – II**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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:

- Select using basic architectural design concepts, tools and methods.
- Interpret spatial organisation, structure, hierarchy and scale using architectural elements.
- Interpret design as an interpretive process and create design for a particular programme and context.

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

Unit	Syllabus	Teaching hours
Unit-I	Design exercises based on 'Learning by doing' – To have a short introductory exercise to: • Understanding Natural and man-made place • 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	32 hours
Unit-II	Introduction to studio-based iterative design process – • To develop a design project with specific site and programme of residential or institutional nature. • Introduction to the process of establishing relationship of built-form with context • 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 relationship of part to the whole and whole to the part.	47 hours

- Explore 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.

Unit-III

Design Resolution with Synthesis of design parameters –

- Develop understanding of hierarchy of spaces, nature of architectural spaces and quality of spatial enclosures, etc — 28 hours
- Develop an understadning to translate the principles to design to spatial expression
- Achieve synthesis of design criteria and parameters like spatial quality, form, function, response to site, etc
- Develop architectural language using architectural elements

Representation and communication of design –

- Use of appropriate graphic and technical representational skills to communicate architectural design comprehensively — 28 hours
- Communication of design concepts and ideas by appropriate respresnetation skills

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1) Agkathidis, A. (2016). *Generative Design: Form-finding techniques in architecture*. London: Laurence King Publishing
2) Agkathidis, A. (2012). *Modular structures in design and architecture*. Amsterdam: BISPublishers
3) Agkathidis, A. (2017). *Biomorphic structures*. London: Laurence King.
4) Jormakka, K., Schürer, O., & Kuhlmann, D. (2014). *Design methods*. Basel: Birkhäuser.
5) Kim, S., & Pyo, M. (2012). *Mobile architecture*. Berlin: DOM.
6) Tilley, A. R., & Henry Dreyfuss Associates. (2002). *The measure of man and woman: Human factors in design*. New York: Wiley.
7) Arnheim, R. (2015). *Visual thinking*. Berkeley : University of California Press.
8) Tait, J. (2018). *The architecture concept book*. London : Thames & Hudson.
9) Karssen, A., & Otte, B. (2014). *Model making: Conceive, create and convince*. Amsterdam: Frame Publishers.
10) Brownell, B. E. (2017). *Transmaterial next: A catalog of materials that will redefine our future*. New York : Princeton Architectural Press.
11) Adrover, E. R. (2015). *Deployable structures*. London: Laurence King Publishing.
12) Neufert, E., Neufert, P., & Kister, J. (2012). *Neufert*. Oxford: Wiley-Blackwell.
13) Ching, F. D. K., & Eckler, J. F. (2013). *Introduction to architecture*. Hoboken: Wiley.
14) Pause, M., & Clark, R. H. (2013). *Precedents in architecture: Analytic diagrams, formative ideas, and partis*. Hoboken, N.J: Wiley.
15) Ching, F. D. K. (2007). *Architecture--form, space, and order*.

16) Jones, W. (2011). *Architects' sketchbooks*. London: Thames & Hudson.
17) Pandya, Y., & Vastu-Shilpa Foundation for Studies and Research in Environmental Design. (2003). *Elements of space making*. Ahmedabad: Vastu-Shilpa Foundation for Studies and Research in Environmental Design.
18) Unwin, S. (2010). *Twenty buildings every architect should understand*. London: Routledge

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR282**
Course Title:	**History and Theory - II**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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

Course Learning Outcomes (CLO):

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

- Illustrate the geography of building materials / resources/ construction
- Examine the creation of different cultures and the impact of other factors on their architecture
- Interpret the impact of factors that shape architecture within a culture
- Discuss methods for understanding sociological background – Degree of dominance of religious / political / economical class

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

Unit	Syllabus	Teaching hours
Unit-I	Prehistoric architecture –	4 hours
	• Introduction to early and prehistoric architecture • Logical and structural transformation of building system	
Unit-II	Early civilizations (Mesopotamian, Egyptian, Indus, Chinese, Minoan, Mycenaean, Pre-Columbian Americans etc.) –	10 hours
	• Introduction to early civilizations, their societies, culture, material, structural and technological features leading towards the progress of their architecture	
Unit-III	Greek architecture –	8 hours
	• Architecture understood in terms of material, belief and social systems.	
	• Exposure to systems of proportion and scaling	

Unit-IV Roman Architecture –

- Architecture as a realisation of the ideals of the society. The development of architecture through different phases of the roman empire and its decline. The influence of such architecture on later times. 8 hours

