

JORDAN UNIVERSITY OF SCIENCE & TECHNOLOGY
Department of Biotechnology & Genetic Engineering

Basic Biotechnology BT230
First Semester 2023/2024

Course description

This course is designed to introduce students to the basic concept of Biotechnology as a discipline. An overview of the molecular and genetic principles and techniques and approaches used to manipulate living organisms and their products will be discussed. In addition, microbial, aquatic, agricultural, animal, forensic, medical and industrial applications of biotechnology will be presented.

Instructors

Qutaiba Omar Issa Ababneh, PhD. qoababneh@just.edu.jo

Office Location and email

Deanship of Student's Affairs, Second floor.

Mode of Instruction

In-class lectures: Mondays and Wednesdays 8:30-9:30 in SB19

Recorded lectures: Every week two lectures will be recorded.

Office Hours

Will be announced soon

Grading

Midterm Exam : 30% (Date of the exam will be determined by the registration unit)

Assignments : 10%

Quizzes : 20%

Final Exam : 40% (Date of the exam will be determined by the registration unit)

Required Textbook

INTRODUCTION TO BIOTECHNOLGY, William J. Thieman and Michael A. Palladino, Third Edition.

Publisher: Pearson USA.

Attendance policy

It's your responsibility to attend lectures and exams. It's to your advantage to attend lectures, as most of the exam material will be covered during lecture. All material presented in the lectures will be included in exams.

Exceeding 20% absences of the total lecture hours will lead to your removal from the course with a failing grade. Attendance registration will be conducted at the end of each lecture. The instructor will display a **QR code** that can be scanned using your cellphone or tablet. Please ensure that your cellphone or tablet is functioning properly and that you have internet access to log into your student services.

Course Web Site

e-learning will be used to post general information about the course, as well as distribute lecture slides and any additional material. Please check the course site frequently for updates to the course information and syllabus.

Quizzes

I have the discretion to have announced and/or unannounced quizzes. Failure to take a quiz will result in a grade of zero for that quiz.

Group Assignments

In order to encourage teamwork spirit, cooperative learning and a more focused study of a particular topic, students will be responsible for participating in groups to work on projects related to the course topics. The details of each project will be discussed in the class.

Regrades

If you have questions concerning the grading of your exam and quizzes, you have only **ONE week** after the date the exam or quiz was made available to you. After one week, all scores are final.

Course Content and Tentative Schedule

Chapter	Topics (required sections)	Number of in-person lectures
1	Biotechnology Century and its Workforce (1.1 – 1.4)	1
3	Recombinant DNA Technology and Genomics (3.1 – 3.5)	10
4	Proteins and Products (4.1 – 4.4)	5
5	Microbial Biotechnology (5.1 – 3.7)	2
Midterm Examination (Date and time of the exam will be determined by the registration unit)		
6	Plant Biotechnology (6.1 – 6.3)	2
7	Animal Biotechnology (7.1 – 7.4)	2
8	DNA Fingerprinting & Forensic Analysis (8.1 – 8.8)	2
9	Bioremediation (9.1 – 9.4, 9.6)	2
11	Medical Biotechnology (11.1 - 11.4)	2
Final Examination (Date and time of the exam will be determined by the registration unit)		

At the completion of this course students will be able to:

1. Discuss the history and major discoveries of biotechnology.
2. Describe the principles of recombinant DNA technology and molecular biology techniques.
3. Explain the role of biotechnology in the fields of medicine, agriculture, forensic science, food production, diagnostics, and industry.
4. Explore the recent advances in biotechnology and genetic engineering.