

نموذج توصيف مقرر
Course Description Form

Name of College\Faculty : Faculty of Science

اسم الكلية:

Name of Department: Biological Sciences (Microbiology Program)

اسم القسم العلمي:

Course Name	Microbial World	اسم المقرر
Course No.	0495-106	رقم المقرر
No. of Credits	3	عدد الوحدات
Theoretical Hours	2	عدد الساعات النظرية
Practical Hours	3	عدد الساعات المحلّية
Course topics		مواضيع المقرر

Course Topics:

1. Introduction to the microbial world.
2. History and scope of microbiology.
3. Microbial structures and their function (Prokaryotes and Eukaryotes).
4. Microbial nutrition and growth.
5. Physical and chemical control of microorganisms.
6. Microbial metabolism.
7. Classification and diversity of microorganisms and viruses.

Course Content:

1. Introduction: History and Scope of Microbiology.

Discovery of microorganisms. Spontaneous generation vs. biogenesis. Germ theory of disease. Industrial microbiology and microbial ecology. Members of the microbial world. Scope and relevance of microbiology.

2. Study of Microbial Structure and Function:

Microscopy and specimen preparation. Prokaryotic and Eukaryotic cell structure.

3. Microbial Nutrition and Growth:

Nutritional requirements and nutritional types of microorganisms. Nutrient uptake by the cell. Growth curve and measurement of the microbial growth. Environmental factors influencing microbial growth.

4. Control of Microorganisms:

Microbial death. Physical and chemical methods of control.

5. Metabolism:

Overview: Chemotrophic and phototrophic metabolism. Enzymes, energy production and energy utilization.

[2 hours]

6. Classification of Microorganisms and Viruses:

Taxonomy and kingdoms. Methods of Classification. Review of bacteria, fungi, algae, protozoa and viruses.

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

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

1. Willey *et al.* 2007. Prescott's Microbiology .McGraw-Hill. New York.

References: (Name , Author , Year . Publisher)

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

متطلبات المقرر					
Prerequisites:					
1. English (9988090)					
Grading	Exams		20%		الاختبارات
	Quizzes		8%		امتحانات قصيرة
	H.W.		2%		واجبات
	Project (field study)		%		مشاريع (دراسة ميدانية)
	Final		40%		الاختبار النهائي
	Lab		30%		
	100%				آلية رصد المقرر

أهداف مخرجات المقرر :					
الرقم	أهداف مخرجات المقرر :		أمثله من المقرر لتحقيق هذه الأهداف		المستوى المطلوب من عضو هيئة التدريس لتحقيق الهدف :
					منخفض متوسط عالي
1					
2					
3					
4					
5					
الحقول					
المهارات					
			منسق المقرر (اسم عضو هيئة التدريس المشرف على توصيف المقرر ، توقيعه ، 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	Understand the meaning of important terms in microbiology.	Spontaneous generation, Biogenesis, Cell Theory, etc.		✓	
2	Describe different types of microorganisms and viruses.	Procaryotes (Eubacteria & Archaea), Eucaryotes (Fungi, Algae, Protozoa); Viruses.		✓	
3	Compare prokaryotic and eukaryotic cell structures and their functions.	Membranes, cell walls, ribosomes, organelles, etc.	✓		
4	Explain the various modes of nutrition, growth conditions and metabolism within the different groups of microorganisms.	Diffusion, active uptake, phagocytosis, phototrophs, heterotrophs, autotrophs, thermophiles, halophiles, acidophiles, generation time, growth curve, anabolism, catabolism, etc.	✓		
5	Demonstrate different techniques used to control microorganisms (physical and chemical).	Autoclaving, incineration, freezing, irradiation, disinfectants, antibiotics, etc.		✓	
Fields	Microbiology				
Skills	Microbiology Laboratory Skills				
Coordinator (Name and Rank):		Dr. Dunia Al-Gharabally (Assistant Professor)			
Signature and stamp:		 			
Date:		3\ 12 \2025			