	Ministry of Higher Education and Scientific Research - Iraq Al-Mustaqbal University College for engineering and technology Department of Biomedical Engineering	

MODULE DESCRIPTOR FORM
نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Corrosion Eng. In Petroleum Refinery		**Module Delivery**	
Module Type	C		☐ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**UOMU0102045**			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	٢		**Semester of Delivery**	2
Administering Department	Chemical engineering and petroleum industries		**College**	
Module Leader	Asst.lect.Rusul Ahmed		**e-mail**	Email: rusul.ahmed.hashim@uomus.edu.iq
Module Leader's Acad. Title	Assistant lecturer		**Module Leader's Qualification**	
Module Tutor	Asst.lect.Rusul Ahmed			
Peer Reviewer Name			**e-mail**	Email: rusul.ahmed.hashim@uomus.edu.iq
Review Committee Approval			**Version Number**	

Relation With Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	2
Co-requisites module		**Semester**	
Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims أهداف المادة الدراسية	**1- Teaching the student the basic principles of corrosion and identifying the types o corrosion cells and how to deal with them** **2- Introducing the student to methods for solving problems related to corrosion calculations using the special method** **3- Enabling the student to choose the appropriate metals for a specific application** **4- Identify ways to protect metals from corrosion.**		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية			
Indicative Contents المحتويات الإرشادية			
Learning and Teaching Strategies استراتيجيات التعلم والتعليم			
Strategies	1. The student is prepared to receive a solid scientific subject 2. The student learns how to benefit from the basic theoretical topics in chemical engineering And harnessed in material equipment design. 3. - The student learns how to apply the scientific materials that have been taken and compiled in this subject 4. Learn how different computer applications work as a program Consolidating the scientific material correctly by conducting daily exams 5. Activating the student's role in understanding and benefiti from this material to the maximum extent		

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	75	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	48
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	15% (5)	4,8,12	LO2, LO3, LO4 and LO5
	Assignments	٣	10% (5)	Continuous	LO1-LO6
	Projects / Lab.				
	Report	1	5% (5)	14	LO1 and 6
Summative assessment	**Midterm Exam**	2hr	10% (10)	10	LO2, LO3, LO4 and LO5
	Final Exam	3hr	٦0% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	First order Ordinary Differential Equations
Week 2	Second order Ordinary Differential Equations
Week 3	Method of direction integration
Week 4	Fourier Transforms
Week 5	Laplace Transforms
Week 6	Unit step function
Week ٧	Inverse of Laplace transform
Week ٨	Partial Differential equations

Week ٩	Formulation of chemical engineering problems
Week ١٠	Mixing Tanks
Week ١١	Storage Tank
Week 12	Heat transfer problems
Week 13	Mass transfer problems
Week 14	Chemical reaction vessels
Week 15	

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Revie, R. Winston, and Herbert H. Uhli 2008. Corrosion and Corrosion Contro Hoboken,NJ, USA: John Wiley & Sons, Inc.	
Recommended Texts	Encyclopedia of Chemical Eng. Krik and Othmer .2Chemical industry, Shreef	
Websites	process plant design , Harker	

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:				

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