

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Building Materials		Module Delivery
Module Type	Core learning activity		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	CE 103		
ECTS Credits	4		
SSWL (hr/sem)	63		
USSWL (hr/sem)	37		
SWL (hr/sem)	100		
Module Level	1	Semester of Delivery	
Administering Department	CE	College	GE
Module Leader	nahla.salim@alnaji-uni.edu.iq ruaa.qassim@alnaji-uni.edu.iq		e-mail nahla.salim@alnaji-uni.edu.iq ruaa.qassim@alnaji-uni.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D. MS.C.
Module Tutor	Nahla M. Nori M. Saleem		e-mail E-mailnahla.salim@alnaji-uni.edu.iq
Peer Reviewer Name	Nahla M. Nori M. Saleem	e-mail	
Scientific Committee Approval Date		Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Introduce basic definition and explain the basic concepts that essential in connection with materials and illustrate these concepts by examples and tests. 2. Explain the uses of the materials and their applications. 3. Enable the student to analyze the material (chemically and physically). 4. Introduce basic definition and explain the basic concepts of materials available in the local market. 5. Enable the student to perform tests on the studied materials
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A- Cognitive goals. 1. Define any building materials. 2. Graph basic relationships considering materials properties. 3. Know the raw and ingredients of the materials. 4. Tests materials for basic and most important experiments. 5. Know the standards related to the specifications of the materials. 6. Calculate the mathematic relations for some materials. 7. Specify the quality of good material theoretically and practically. B- The skills goals special to the course. 1. Construction materials test methods. C- Affective and value goals 1. Increasing student's self-confidence to perform his (homework, classwork and assessment) within the corresponding time. 2. Encouraging the teamwork between the students. 3. Cooperating the universal activities. 4. Supporting the extra-curricular university activities and urging students to participate in them. D- personal development 1. Enhancing the skills to perform any significant lab test for different engineering purposes
Indicative Contents المحتويات الإرشادية	Indicative content includes the following: <u>Part A</u> Introduction of Construction Materials Science. [12 hrs] <u>Part B</u> Bonding Material. [20 hrs] <u>Part C</u> Bricks. [20 hrs] <u>Part D</u> Blocks. [16 hrs] <u>Part E</u> Tiles. [16 hrs] <u>Part F</u> Timber. [16 hrs] <u>Part G</u> Metal. [16 hrs] <u>Part H</u> Nano-Materials. [4 hrs]

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main adopted strategy in delivering this module, encourage students' participation in the exercises, refining and expanding their critical thinking skills comprised: 1. Lectures. 2. Tutorials. 3. Homework and Assignments. 4. Lab. Experiments. 5. Tests and Exams. 6. In-Class Questions and Discussions. 7. Connection between Theory and Application. 8. Field Trips. 9. Extracurricular Activities. 10. Seminars. 11. In- and Out-Class oral conservations. 12. Preparing reports about the lab tests.
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Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	37	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	100		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	1	10% (100)	6 and 12	LO #A, #B and #C
	Home work	1	10% (10)	8	LO #A, #B and #C
	seminar	1	10% (10)	7	LO #B and #D
	Laboratory	1	10% (100)	5,6,11 and 12	LO #B and #D

Summative assessment	Midterm Exam	1hr	10% (100)	9	LO #A, #B and #C
	Final Exam	3hr	50% (100)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction of Construction Materials Science Types of building Mechanical properties of materials
Week 2	Introduction of Construction Materials Science Materials properties
Week 3	Bonding Material-Gypsum Plaster Introduction of Gypsum plaster Manufacture of gypsum plaster Gypsum products a. Plaster of Paris b. Ordinary plaster c. Technical plaster d. Anhydrous plaster e. Keen cement
Week 4	Bonding Material-Lime Plaster Definition and classification Bricks a. Quick lime b. Hydrated lime Manufacture of lime - Theory of calcinations Properties of quick lime Properties of hydrated lime
Week 5	Bricks Classification of bricks according to constituent raw material: 1. Clay bricks 1.1 Raw materials 1.2 Composition of good clay brick 1.3 Harmful ingredients in clay bricks 1.4 Manufacture of bricks: 1.5 Classification of clay bricks in accordance with Iraqi standard No. 25/1988
Week 6	Bricks 1.6 Properties of bricks: 1.6.1 Compressive strength 1.6.2 Water absorption 1.6.3 Effloresce 2. Sand - Lime bricks: 2.1 Mix proportion:

	2.3 Manufacture: 2.4 Properties of lime sand brick 3. Concrete bricks 3.1 Properties of concrete bricks
Week 7	Blocks Introduction Types of blocks Manufactures of blocks
Week 8	Blocks Uses of blocks a. Solid blocks b. Hollow blocks c. Itonic blocks d. Thermal blocks e. Glass blocks f. Hourdy blocks
Week 9	Midterm Exam + Tiles Introduction Classification Types & uses of tiles
Week 10	Tiles Characteristics of good tiles Manufacture of Tiles Tile tests
Week 11	Timber Classification of trees Seasoning in wood Methods of wood seasoning Natural defects in timber Artificial defects in timber
Week 12	Timber Mechanical properties of woods Strength and moisture in wood Timber defects Shrinkage in timber Warping in timber Cheking in timber
Week 13	Metal Properties of metals Classification of steel due to carbon content High carbon steel/ properties &uses Low carbon steel/ properties &uses factors affecting steel properties heat treatment of steel

Week 14	Metal Low carbon steel/ properties & uses factors affecting steel properties heat treatment of steel
Week 15	Nano-Materials
Week 16	A preparatory week before the Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to the laboratory tests and test devices
Week 2	Bonding Material-Gypsum Plaster Standard consistency test Fineness test
Week 3	Bonding Material-Gypsum Plaster Setting time test Preparing for the Compressive strength test
Week 4	Bonding Material-Gypsum Plaster Compressive strength test Bonding Material exam
Week 5	Bricks Dimension test Preparing for the Efflorescence test
Week 6	Bricks Absorption test Compressive strength test
Week 7	Bricks Efflorescence test Brick exam
Week 8	Blocks Dimension test
Week 9	Blocks Absorption test Compressive strength test Block exam
Week 10	Tiles Dimension test Face absorption test
Week 11	Tiles Total absorption test Flexural strength test Tile exam
Week 12	Timber Compressive strength test

Week 13	Timber Flexural strength test Timber exam
Week 14	Metal Yield strength
Week 15	Metal Tensile strength
Week 16	A preparatory week before the Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	-	-
Recommended Texts	Construction materials by zuhair Sakoo I.Q.S. for all the materials used in the semester Construction materials by zuhair Sakoo	No
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.