

نموذج توصيف مقرر
Course Description Form

Name of College\Faculty : Science

Name of Department: Biological Sciences

اسم الكلية:

اسم القسم العلمي:

Course Name	Biodeterioration	اسم المقرر
Course No.	0495-406	رقم المقرر
No. of Credits	3	عدد الوحدات
Theoretical Hours	2	عدد الساعات النظرية
Practical Hours	3	عدد الساعات المحلّية
Course topics	مواضيع المقرر	

1. Definition.
2. Mechanisms of biodeterioration.
3. Materials natural and synthetic.
4. Deteriogens macro-and microorganisms.
5. Natural products of plant origin.
6. Natural products of animal origin.
7. Marine fouling.
8. Refined and processed materials.
9. Investigation and evaluation of biodeterioration problems.
10. Physical and chemical properties of materials.
11. Interactions between living organisms and materials.
12. Methods of testing deteriorating materials.
13. Protection and prevention of biodeterioration processes.

Text book: (Name, Author , Year , Publisher)

عنوان الكتاب : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)

1. Dennis Allsopp and Kenneth Seal. (2004). Introduction to Biodeterioration. Edward Arnold (Publishers) Ltd. London, United Kingdom.
2. Shahed Jamil. (2010). Biodegradation. VDM Verlag. Germany.

References: (Name , Author , Year . Publisher) (عنوان المرجع : الاسم ، المؤلف ، سنة الطبع ، دار النشر)

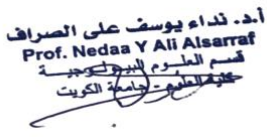
1. Anthony H. Rose. (1981). Microbial Biodeterioration. Economic Microbiology, Volume 6. Edited by A H Rose; Series Editor: A H Rose. Academic Press. London and New York.
2. W B Betts. (1991). Biodegradation: Natural and Synthetic Materials. Springer-Verlag. Germany.
3. A Singh and O P Ward. (2004). Applied Bioremediation and Phytoremediation. Springer-Verlag. Germany.

Prerequisites			متطلبات المقرر			
Grading	Exams	20	%		الاختبارات	آلية رصد المقرر
	Quizzes	5	%		امتحانات قصيرة	
	H.W.	5	%		واجبات	
	Project (field study)	-	%		مشاريع (دراسة ميدانية)	
		30	%		الجزء العملي (المختبر)	
	Final	40	%		الاختبار النهائي	
		100	%			

أهداف مخرجات المقرر :					
الرقم	أهداف مخرجات المقرر :			المستوى المطلوب من عضو هيئة التدريس لتحقيق الهدف :	
	أمثله من المقرر لتحقيق هذه الأهداف			عالي	متوسط
1					
2					
3					
4					
5					
6					
الحقول					
المهارات					
منسق المقرر (اسم عضو هيئة التدريس المشرف على توصيف المقرر ، توقيع ، الختم و الرتبة الأكاديمية)					

تاريخ إعداد النموذج

Course objectives					
No.	Course Objectives (Learning Outcomes)	Example(s) of relevant (Topics and activities)	Recommended Level to satisfy the objectives		
			High	Medium	Low
1	Differentiate between Biodeterioration and biodegradation of materials.	Microbial activity on materials/ Laboratory experiments observing mold growth on different substrate	X		
2	Explain different Mechanisms of biodeterioration, and types of deteriogens	Chemical and physical effects of biodeterioration/ testing the effects of microbial activity on metal corrosion		X	
3	Be familiar with Biodeterioration of natural and synthetic material.	Microbial species involved in degrading different materials/ Microscopic examination of fungal or bacterial colonization	X		
4	Be familiar with Biodeterioration of refined and processed materials	Paints and Coatings: Microorganisms can colonize paint surfaces, leading to biofilm formation, discoloration, or degradation of the coating.	X		
5	Know Deterioration by Rodents, Birds, and other animals.	Behavioral Patterns Leading to Deterioration: Studying animal behaviors that lead to material contamination, nesting, burrowing, or gnawing	X		

6	Know the Detection Techniques for Biodeteriogenic Microorganism.	Biochemical and Physiological Tests: Identification based on metabolic activities, enzyme production, and growth characteristics.		X	
Fields	Environmental Sampling, assessing ecological impacts of microbial processes on natural and built environments, Environmental Monitoring, Microbiology and Mycology				
Skills	Sampling Techniques: Experimental Design, Knowledge of Material Properties, Understanding Microbial Metabolism.				
Coordinator (Name and Rank) :	Professor Nedaa Yousef Ali Alsarraf				
Signature and stamp :	 أ.د. نداء يوسف علي الصراف Prof. Nedaa Y Ali Alsarraf قسم العلوم البيولوجية كلية العلوم - جامعة الكويت				
Date:	9\ 11 \2025				