MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	CONSTRUCTION MATERIAL			**Module Delivery**	
Module Type	CORE			**Theory** **Lecture** **Lab. :Particular**	
Module Code	UOMU0203021				
ECTS Credits	10				
SWL (hr/sem)	250				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Building and construction techniques		**College**	Al-Mustaqbal university	
Module Leader	Assist.Pro Mayada waheed falah Assist. Lec Israa mohsein abd		**e-mail**	Israa.Mohsin.Kadhim@uomus.edu.iq mayadah.waheed@uomus.edu.iq	
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	None		**e-mail**	None	
Peer Reviewer Name			**e-mail**		
Review Committee Approval	01/06/2023		**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 Aims أهداف المادة الدراسية	After successful completion of this course the student will be able to understand: 1. Student informing with the properties of materials such as brick 2. Student informing with physical, chemical properties and specification of building materials such as metals , plastic 3. Student learning how to test the materials such as metals , bricks 4. Student training to doing materials tests such as timber.compression members.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Preparation of practical engineers in the field of sanitary and environmental engineering who are characterized by a high level of knowledge and technological innovation, and work in with internationally approved discreet standards of quality assurance and academic accreditation of corresponding engineering programs with a commitment to ethics of engineering career. 2- Enable students to learn and understand the various types of building materials 3- Enable students to learn and understand the practical applications of building materials and there tests. 4- Enable the student to learn and understand the properties of materials such as bonding materials, wood, stone, bricks, epoxy.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1- Increase communication between individuals, which contributes to building of a learning community. 2- Development of the various emotional aspects such as nosiness and positive trend towards learning and social moral and independence in learning and self-confidence. 3- Developing the skill aspects among students. 4- Learning to identify the correct priorities for any problem. 5-Development of the time respect and the time for completion and implementation of works. 6- Development the spirit of fair competition between working groups in order to achieve work quality, excellence and diversity in performance. 7- Development the spirit of creativity and innovation.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1-Using the teaching staff member ability and experience in delivering the scientific material to the student. 2. Assigning students to prepare reports on a particular subject and thus motivate students to learn the initial principles of scientific research. 3. Assigning students to conduct laboratory experiments by their own after a simple explanation about the experiment procedures given by the lecturer, and thus a chance is available to the student to conclude and analyze the experiment results. 4. Adoption of the issue of scientific trips to various engineering projects for students as these trips will contribute to the expansion in the perceptions of students and the recognition of the work field.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	123	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	123/15 =8
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	127	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	127/15 =8.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	250		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	1.5 hr	10% (10)	7	LO # 1-7
	Final Exam	2.5 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week	**Syllabus**
1	**Physical properties & standard specification for construction materials , Types of metallic materials , Non metallic materials .**
2	**Clay bricks : Definition , Classification , Properties , Types , Advantages & disadvantages of clay bricks , Type of defects , Standard specification .**
3	**Sand-lime brick : Properties , Standard tests & specification.** **Glass bricks , Concrete bricks : Properties , Standard tests & specification .** **Concrete blocks : Types , Uses , Engineering properties , Standard specification .** **Cellular concrete blocks : Properties , Standard tests & specification .**
4	**Beam-columns: introduction, stresses in beam-columns, effective length of columns, design of beam-columns according to AISC ASD, method of determination initial trial section, method of equivalent load, examples & problems.**
5	**Building stone : Definition , Classification , Uses & properties**
6	**Bonding materials : Classification , Chemical composition , properties & uses of common bonding materials , Standard tests & specification (Cement mortar , Cement lime mortar , Gypsum) .**
7	**Flooring materials (Tiles & concrete flags) : Types , Properties , Standard tests & specification .**
8	**Water proofing materials : Classification , (Liquid , Rigid & semi-rigid water proofing materials) , Types & uses .**
9	**Polymers : Definition , Classification , Chemical composition , Uses . Epoxy : Definition , Properties , Types & uses .**
10	**Steel : Composition & classification , Properties , Uses & standard tests .** **Metallic materials (non ferrous) : Classification & use .**
11	**Timber (wood) : Classification, Properties, Seasoning, Types of defect , Standard tests .**
12	**Insulating materials : Types , Properties .** **Acoustical materials : Types , Properties .**
13	**Protective coating (paints) : Composition , Types .**
14	**Glass : Classification , Properties , Uses .**
15	**Bituminous materials (Asphalt) : Sources & type , Chemical composition , Properties , Uses & tests .**
Delivery Practical (Weekly Syllabus) **المنهاج الاسبوعي العملي**	

Week	Practical Syllabus
1	Recognition of laboratory , Using of balances .
2&3	Clay brick tests : Density , Dimension , Absorption , Compressive strength , Efflorescence , Analysis of soluble salts , Porosity
4&5	Sand-lime brick tests : (Density , Absorption , Compressive strength) .
	Concrete bricks & block tests : (Density , Absorption , Compressive strength) . Cellular concrete block tests : (Density ,Absorption , Compressive strength) .
6&7&8	Bonding materials (gypsum) tests : , Fineness , Standard consistency ,Time of setting of gypsum, Compressive strength , Tensile strength of gypsum .
9	Tile tests : (Dimension , Total absorption, Face absorption, Modulus of rupture) . Concrete flags :(Absorption , Fracture strength) .
10	Standard specification for water proofing materials Standard specification of epoxy . Standard specification for polymers .
11	Timber (wood) : Compressive strength parallel & perpendicular to fiber test , Modulus of rupture .
12	Steel : (Tensile strength test)
13	Standard specification for insulating materials . Standard specification for acoustical materials . Standard specification for plastics .
14	Standard specification for paints . Standard specification for glass .
15	Bituminous materials (Asphalt) tests : Softening point , Penetration , Flash point , & ductility .
Week 16	Final Exam

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1. Materials of Construction / R.C. Smith . 3. Iraqi Standard Specification . 4. American Society for Testing Materials (ASTM) . 5. انشاء المباني / يوسف الدواف 6. انشاء المباني / زهير ساكو ، آرتين ليفون	Yes

Recommended Texts	1. Civil Engineering Materials / N. Jackson	No
Websites		

APPENDIX:

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	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB 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.

ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي