

نموذج توصيف مقرر
Course Description Form

Name of College\Faculty: Science
Name of Department: Biological Sciences

اسم الكلية
اسم القسم العلمي:

Course Name	Introduction to Molecular Biology		اسم المقرر
Course No.	0490-281		رقم المقرر
No. of Credits	3		عدد الوحدات
Theoretical Hours	3		عدد الساعات النظرية
Practical Hours	0		عدد الساعات المحلية
Course topics			مواضيع المقرر
1. Genetic Basis of Life 2. Structure of Nucleic Acids 3. DNA Replication 4. Gene Expression; a. Transcription b. Translation 5. Regulation of Gene Expression 6. Mutations and Repair			
Text book: (Name, Author , Year , Publisher)		عنوان الكتاب : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)	
Introduction to Genetics: A Molecular Approach, Terry Brown. 2012, Garland Science			
References: (Name , Author , Year . Publisher)		عنوان المرجع : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)	
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Prerequisites [(0420-110 + 0420-111) OR (0420-101 + 0420-105)] + 0490-101			متطلبات المقرر		
Exams	20	%	الاختبارات		



Grading	Quizzes	10	%		امتحانات قصيرة	آلية رصد المقرر
	H.W.	5	%		واجبات	
	Project (field study)		%		مشاريع (دراسة ميدانية)	
	Final	45	%		الاختبار النهائي	
	100%					

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	Students will be able to correlate the double helical structure of DNA to its role as the genetic material.	Structure of Nucleic Acids/Polymers of DNA and RNA polymers, joining of nucleotides by phosphodiester bonds, DNA topology and Packaging of DNA in chromosomes	✓		
2	Students will understand how the physical and chemical properties of nucleic acids are utilized experimentally in molecular biology.	Gene Expression and DNA transcription/ Overall pattern of transcription, transcription of eukaryotic genes and processing of eukaryotic mRNA	✓		

3	Students will develop an understanding of how information stored in genetic material is used to make proteins and of how DNA structure relates to the process of gene expression.	Gene expression and protein translation/ The genetic code, mechanism of translation, translation of eukaryotic mRNA molecules and protein sorting		✓	
4	Students will appreciate the need to regulate the activity of genetic material in both prokaryotic and eukaryotic organisms.	Regulation of Gene Expression/ Regulation of Lac-operon gene expression in prokaryotes, Regulation in eukaryotes, upstream sites and DNA-binding proteins	✓		
5	Students will be able to relate the double-stranded nature of DNA to the semiconservative mechanism of DNA replication.	DNA Replication/ Semi conservative replication, replication forks, reverse transcription, eukaryotic DNA polymerases and DNA replication in eukaryotes	✓		
6	Students will understand the importance of DNA mutations in generating diversity	Mutations and Repair/ Types of mutation, mutagens, and mutation repair		✓	
Fields	Molecular Biology				
Skills	Understanding the structure of nucleic acids, DNA replication, and gene expression				
Coordinator (Name and Rank) :	Dr. Awatef Almutairi				
Signature and stamp :	 د. عواطف صقر المطيري كلية العلوم - قسم العلوم البيولوجية Dr. Awatef S. Al-Mutairi Faculty of Science - Biological Sciences				
Date:	11\ 11 \ 2025				