



CIHAN UNIVERSITY-SULAIMANIYA

Course Outline

2023-2024

**Address: Chwarchra-Opposite to Family Mall
Sulaymaniyah City
Kurdistan Region-Iraq
Tel: 07714695656,
email: presidency@sulicihan.edu.krd**

MODULE DESCRIPTION FORM

Module Information			
Module Title	Building Materials		
Module Type	Supported	<input type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar <input type="checkbox"/> Report <input type="checkbox"/> Extra activity	
Module Code	CUE42012		
Language	English		
ECTS Credits	4		
Module Level	1	Semester of Delivery	2 nd
Administering Department	Architecture	College	Engineering
Lecturer	Mr. Diyari Burhan Hussein		
Academic Title	Assistant Lecturer	Qualification	M.Sc.
Module Tutor	Mr. Diyari Burhan Hussein	e-mail	Diyari.burhan@sulicihaan.edu.krd
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date		Version Number	1.0
Cycle of Study	Bachelor	Form of Education	Full time

Relation with other Modules			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Cihan University Sulaimaniya?

College of Engineering

Department: Architecture

Discipline: Computer Skills

Stage: 1st



Total Contact Hours:	61
Total Self Study Hours:	47
Total No. Hours:	108
ECTS:	4

No. of Weeks	Contact Hours					Self-Study					
	Theoretical	Practical	Lab	Project	Visit	Quiz	Reading	Assignment	Report	Midterm Exam.	Final Exam.
1st Week (Registration)	2			2			2				
2nd Week	2			2			2			3	4
3rd Week	2			2		1	2				
4th Week	2			2			2				
5th Week	2			2			2				
6th Week	2			2			2				
7th Week	3			2			2				
8th Week	2			2			2				
9th Week	2			2		1	2			3	
10th Week	2			2			2	2			
11th Week	2			2			2				
12th Week	2			2		1	2				
13th Week	2			2			2				
14th Week	2			2			2		2		
15th Week (Final Exam.)	2			2			2				
16th Week (Final Exam.)											
TOTAL	31			30		3	30	2	2	6	4

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Topic 1: Introduction <ul style="list-style-type: none"> • Introduction to building materials and building construction • Materials Engineers • Economic Factors • Materials and Types
Week 2	Properties of Engineering Materials <ul style="list-style-type: none"> • Mechanical Properties • Loading Conditions, Strength, Strain, and Stress-Strain Relationship • Ductile Materials • Brittle Materials • Elastic Behavior, and Plastic Behavior
Week 3	Properties of Engineering Materials <ul style="list-style-type: none"> • Physical Properties • Density, Porosity, and Water Absorption • Thermal Conductivity, and Thermal Expansion • Frost Resistance, and Fire Resistance
Week 4	Properties of Engineering Materials <ul style="list-style-type: none"> • Chemical Properties • Acidity • Alkalinity • Resistance to Corrosion
Week 5	Footing and Foundation <ul style="list-style-type: none"> • Types of Foundation • Shallow Foundation • Types of Footing • Wall Footing, Strip, Single, Cantilever, Combined, Continuous, Mat, and Buoyancy Foundation
Week 6	Footing and Foundation <ul style="list-style-type: none"> • Types of Foundation • Deep Foundation • Peir Foundation, Caisson, and Pile Foundation • Applications of using Deep Foundation
Week 7	Mid-Term Exam
Week 8	Masonry Work <ul style="list-style-type: none"> • Block Unit • Types of Block according to Materials • Grades of Concrete Block • Concrete Block Manufacturing Process
Week 9	Masonry Work <ul style="list-style-type: none"> • Brick Unit • Types of brick according to material • Brick Manufacturing • Engineering properties, and specification • Brick Bonding, and Types of Bonding
Week 10	Masonry Work <ul style="list-style-type: none"> • Stone Work & Masonry Joints • Stone preparation • Classification of stone wall