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Fletcher, Banister. Sir Banister Fletcher's A History of Architecture. London: Butterworths, 1987. Print.
2. Kostof, Spiro. A History of Architecture: Settings and Rituals. New York: Oxford UP, 1985. Print.
3. Brown, Percy. Indian Architecture. Bombay: Taraporevala's Treasure House of. Print.
4. Tadgell, Christopher. A History of Architecture. London: Ellipsis, 2000. Print.
5. Tadgell, Christopher. The History of Architecture in India: From the Dawn of Civilization to the End of the Raj. Print.
6. Ching, Francis D. K., Mark Jarzombek, and Vikramaditya Prakash., A Global History of Architecture. Hoboken, NJ: J. Wiley & Sons, 2007. Print.
7. Havell, Ernest Binfield., Encyclopedia of Architecture in the Indian Subcontinent. New Delhi: Aryan International, 2004. Print.
8. Albanese, Marilia., Architecture in India. New Delhi: Om Book Service, 2000. Print.
9. Grover, Satish., The Architecture of India: Islamic (727-1707 A.D.). New Delhi: Vikas Pub. House, 1981. Print.
10. Kramrisch, Stella, and Raymond Burnier., The Hindu Temple. Delhi: Motilal Banarsidass, 1976. Print.
11. Volwahsen, Andreas., Living Architecture: Indian. New York: Grosset & Dunlap, 1969. Print.
12. Sandström, Gösta E., Man, the Builder. New York: McGraw-Hill, 1970. Print.
13. Maisels, Charles Keith; The Emergence of civilization, 1990
14. History of World Architecture. London: Faber, 1979. Print.
15. Lloyd, Seton, and Hans Wolfgang Müller., Ancient Architecture: History of World Architecture. Milan: Elect architecture, 2004. Print.
16. Norberg-Schulz, Christian, and Pier Luigi Nervi. History of World Architecture. New York: Abrams, 1971. Print.
17. Bagenal, Philip. The Illustrated Atlas of the World's Great Buildings: A History of World Architecture . S.1. Leisure, 1980. Print.
18. Fazio, Michael W., Marian Moffett, Lawrence Wodehouse, and Marian Moffett. A World History of Architecture. Boston: McGraw-Hill, 2008. Print.
19. Michell, George, and Philip Davies. The Penguin Guide to the Monuments of India. London, England: Viking, 1989. Print.
20. Cotterell, Arthur (ed.); The Penguin encyclopedia of ancient civilizations, 1980

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR283**
Course Title:	**Building Construction & Technology – II**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

L	T	Practical component				C
		LPW	PW	W	S	
2	-	-	-	2	-	4

Course Learning Outcomes (CLO):

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

- Demonstrate an understanding of basic principles for planning, design and construction of load-bearing system of construction.
- Explain construction of building elements based on material-behavior and its relation to other element.
- Illustrate an understanding and explaing the basic principles of building sub-structure.

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

Unit	Syllabus	Teaching hours
Unit-I	Load bearing construction system – • Understanding building elements (From foundations to parapet) using simple manufactured materials and simple constructional systems. • Understanding elements of load bearing system like foundations, walls, openings, lintels, columns, piers etc and their role in a load bearing system.	16 hours
Unit-II	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 hours
Unit-III	Building Materials and properties – • Understanding of behavior of elements in a construction system, in relation to 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, function of cement ingredients, properties of cement – soundness,	16 hours

setting time, strength, etc. Grade of cement and different types of cement used in construction. Manufacturing process of ordinary cement in dry and wet method, packing and storage of cement, use of cement.

- **Mortar:** Sand, sources of sand and its classification, tests on 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.

Unit-IV Carpentary Joinery Details – 12 hours

- Behavior of wood, wood-working and tools.
- Types and application of timber joinery

Appropriate joinery for different loading conditions

Self Study:

Suggested List of Experiments:
Suggested Case List:

Suggested Readings/ References:

