

Information on Building Materials and Construction		
1.	Unit Name: Building Materials and Constructions	
2.	Unit Code: CE-11022	
3.	Classification: Engineering Subject	
4.	Credit Hour: 3	
5.	Semester and Year Taught: 1/1	
6.	Pre-requisite(if any): None	
7.	Mode of Delivery : Lecture ,Tutorial and Practical	
8.	Assessment System and Breakdown of Marks ::	
	Tutorial	10%
	Practical	20%
	Final Examination	70%
	Total	100%
9.	Academic Staff Teaching Unit:	
10.	Objective of Unit:  The objective of this course is to: The purpose of this subject is to gain a useful knowledge of the materials and methods of building construction for civil engineering students.	
11.	Learning Outcomes of Unit:  On completion of this unit , students shall be able to: <ul style="list-style-type: none"> <li>(a) Describe the material used in building construction and methods of building construction.</li> <li>(b) Identify the properties of each material that are used in construction.</li> <li>(c) Apply correct materials and methods of construction which should be used in construction.</li> </ul>	
12.	Synopsis of units: Building techniques are presented as whole working systems rather than component parts.	
13.	<p><b>Topic 1: Making Buildings</b></p> <ul style="list-style-type: none"> <li>• Learning to Build</li> <li>• Sustainability</li> <li>• The building life cycle</li> <li>• Assessing Green Buildings</li> </ul> <p><b>Topic 2: Foundation</b></p> <ul style="list-style-type: none"> <li>• Foundations requirements</li> <li>• Earth materials</li> <li>• Properties of soils</li> <li>• Soils for Building foundations</li> <li>• Foundation</li> <li>• Shallow foundations</li> <li>• Deep foundations</li> </ul>	

**Topic 3. Wood**

- Tree Growth
- Softwoods and Hardwoods
- Sawing
- Seasoning
- Surfacing
- Lumber Defects
- Structural properties of wood
- Wood Fasteners

**Topic 4. Heavy Timber Frame Construction**

- Longer Spans In Heavy Timber
- Arches and Domes

**Topic 5. Wood Light Frame Construction**

- Roof Framing

**Topic 6. Exterior Finishes For Wood Light Frame Construction**

- Roofing
- Windows and Doors

**Topic 7. Interior Finishes For Wood Light Frame Construction**

- Increasing Levels of Thermal Insulation
- Wall and Ceiling Finish

**Topic 8. Brick Masonry**

- Mortar Ingredients
- Mortar Mixes
- Mortar Hydration
- Brick Masonry
- Choosing Bricks
- Reinforced Brick Masonry

**Topic 9. Stone And Concrete Masonry**

- Types of Building Stone
- Selecting Stone For Buildings
- Stone Masonry
- Concrete Masonry

**Topic 10. Masonry Wall Construction**

- Composite Masonry Walls
- Masonry Cavity Walls
- Masonry Loadbearing Walls
- Reinforced Masonry Walls
- Posttensioned Masonry Walls

14	Main References: <b>Fifth Edition, Fundamentals Of Building Construction Materials &amp; Methods</b> EDWARD ALLEN JOSEPH IANO
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