



University: University of Basrah  
College: College of Science  
Department : Department of Biology



Year :2023-2024

Semester: First

Syllabus :

INSTRUCTOR: Ass.Prof. Dr. THAER ABD ALI AUBAID ALEDANI.

PHONE: 07801089177

HOURS: 3.

OFFICE : BIOLOGY

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**COURSE OVERVIEW:**

- The study of genetic engineering has a role in enriching and developing our knowledge about living organisms, especially at the molecular level, which was shrouded in a lot of mystery.
- Many sciences have been gathered through the study of genetic engineering... and the applied aspect is beginning to take a lot of attention.
- The field of genetic engineering is one of the latest scientific fields. This topic has gained importance on the scientific, religious, social and political levels because the basis depends on the formation of new genetic structures by adding or deleting specific genetic information to produce organisms with new specifications that differ from the natural specifications or improving the breeds and making them more Resistant to diseases and harsh climatic conditions
- The benefit of genetic engineering is not only to produce hybrid organisms with desirable characteristics, but it was an excellent way to identify many scientific secrets, especially those related to the structure and function of gene

## GOALS AND OBJECTIVES:

- a- The aims of the genetic engineering is not only to produce hybrid organisms with desirable characteristics,
- b- Its was an excellent way to identify many scientific secrets, especially those related to the structure and function of gene
- c- Introduce the student as experience in Genetic Engineering
- d- Introduce the student to the meaning of Genetic Engineering
- e- Preparing a staff capable of deals with Genetic Engineering Techniques

## TEXTBOOK AND READINGS:

- [1] Gene Cloning and DNA Analysis by BROWN, T. N
- [2] Principal Of Gene Manipulation and Genomic by S.B. Primrose and R.M. Twyman ( 7th ed 2006 )
- [3] An Introduction to Genetic Engineering Desmond S.T.Nicoll CAMBRIDGE (3th ed 2008)

## COURSE ASSESSMENTS:

The course grade ( 100points ) will be based on the following elements:

- Discussion on line. 10%
- Video assignments. 10%
- Chapter quiz. 10%
- Oral presentations. 10%.
- Oral exam. 10%
- Monthly exam. 50%

## COURSE DESCRIPTION AND ASSIGNMENT SCHEDULE

This NO. -credit hour course is 15 weeks long. You should invest NO. hours every week in this course.

Is it possible to develop the curriculum <within the teaching authority 20%> to include vocabulary that serves sustainability	
Yes, it is always (point an appropriate aspect)	According on the changes occurring every year approximately 20%

## COURSE DESCRIPTION AND ASSIGNMENT SCHEDULE

This NO. -credit hour course is 15 weeks long. You should invest NO. hours every week in this course.

week	date	Topic	Reading	Assignment
1		Genetic Engineering concept	Gene Cloning and DNA Analysis by BROWN,	
2		: Genetic Material		
2		Restriction and Modifying Enzyme		
3		Vectors for Gene Cloning		
2		Introduction of DNA into cells		
2		Gene-cloning strategies,	Principal Of Gene Manipulation and Genomic by : S.B. Primrose and R.M. Twyman 7 <sup>th</sup> ed 2006	
1		Selection of Recombinant		
2		The Applications of Genetic Engineering		



رقم الموبايل : 07801089177  
عدد وحدات الدرس : 3 وحدات

اسم التدريسي : د. ثائر عبد علي عبيد العبداني  
جهة الانتساب : جامعة البصرة – كلية العلوم – جامعة البصرة

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#### نظرة عامه

علم الهندسه الوراثيه لها دور في اغناء وتطور معلوماتنا عن الكائنات الحيه وخصوصا على المستوى الجزيئي الذي كان يكتنفه الكثير من الغموض والتي تجمعت الكثير من المعلومات من خلال دراسة الهندسه الوراثيه... كما ان الجانبي التطبيقي اخذ يأخذ الكثير من الاهتمام

#### الأهداف والغايات :

اصبح للهندسه الوراثيه اهتمام ليس فقط في الجانب العلمي بل الديني والاجتماعي والسياسي، لان الأساس يعتمد على تكوين اتحادات وراثيه جديده عن طريق حذف واطافه معلومات وراثيه جديده لانتاج احياء تمتلك مواصفات او تحسين سلالات تكون اكثر مقاومه للامراض والظروف المناخيه القاسيه . أيضا لاتقتصر الهندسه الوراثيه انتاج كائنات هجينه ذات مواصفات مرغوبه فحسب، بل وسيله ممتازة للتعرف على الكثير من الاسرار العلميه وخصوصا تلك التي تتعلق ببناء ووظيفة الجين

#### المصادر

- [1] Gene Cloning and DNA Analysis by BROWN, T. N
- [2] Principal Of Gene Manipulation and Genomic by S.B. Primrose and R.M. Twyman ( 7th ed 2006 )
- [3] An Introduction to Genetic Engineering Desmond S.T. Nicoll CAMBRIDGE (3th ed 2008)

[ 4 ] علم الهندسه الوراثيه  
د غالب البكري

مناقشه داخل المحاضره 10%  
 مناقشه الفيديوات 10 %  
 درجة امتحان الكوز 10%  
 العرض داخل المحاضره 10%  
 الامتحان الشفوي 10%  
 امتحان شهري 50%  
 الدرجة الكلية = 100%

التقييم	المصدر	الموضوع	اليوم	الأسبوع
	Gene Cloning and DNA Analysis by BROWN	مقدمه /مفهوم الهندسه الوراثيه		1
		الماده الوراثيه		2
		الانزيمات القاطعه والمحوره		2
		النواقل لكلونه الجين		3
	Principal Of Gene Manipulation and Genomic by : S.B. Primrose and R.M. Twyman 7 <sup>th</sup> ed 2006	نقل الدنا المكلونه داخل الخلايا		2
		ستراتيجيات كلونه الجين		2
		انتقاء الهجائن		1
		نطبيقات الهندسه الوراثيه		2