1. Agrawal, B. K.. Introduction to Engineering Materials. New Delhi: Tata McGraw Hill Education Ltd., 2013
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. Beylerian, George M.. Material Connexion: The Global Resource Of New And Innovative Materials For Architects, Artists And Designers.. UK: Thames & Hudson Ltd, 2005
5. Bhavikatti, S. S.. Materials of Construction Vol - 2. New Delhi: I. K. International Publishing House Pvt. Ltd., 2014
6. Bhavikatti, S. S.. Building Construction. Noida: Vikas Publishing House Pvt. Ltd., 2013
7. Ching, Francis D. K.. Visual Dictionary of Architecture. Delhi: Wiley India (P) Ltd., 2012
8. Ching, Francis D. K.. Building Structures Illustrated. New York: John Wiley & Sons, Inc., 2014
9. Ching, Francis D. K.. Building Construction Illustrated. Delhi: Wiley India (P) Ltd., 2012
10. Chudley, R.. Building Construction Handbook. Oxford: Butterworth-Heinemann Ltd., 2010
11. Duggal, S. K.. Building Materials. New Delhi: New Age International (P) Limited, 2012
12. Ford,Edward R. Details of modern architecture, Vol. 2: 1928 to 1988. London: Mit Press, 2003

13. Gambhir, M. L.. Building Materials: Products, Properties and Systems. New Delhi: Tata McGraw Hill Education Private Limited, 2011
14. Kumar, Sushil. Building Construction. New Delhi: Standard Publishers Distributors, 2012
15. Lyons. Materials for Architects & builders. New York: Taylor & Francis, 2014
16. McKay J. K.. Building Construction Vol - 2: Metric. Delhi: Pearson Education Asia Pte. Ltd., 2014
17. McKay, J. K.. Building Construction Vol - 3: Metric. Delhi: Pearson Education Pte. Ltd., 2013
18. McKay, J. K.. Building Construction Vol - 4: Metric. Delhi: Pearson Education Pte. Ltd., 2013
19. Mckay, W. B.. Building Construction Vol - 1: Metric. New Delhi: Pearson Education Asia Pvt. Ltd.; India, 2013
20. Patel, Nimish. Stone Buildings of Gujarat. Ahmedabad: CEPT University, 2010
21. Pramar, V. S.. Wood Carvings of Gujarat. India: Publications Division Govt. of India, 2001
22. Punmia, B. C.. Building Construction. New Delhi: Laxmi Publications Pvt. Ltd., 2008
23. Rangawala, S. C.. Building Construction. Anand: Charotar Publishing House, 2014
24. Rangwala, S. C.. Engineering Materials: Material Science. Anand: Charotar Publishing House, 2014
25. Salgado, Rodrigo. Engineering of Foundation. New Delhi: Tata McGraw Hill Education Ltd., 2011
26. Salvadori, Mario. Why Buildings Stand Up: The Strength of Architecture. New York: W. W. Norton and Co., 1980
27. Schodek, Daniel L.. Structures. New Delhi: PHI Learning Private Limited, 2014
28. Shah, M. G.; Padki, S. Y. ; Kale, C. M.. Building Construction Vol - 4: Metric. New Delhi: Tata McGraw Hill Education Ltd., 2015
29. Singh, Gurcharan. Building Construction and Materials. Delhi: Standard Book House, 2012
30. Soni, Saurabh Kumar. Building Materials and Construction. New Delhi: S. K. Kataria& Sons, 2013

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR284**
Course Title:	**Architectural Graphic Skills & Representation– II**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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:

- Learn various techniques to represent an idea 3-dimensionally making use of the concept of sciography and perspective.
- Maximize the skills of visualization
- Utilize visulalizaion skills to represent basic form and space

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

Unit	Syllabus	Teaching hours
Unit-I	Sciography – • On Flat Surfaces (horizontal, vertical and inclined surfaces) • On Curved Surfaces • Sciography of Architectural Elements (Walls, Steps, Roof etc..)	20 hours
Unit-II	Perspective – • Perspective drawing as representation tool • Different Types of Perspective Drawings and it's applications – One Point Perspective and Two Point Perspective • Perspective Views of forms and Spaces	20 hours
Unit-III	Allied Techniques – • Skills in visualization softwares • Develop and illutrate 3D representation of concepts and ideas through model-making • 3D visualization	20 hours

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Bennett, W. I. (1931). *Architectural graphics. Elements of descriptive geometry, shades and shadows, perspective*. Ann Arbor, MI: G. Wahr.
2. Bhatt, N. D. (2014). *Engineering Drawing: Plane and Solid Geometry*. Anand: Charotar Publishing House Pvt.
3. Ching, F. D. (2015). *Architectural graphics*. Hoboken: John Wiley & Sons.
4. Ching, F. D., & Juroszek, S. P. (2018). *Design drawing*. Hoboken, NJ: John Wiley & Sons.
5. Chopra, A., Town, L., & Pichereau, C. (2013). *Introduction to Google Sketchup*. New York: Wiley.
6. Cooper, D. (2007). *Drawing and perceiving: Life drawing for students of architecture and design*. Hoboken: Wiley.
7. Donley, M., & Sonder, N. (2016). *SketchUp & LayOut for architecture: The step-by-step workflow of Nick Sonder*. Bristol, RI: Bizfound.
8. Helsel, J. D. (2007). *Engineering drawing and design*. Place of publication not identified: Glencoe Mcgraw-Hill Post.
9. Metzger, P. W. (2007). *The Art of Perspective: The Ultimate Guide for Artists in Every Medium*. North Light Books.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR285**
Course Title:	**Structure II**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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:

