

NIRMA UNIVERSITY

Institute of Architecture and Planning

Bachelor of Architecture

Semester-I

L	W	S	C
2	2	-	3

Course Code	2AR173
Course Title	Building Construction & Technology - I

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.
- Name building elements and basic building construction processes.

Syllabus: 15 weeks (4 hours/week)

Total Teaching hours: 60 Hr

Unit No.	Syllabus: Topic	Sub Topic	Teaching hours: (Weeks)
1	Introduction to Building Construction Materials	<ul style="list-style-type: none">• 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
2	Introduction to elements of Super Structure and Sub - Structure	<ul style="list-style-type: none">• 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
3	Introduction to masonry structures	Understanding principles of Brick and Stone Masonry: <ul style="list-style-type: none">• 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.• Brick walls in different bonds, ends, corners and junctions.	32 hours

w.e.f. academic year 2020-21 and onwards

		<ul style="list-style-type: none"> • 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. 	
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L= Lecture, W= Workshop, S= Studio, C= Credit

References:

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