MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Soil Mechanics 1			**Module Delivery**	
Module Type	***CORE***			**Theory** **Lecture** **Practical** **Tutorial** **Seminar**	
Module Code	UOMU023054				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	UG111		**Semester of Delivery**	5	
Administering Department	Technical building and Constructio		**College**	Al-Mustaqbal university	
Module Leader	Assist. lec Lina Hussein Ali		**e-mail**	lina.hussein@uomus.edu.iq	
Module Leader's Acad. Title	***Lecturer***		**Module Leader's Qualification**	***None***	
Module Tutor	***None***		**e-mail**	***None***	
Peer Reviewer Name			**e-mail**		
Review Committee Approval	01/10/2025		**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	1. This course aims to provide a good understanding to soil nature and to understand, soil classification, permeability, compaction, consolidation and shear strength. 2. To prepare them to carry out experimental investigation and analysis at later stages of graduation.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon completion of this course the students will: 1- To apply the knowledge of soil nature and its formation. 2- To identify soil classification for different types of soil. 3- To learn the method of soil compaction in the field and lab and to compare with standard. 4- To investigate the effective stresses without seepage, with seepage and under the different external loads 5- To estimate settlement under different types of loading. 6- Identify the mechanism of soil formation. 7- Order the formation of different soil formation mechanisms. 8- Explain the factors affecting the formation mechanic 9- Explain factors affecting the grain structure of soil properties . 10- Explain the physical and index properties of soil. 11- Change the shape of the specified plane to the other under the effect of		

	the stresses. 12- Interpret the ground-water relations. systems subjected to gravity and lateral loads. 7- Be able to analyze and design a complete structural system through a comprehensive design project. 8- Be able to produce a complete project document and present in a concise and complete manner to include structural drawings and structural calculations. 119 9- Summaries the fundamental mechanics of reinforced concrete and the empirical assumptions made for analysis. 10- Design basic structural elements (beams, columns and slabs) according to the design approach. 11- Apply fundamental mechanics to the design of reinforced concrete beams and slabs at the serviceability limit state including determination of short and long-term deflection and crack widths.
Indicative Contents المحتويات الإرشادية	***Indicative content includes the following. Soil Information, Types of soil [4 hrs] Soil-Particle Size, clay Mineral [2 hrs] Physical Properties of Soil [6 hrs] Soil Classification [6 hrs] Hydraulic Conductivity, Darcy law [4 hrs] Seepage and Flow Nets [6 hrs]***
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Assessment is based on 1- Exams. 2- Student feedback. 3- Seminars. Assessment is based on 1- Exams. 2- Student feedback. 3- Seminars. 4- Application in lab.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1
Total SWL (h/sem)	125		

الحمل الدراسي الكلي للطالب خلال الفصل	

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
	Tutorial	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week	Syllabus
1	Soil Information, Types of soil
2	Soil Information, Types of soil
3	Soil-Particle Size, clay Mineral
4	Physical Properties of Soil
5	Physical Properties of Soil
6	Physical Properties of Soil
7	Introduction to Soil Classification
8	Soil Classification by Unified System
9	Soil Classification by AASHTO
10	Hydraulic Conductivity, Darcy law

11	Measurement of Hydraulic Conductivity in Laboratory and Field
12	Introduction to Flow in Soil
13	Seepage in Soil
14	Construction of Flow Nets
15	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Lambe T. W. and Whitman R. V.," Soil Mechanics ",John Wiely and Sons.Inc., New York ,1979. 2. Terzaghi, K. and Peck, R.B., (1967), "Soil Mechanics in Engineering Practice", 2nd Edition, John Wiley & Sons, New York. 3. Das M. B . " Principles of Geotechnical Engineering" California state university ,2007. 4. Gamal-Eldin A. K. " Soil Mechanics and Foundation Engineering" 1982. 5. Uniform building code volume 2 chapter 16 , 1997. 6. Head K. H. " Manual of Soil Laboratory testing " , Vol.3 Prentch Press,London,1986. 7. British standard Institute (1975) " Method of Testing soil for civil Engineering Purpose" , B.S.1377. 8. American Society for Testing Materials (ASTM), (1989).	Yes
Recommended Texts	1. Braja M. Das, (2011), "Principles of Foundation Engineering", 7th Edition, Cengage Learning, pages (284 – 285) .	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:

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.

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