- Explain and interpret structural behavior of materials.
- Built about basic structural systems
- Develop vocabulary on structural systems
- Make use of load mechanism in structural systems

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

Unit	Syllabus	Teaching hours
Unit-I	Methods of categorization of structural system –	
	• Vocabulary of structural systems	18 hours
	• 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	
Unit-II	Mechanical properties of structural material –	15 hours
	• strength, stiffness, shape	
	• Tensile, compressive, shear, torsion, bending	
	• dead load, imposed load, thermal load, Dynamic load	
Unit-III	Structural systems based on mechanism of transfer of load –	12 hours
	• Strut, tie, beam, slab/plate, panel	
	• Vertical, Horizontal, Rational	
	• settlement and earthquake behavior	
	• Tensile, compressive, shear, torsion, bending	

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. Kara, Hanif. Design Engineering: AKT Adams Kara Taylor. Barcelona: Actar, 2008.
5. Biggs, John M., Introduction to Structural Dynamics, New Delhi, McGraw Hill Education India Pvt Ltd, 2014
6. Onouye, Barry S., Statics And Strength Of Materials For Architecture And Building Construction, Chennai, Pearson India Education Services Pvt Ltd., 2015
7. Charleson, Andrew., Structure as architecture : Source book for architects and structural engineers, London, Taylor & Francis, 2015
8. Parikh, Janak, Understanding Concept of Structural Analysis and Design, Anand, Charotar Publishing House, 2000
9. Seward, Derek, Understanding structures: analysis materials design, London, Palgrave, 2014
10. Schodek, Daniel L. Structures. Englewood Cliffs, NJ: Prentice-Hall, 1980. Print.
11. Salvadori, Mario. Structure in Architecture. Englewood Cliffs, NJ: Prentice-Hall, 1963. Print.
12. Corkill, P. A., H. L. Puderbaugh, and H. K. Sawyers. Structure and Architectural Design. Iowa City: Sernoll, 1974. Print.
13. Deplazes, and Söffker. Constructing Architecture: Materials, Processes, Structures. Basel: Birkhäuser Verlag, 2013. Print.
14. Muttoni, A. The Art of Structures: Introduction to the Functioning of Structures in Architecture. Abingdon, Oxford, UK: EPFL/Routledge, 2011. Print.
15. Sandaker, Bjørn Normann, and Arne Petter. Eggen. The Structural Basis of Architecture. New York: Whitney Library of Design, 1992. Print.
16. Cowan, Henry J. Architectural Structures: An Introduction to Structural Mechanics. New York: Elsevier, 1976. Print.
17. Rosenthal, Hans Werner., and Hans Werner. Rosenthal. 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. Print.
18. Salvadori, Mario, and Robert A. Heller. Structure in Architecture: The Building of Buildings. Englewood Cliffs, NJ: Prentice-Hall, 1975. Print.
19. 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. Print.
20. Anderson, Stanford, and Eladio Dieste. Eladio Dieste: Innovation in Structural Art. New York: Princeton Architectural, 2004. Print.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR286**
Course Title:	**Basic Design – II**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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:

- 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
- Enhance and learn to channelize their creative thinking through constructing representation of their ideas/ concepts

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

Unit	Syllabus	Teaching hours
Unit-I	Lateral Thinking – • Brainstorming • Mental Associations - Role of experience and memory in design • Matric of ideas	8 hours
Unit-II	Skill development – • 3D Exploration • Complex geometrical form • Expression of Graphics, geometry, solids, assembly & intersections • Exploration of material and advanced presentation techniques • Descriptive and analytical skills • Visualization of concepts by appropriate medium	8 hours
Unit-III	Abstraction and transformation – • Complex observations, perception, design and expression • Concept representation using composition of elements of design • Progressive evolution	20 hours

Unit-IV Volumetric & Spatial exploration – 24 hours

- Understanding of scale and proportion
- Spatial perception
- Volumetric exploration
- Ordering principles
- Spatial vocabulary
- Relation of basic design to architectural design

Self Study:
Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Ching, Francis D. K., and James Eckler. Introduction to Architecture. Print.
2. Ching, Francis D. K. Architectural Graphics. New York: Van Nostrand Reinhold, 1975. Print.
3. Ching, Francis D. K., and Steven P. Juroszek. Design Drawing. New York: Van Nostrand Reinhold, 1998. Print.
4. Ching, Francis D. K., Architecture: Form, Space, and Order. Hoboken, N.J: John Wiley & Sons, 2007. Print.
5. Aldo Tanchis and Huw Evans. Bruno Munari, Design as Art. Cambridge: MIT Press, 1987
6. Gombrich, E H. The Story of Art. New York: Phaidon Publishers; distributed by Oxford University Press, 1966
7. Berger, John. Ways of Seeing. New York, Viking Press, 1972
8. Lidwell, William; Kritina Holden; Jill Butler (2010). Universal Principles of Design (2nd ed.). Beverly, Massachusetts: Rockport Publishers. ISBN 978-1-59253-587-3.
9. White, Alex (2011). The Elements of Graphic Design. New York, NY: Allworth Press. pp. 81–105. ISBN 978-1- 58115-762-8.
10. Arthur L Guptill; Rendering with Pen and Ink; Watson-Guptill Publications, 1997. ISBN 0823045293, 9780823045297
11. William Wilson Atkin; Architectural Presentation Techniques; Van Nostrand Reinhold Co., 1976. ISBN 0442203616, 9780442203610
12. Anja Hartmann; Unusual Architectural Presentation Drawings; Page One Publishers, 2007. ISBN 9812452141, 9789812452146
13. Frank Lohan; Pen and Ink Techniques; Contemporary books, 1978. ISBN 0486157686, 9780486137681
14. International library of Technology; Elements of Pen and Ink Rendering, Rendering with Pen and Brush,
15. BiblioBazaar, 2010. ISBN 1171598823, 9781171598824
16. Mike W Lin, Architectural Rendering Techniques: A Color Reference; John Wiley and Sons, 1985. ISBN 0471289396, 9780471289395
17. Tibor K Karsai, The Airbrush in Architectural Illustration; Van Nostrand Reinhold, 1989. ISBN 0442246900, 9780442246907
18. Arthur L Guptill, Drawing with Pen and Ink: And a word about the brush; Literary Licensing, LLLC, 2013.
19. 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:	**2AR287**
Course Title:	**Surveying & Levelling**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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

Course Learning Outcomes (CLO):

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

- Interpret the concept, instruments and methods of surveying
- Make use and explain of concepts and methods of surveying
- Appraise the relevance of surveying and leveling with Architectural field

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

Unit	Syllabus	Teaching hours
Unit-I	Introduction of surveying – • Surveying and Architecture • Introduction to surveying: Definition, object, uses, classification of survey, • Formulae used in measurement of land with geometrical and abstract configurations to work out Areas, volumes and other quantities. • Principles of surveying, scales and types of scale, Accuracy • Errors: Types, definitions, laws of errors, weights, theory of least squares, distribution of errors.	3 hours
Unit-II	Linear Measurements – • Measurement of distance with chain, tape, EDM etc., measurement on slopping ground, obstacles, Errors in measurements • Selection of survey station. • Chain line, Offset, oblique offset, tie line, check lines, ranging. • Field book plotting.	3 hours
Unit-III	Measurements of Angles – • Various parts of Compass, Types, • Errors affecting angular measurements • Types of traverse, Orientation of traverse surveys • Theodolite Traversing: Types of Theodolites, Definitions, temporary adjustment of theodolite	3 hours

Unit-IV	Leveling – • Definitions, Types of levels, methods of leveling • Various parts of dumpy level. • Leveling staff, technical terms used in leveling. • Contouring: Definition, Characteristics of contour, plotting using radial line & square grids	3 hours
Unit-V	Plane table surveying – • Introduction. • Equipment required. • Working with plain table. • Errors in plane table. • Advantage and disadvantage.	3 hours
Unit-VI	Curve Setting – • Introduction. • Types of Curves • Elements of Curves • Methods of Curve Setting	3 hours
Unit-VII	Construction surveying – • Introduction. • Equipment for setting out. • Horizontal and vertical control. • Setting out a building and structure (complete layout).	6 hours
Unit-VIII	Advanced Surveying – • Total Station • GPS • Photogrammetry • Remote Sensing • Other Advanced Methods	6 hours