	<ul style="list-style-type: none"> • Joints and connections of stonework • Stone Joints, and Brick Joints
Week 11	Plastering <ul style="list-style-type: none"> • Cement Plastering • Cement Plastering Process • Cement Plastering materials • Problems in Cement Plastering
Week 12	Plastering <ul style="list-style-type: none"> • Gypsum Plastering • Composition (Raw materials) • Gypsum Plastering Application • Properties of gypsum plasters
Week 13	Tiling <ul style="list-style-type: none"> • Classification of Tiles • Flooring tiles or paving tiles, Roofing tiles, Wall tiles, Drain tiles, and Glazed earthenware tiles • Characteristics of good tiles • Manufacture of tiles
Week 14	Floor Finishes Glazing Painting
Week 15	Preparatory Week
Week 16	Final Exam

Delivery Plan (Weekly Practical. Syllabus)	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week8	
Week9	
Week 10	
Week 11	
Week 12	
Week 13	

Week 14	
Week 15	
Week 16	

Module Aims, Learning Outcomes, and Indicative Contents	
Module Objectives	<p>This course covers an introductory overview of the many materials used in building construction. After receiving an introduction to fundamental principles of structural, physical, and long-term performance, students learn about material and product manufacturing techniques and how they relate to the mechanical and non-mechanical properties of the various materials. Common construction methods are introduced and building details are explored.</p> <p>Students have the opportunity to experience material capacity and behavior as well as construction methods in demonstrations and lab experiments.</p> <p>Moreover, material applications and detailing in structural and non-structural building components are explored. Resulting from this course, students will gain knowledge of material properties in building construction and architecture.</p>
Module Learning Outcomes	<p>Upon successful completion of the program, you should have the skills to:</p> <ol style="list-style-type: none"> 1. Comparative knowledge of material properties (physical, structural, ...) for most common and advanced building materials, 2. Understanding of typical and potential applications of these materials, 3. Understanding of the relationship between material properties and structural form, 4. Ability to identify crucial problem areas in the manufacture and applications of building materials, 5. Understanding of the importance of experimental verification of material properties

Learning and Teaching Strategies	
Strategies	<p>Students are required to attend class, do their homework, and do the quizzes, they have to study and search after each class and take two exams during the semester.</p> <p>English languages will be used in conducting the theory lectures for 2 hours/week. The data show a whiteboard and marker will be used for further explanation.</p> <p>There will be practical discussions 2 hours/week, the lecturer will give enough time for practice to each student</p>

Module Evaluation

Assessment Types		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes		5%		
	Assignments		5%		
	Class Activity		5%		
	Attendance		5%		
Summative assessment	Midterm Exam	2hr	30%	7 th	
	Final Exam Theory	2hr	50%	16 th	
	Final Exam Practice				
Total assessment			100% (100 Marks)		

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	Lecture notes given by the lecturer	
Recommended Texts	<ul style="list-style-type: none"> • Commercial design and drafting -The construction of buildings. Berry -Time saver standards for architectural design data - 6th edition John Hancock – • Building construction Al Suhairy, Atef-Tasheed Al-Mabani, Dr. Farouq Abbas • Building Architecture by Assist. Prof. Dr. Muhammad Hasan younis & Sherko Karim kader • Building Construction by W.B Makay • Building construction illustrated by Francis D.K. Ching. • The construction of building by R.BARRY • Building construction by Dr. B.C.Punmia • Building construction by S.KSHARMA • Fundamentals of Building Construction (Materials & Methods) by; E. Allen & J. Iano. • Building Design and Construction Handbook; Frederick S. Merritt & Jonathan T. Ricketts Editors. • Building Construction Handbook by; R. Chudley & R. Greeno (2010). • Building Construction by; Dr.BC.Punmia, Ashok Kumar Jain, and Arun Kumar Jain 	
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Approved by Head of the Branch / Department

Signature

Date

Name

Approved by Curriculum Development Committee and Bologna Process Committee

Signature

Date

Name