|  |  |  |
| --- | --- | --- |
| bas | **Ministry of Higher Education and Scientific Research**  **Republic of Iraq** | College of Sciences | University Of Basrah |
| **University: University Of Basrah** |
| **College: Science** |
| **Department : Pathological Analyses** |
| **Year : 2022-2023** |  | **Semester : First** |

# SYLLABUS: <***biotechnology***>

|  |  |
| --- | --- |
| *InstructoR:  afrodet abdulrazaq saleh*  | ***Phone:****009647803159713* |
| ***Hours: 3*** | ***Office:*****IraqiMinistryof Higher Education and Scientific Research** |
|  | ***Email:*****afrodet.salih@uobasrah.edu.iq** |

### Course Overview

This course is concerned with introducing the science of biotechnology, its origin, and its importance in the food, pharmaceutical and medical industries. Within the lectures of this course, we will focus extensively on the applications of biotechnology in medical journals and molecular techniques that use living organisms and cell cultures to produce drugs and therapeutic proteins in addition to genetic modification technologies and the production of genetically modified animals that are used as models to study diseases and drug efficacy

### Goals and Objectives

|  |
| --- |
| * Introducing students to the concept of biotechnology
* Teaching students the types of biotechnology
* Teaching students the applications of biotechnology
 |

### Textbook and Readings

|  |
| --- |
| * “***Pharmaceutical Biotechnology****” by S P Vyas*
* *Chekol C, Gebreyohannes M.* ***Application and Current Trends of Biotechnology****: a Brief Review. Austin Journal of Biotechnology & Bioengineering, 2018;5(1):1-8.*
* *Mahroof S, Pant G, Rafeek R.* ***Monoclonal antibodies: an emerging immunotherapy technology****. European Journal of Biomedical, 2016;3(4): 134-143.*
* *Misra S.* ***Human gene therapy: a brief overview of the genetic revolution****. J Assoc Physicians India, 2013;61(2):127-33.*
 |

### Course assessments

The course grade ( **3** points ) will be based on the following elements:

|  |  |
| --- | --- |
|   | Points |
| Exams | **85** |
| Participation | **10** |
| Attendance | **5** |
| Assignments | **100** |

### COURSE DESCRIPTION AND ASSIGNMENT SCHEDULE

This NO. -credit hour course is 14 weeks long. You should invest NO. hours every week in this course.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **WK** | **DATE** | **TOPIC** | **READING** | **ASSIGNMENT** |
| **1** |  | Introduction and Historical of biotechnology |  |  |
| **2** |  | **Types of biotechnology** |  |  |
| **3** |  | **Applications of biotechnology** |  |  |
| **4** |  | comparison between molecular and biotechnology  |  |  |
| **5** |  |  |  | Assignment 1 |
| **6** |  | DNA cloning |  |  |
| **7** |  | cell culture |  |  |
| **8** |  | vaccines |  |  |
| **9** |  | **Recombinant of biotechnology : concept** |  |  |
| **10** |  |  |  | Assignment 2 |
| **11** |  | Methods of recombinant dna technology  |  |  |
| **12** |  | **Requriments**  |  |  |
| **13** |  | **Genetic engineering**  |  |  |
| **14** |  | purification of proteins |  |  |
| **15** |  | Gene therapy |  |  |

|  |
| --- |
| Is it possible to develop the curriculum <within the teaching authority 20%> to include vocabulary that serves sustainability |
| Developing life – long learning and education Sustainable development Development of general HealthGender EqualityEfficiency of medicine and public healthMechanisms for obtaining good health and well-being  | 1- Yes, it is possible (point an appropriate aspect)the axes (point the axis) |
|  | 2- Suggest aspect that serves sustainability |