Self Study:

Suggested List of Experiments:

Suggested Case List:

Suggested Readings/ References:

1. Chandra A.M.(2006). Plane Surveying (2nd ed.). New Delhi, India: New Age International Publishers
2. Ghosh J.K.. (2010). Elementary Engineering Surveying. New Delhi, India: Stadium Press (India) Pvt.Ltd.
3. Punamia B.C. (2016). Surveying Volume 1 (17th ed.). Bengaluru, India: Laxmi Publications(P) Ltd.
4. Gopi Satheesh., Sathi Kumar R., Madhu, N. (2018). Advanced Surveying (2nd ed.). Noida, India. Pearson
5. Rangwala (2018). Surveying and Leveling. Anand, India: Charotar
6. Joseph G., (2005). Fundamentals of Remote Sensing. (2nd ed.), Hyderabad, India : Universities Press Pvt.Ltd.

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2AR288**
Course Title:	**Related Study Programme (RSP)-I**
Course Type:	Core
Year of introduction:	**2021**

Credit Scheme

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

Course Learning Outcomes (CLO):

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

- Get exposure to various built environment at different places of architectural relevance across the state, region, country and the world.
- Apprise the relevance of built environment by observing & photo documentation of selected places.

Syllabus: 3 weeks (30 hours / week) **Total Teaching hours: 90 Hrs**

Unit	Syllabus	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:

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARS201**
Course Title:	Communication Skills
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

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

- Demonstrate understandings of English Language
- Interpret the basic structure, grammar, vocabulary, speech construction
- Develop understanding and make use of architectural vocabulary
- Build art of presentation in basic writing and public speaking with focus on meaning, interpretation, accent, rhythm, etc. of the keywords in Architecture.
- Adapt skills of listening, reading, understanding, speaking, writing & translation in English

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

Unit	Syllabus	Teaching hours
Unit – I	Introduction to Communication • What is communication? • Types of communication • Why is it important?	2 hours
Unit – II	Basic components of Communication • Non-verbal communication • Body language exercises • Gestures • Reading non-verbal cues • Vocabulary development	4 hours
Unit – III	Reading Skills • Understanding SQRR technique with the aid of literary texts • Note taking • Outlining and summarizing • Vocabulary development	4 hours

Unit – IV	Listening Skills • Concentration to improve listening • Courteous and Responsive Listening • Practice listening through literary texts • Follow-up discussions • Vocabulary development	4 hours
Unit – V	Grammar Review and Reinforcement • Grammar categories • English word order (SVO) • Writing exercise through literary texts* • Common grammatical error analysis • Vocabulary development**	4 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	4 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.	6 hours
Unit – VIII	Oral Presentation • Impromptu speeches • Group Discussions • Assignment based interaction*** • Vocabulary development • Planning, Developing and Delivering speech	2 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.

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Annexure-C

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Year of introduction:	**2021**

Value Added Courses *	
2ARV01	Installation Design and Execution
2ARV02	Appropriate & emerging material & technology in construction
2ARV03	Portfolio Making
2ARV04	Performing Arts (Dance, Drama, Music)
2ARV05	Representation Skill development
2ARV06	Visualization Skills
2ARV07	Movie Making
2ARV08	Soft Skills for Professionals
2ARV09	Art in Architecture
2ARV10	Graphic and Product Design

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV01**
Course Title:	**Installation Design and Execution**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

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

- Apply knowledge of Design and Construction for preparing Site-specific Installations from materials such as Metal, Bamboo, Wood, etc.
- Do market survey of materials, estimation and costing of installations.
- Work as a team and mobilise man-power for doing site specific works.
- Undertake entire process of Installation Design from idea generation to execution.

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

Unit	Syllabus	Teaching hours
Unit – I	**Basics of Installation Design –** • Study of space, site, location, situation, immersive experience, viewer relations, and exhibition design. • Exploration of relationship between the work of art and the environment in which it is installed. • Researching new processes and methods of making and construction.	6 hours
Unit – II	**Sculptural and structural installations –** • Understanding of metals and techniques to work with metals like welding, bending, drilling, clamping, etc • Understanding of Bamboo, Wood, Cane and techniques of working like sawing, planing, polishing, jointing, etc • Working with materials like Plastics, Paper, Rope, Fabric, etc • Understanding and managing installation processes, priorities and schedules of workspace. • Market survey of materials, estimation and costing of installations. • Hands-on working with materials and knowledge of working with tools. • Implement knowledge of building construction and technology for installation process, durability and stability of Installations.	10 hours

Unit – III **Graphic Design and Art Installations –** 14 hours

- Different types of collages and montages
- Collages and Montages as tool to represent ideas
- Effect of colour and graphic on space and people
- Colour Theory and meaningful use of colour
- Knowledge of Surface finishes - paint, coating, patina, polish, etc

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV02**
Course Title:	**Appropriate & emerging material & technology in construction**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

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

- Various emerging construction technology and their application in building'
- Appropriate materials and technology in various context (Climate, geography, location etc.)
- Design and Practical work - Hands on construction of building elements using appropriate materials and various construction methods

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

Unit	Syllabus	Teaching hours
Unit – I	Emerging and appropriate Material – • Explore various building materials appropriate for the context and method of building • Explore various vernacular techniques of building and establish the relation to current times	5 hours
Unit – II	Design – • Design an element using various materials and construction methods • Work out the joinery and details, prepare models	5 hours
Unit – III	Hand on work – • Build the element designed • Learn the technique of building various components of a building	20 hours

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV03**
Course Title:	**Portfolio making**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

Course Learning Outcomes (CLO):

During the course, students will be able to -

- Explore different softwares required to clean, organise and compile architectural academic work
- Compile architectural academic work in a form of Architectural Portfolio
- Understand different digital printing methods required to make hardcopy of Architectural Portfolio.

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

Unit	Syllabus	Teaching hours
Unit – I	Organising and Cleaning Data – • Explore various methods of organising and cleaning diferent architectural works i.e drawing, sketches, model etc • Photoshop (or equivalent) tools and tutorials	5 hours
Unit – II	Layout and Formating – • Various layouts for architectural portfolio and their significance • Illustrator (or euivalent) tools and tutorial • Indesign (or euivalent) tools and tutorial	15 hours
Unit – III	Printing – • CMYK and RGB color profile • Control over file size • Digital printing methods and paper qualities • Various binding methods	10 hours

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV04**
Course Title:	**Performing Arts (Dance, Drama, Music)**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

Course Learning Outcomes (CLO):

During the course, students will be able to -

- Explore and appreciate various fields of performing arts
- Understand the basic elements of dance, drama and music
- Practically work on dance/music/drama performance

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

Unit	Syllabus	Teaching hours
Unit – I	Dance – • Explore and communicate ideas, feelings and thoughts • The basic elements of dance: actions, dynamics, space, relationships, choreographic devices, introduction to contact, performance skills, choreographic skills and appreciation skills	10 hours
Unit – II	Drama – • Explore a theme/topic/issue • Basic elements of drama and its vocabulary • Write reviews and develop an interesting script	10 hours
Unit – III	Music & Poetry – • Basic elements of music • Use different forms of music • Practical skills - new computer technology and keyboards, and will be encouraged to take part in group performances, both vocal and instrumental • Poetry writing and narration	10 hours

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV05**
Course Title:	**Representation Skill development**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

Course Learning Outcomes (CLO):

During the course, students will be able to -

- Develop better rendering skills, make technically correct and presentable rendered drawings that help in communicating their ideas or drawings better
- Develop better model-making skills, make precise, well-finished models using appropriate materials.

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

Unit	Syllabus	Teaching hours
Unit – I	Rendering – • Techniques of rendering with different mediums - demonstration and hands on • Final rendering complete sheet set using suitable rendering technique	15 hours
Unit – II	Model-making – • Basic techniques of model making with different materials - demonstration and hands on simple solids • Cutting, folding, handling materials, neatness and finishing of models • Preparing models of the studied structure	15 hours

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV06**
Course Title:	**Visualization skills**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

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

- Develop better sketching skills, make realistic live proportionate sketches with correct perspective views and will also be able to express and communicate through the medium of sketches
- Develop better rendering skills, make technically correct and presentable rendered drawings that help in communicating their ideas or drawings better
- Develop better model-making skills, make precise, well-finished models using appropriate materials.

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

Unit	Syllabus	Teaching hours
Unit – I	Sketching – • Techniques of sketching - demonstration and hands on, Selection of appropriate viewpoints for sketching of perspective views, overall view, detail elements, interior and exterior view, etc. • Live sketching on field and application of all the learnings	10 hours
Unit – II	Collages – • Manual & digital ways, modern approaches etc • 2D Collages • 3D Collages	10 hours
Unit – III	Model-making – • Model making with different materials - demonstration and hands on simple solids • Model-making is a medium to conceptualize ideas	10 hours

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV07**
Course Title:	**Movie Making**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

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

- Learn basic of movie making process
- Develop understanding of pre an dpost production proceses

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

Unit	Syllabus	Teaching hours
Unit – I	Movie-making – • Development – concept, script-writing • Pre-production – storyborarding, role defining, location scouting, scheduling contents • Production – camera, scene composition • Post-production – editing, video & audio	30 hours

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV08**
Course Title:	**Soft Skills for Professionals**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

Course Learning Outcomes (CLO):

This Course will help students to prepare themselves for the professional career. It will help them to overcome fear of facing personal interviews and group discussion. They will learn to communicate and present themselves with professional competency. They will also develop an understanding of their role within the professional organization over and above the importance of team dynamics at a workplace.

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

1. Prepare their Resume/CV
2. Develop skills required for Personal Interviews.
3. Perform and Communicate as a Professional.
4. Become aware of their role as an Employee and a Team Player.

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

Unit	Syllabus	Teaching hours
Unit – I	Resume Building 4 hrs. • Understanding CV format • Significance of facts – Organizational skills for CVs • Discussion on various CVs related to different industries • A small CV making Exercise – CV writing skills • Discussion on portfolios • Assignment – build your CV	4 hours
Unit – II	Discussing individual CVs • Corrections in CVs • Finalizing CVs • Adding portfolios where needed.	4 hours

Unit – III	Group Discussions 8 hrs. • Discussion on various topics of GD • Content of GDs • Performance based Analysis– what to expect • Strategic thinking and communication skills • Understanding non-verbal communication • Videos on group discussion	6 hours
Unit-IV	Mock Groups Discussions 2hrs. • Group discussion exercises – • Group discussion team competitions – video recording for assessment • Analyzing and discussing performances and contents • Presentation skills	2 hours
Unit-V	Mock interviews 3 hrs • One-on one interviews • Video shooting to be analyzed • Analysis and amendments • Assertiveness Vs. being positive	3 hours
Unit-VI	Team Vs. individual 2 hrs • Understanding Team dynamics • Being a team player – team goals and Individual goals • Team building exercises • Networking – social and professional	3 hours
Unit-VII	Practicing Group Discussions • CV corrections – as per the job descriptions of the invited firms	2 hours
Unit-VIII	Practicing Group Discussions • CV corrections – as per the job descriptions of the invited firms	3 hours
Unit-IX	Mock interviews - with a panel of in-house faculties (if it's feasible)	3 hours

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Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV09**
Course Title:	**Art in Architecture**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

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

- Appreciate the role of art in the built-environment
- Understand the significance of graphic in visual communication and architecture

Role of art in history of world architecture; Symbiotic relationship of folk art and architecture; application of different art forms in architecture; Visual communication in architecture and way finding; Works of different artists and architects that reflect the inter relationship

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

Unit	Syllabus	Teaching hours
Unit – I	Role of art – • Role of art in history of world architecture • Symbiotic relationship of folk art and architecture • Application of different art forms in architecture	15 hours
Unit – II	Visual communication and Art – • Visual communication in architecture and way finding • Works of different artists and architects that reflect the inter relationship	15 hours

NIRMA UNIVERSITY

Institute:	**Institute of Architecture and Planning**
Name of Programme:	**Bachelor of Architecture**
Course Code:	**2ARV10**
Course Title:	**Graphic and Product Design**
Course Type:	Value Added
Year of introduction:	**2021**

Credit Scheme

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

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

- Interpret the importance and relevance of Graphic design
- Develop the knowledge of various compositions based on the typology.
- Understand product design and manufacturing process

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

Unit	Syllabus	Teaching hours
Unit – I	Principles s in graphic design – • Principles of Compositions in graphic design and Detail • Importance of Visual Balance & colors in signage	10 hours
Unit – II	Introduction Of graphic Software • I.E. Coral Draw, Adobe Photoshop, Adobe Illustrators, Lightroom (Over View And Biggner Level Exploration) Execution of Graphics • Introduction Of Printing or/and physically various method of execution of graphics	8 hours
Unit – III	Product Design – • Concept of form and space in product design; Relating Form to Materials and Processes of Manufacture • Use of Computers for Form generation • Creativity techniques; product detailing and manufacture • Exploratory mockup models for concept development, refinement and detailing • Product design prototyping and advanced manufacturing processes • Preparing models of the studied structure	12 hours