



Jordan University of Science and Technology
Faculty of Science & Arts
Biotechnology & Genetic Engineering Department

BT102 General Biology (2) - JNQF Level: 7

Second Semester 2023-2024

Course Catalog

3 Credit Hours. This course includes topics concerned with the molecular basis of life and selected physiological systems of the human body. The course will investigate molecular basis of inheritance, from genes to proteins, the regulation of gene expression, genetics of bacteria and viruses and an introduction to biotechnology. Selected physiological systems of the human body will be addressed such as the immune system. This course will also provide a survey of biological principles with an emphasis on humans, including evolution, and ecology.

Teaching Method: On Campus

Text Book

| | |
|--------------------------|--|
| Title | Biology: A global Approach |
| Author(s) | by Campell NA, Urry LA, Cain ML, Wasserman SA, Minorsky PV and Reece JB. |
| Edition | 11th Edition |
| Short Name | Ref # 1 |
| Other Information | |

Instructor

| | |
|------------------------|--------------------------------|
| Name | Prof. Nisreen Al-Quraan |
| Office Location | PH1-L0 |
| Office Hours | |
| Email | naquraan@just.edu.jo |

Class Schedule & Room

Section 2:
Lecture Time: Sun, Tue, Thu : 09:30 - 10:30
Room: PH2102

| Prerequisites | | |
|---------------|---------------------------|---------------------|
| Line Number | Course Name | Prerequisite Type |
| 961010 | BT101 General Biology (1) | Prerequisite / Pass |

| Tentative List of Topics Covered | | |
|----------------------------------|--|-------------------------|
| Weeks | Topic | References |
| Weeks 1, 2 | Expression of Genes | Chapter 17 From Ref # 1 |
| Weeks 3, 4 | Control of Gene Expression | Chapter 18 From Ref # 1 |
| Weeks 5, 6 | DNA Technology | Chapter 19 From Ref # 1 |
| Weeks 7, 8 | The Evolution of Genomes | Chapter 20 From Ref # 1 |
| Week 9 | Microevolution | Chapter 23 From Ref # 1 |
| Week 10 | Introduction to Viruses | Chapter 26 From Ref # 1 |
| Week 11 | Prokaryotes | Chapter 27 From Ref # 1 |
| Week 12 | An Overview of Ecology | Chapter 51 From Ref # 1 |
| Weeks 13, 14 | Energy Flow and Chemical Cycling in Ecosystems | Chapter 55 From Ref # 1 |

| Mapping of Course Outcomes to Program Outcomes and NQF Outcomes | Course Outcome Weight (Out of 100%) | Assessment method |
|--|-------------------------------------|-------------------|
| Describe the process of gene expression (and how this process is regulated at the molecular level in prokaryotes and eukaryotes [1SLO1] [1L7K1] | 25% | |
| Recognize current techniques used in recombinant DNA technology and the various applications of biotechnology [1SLO1, 1SLO6] [1L7K1, 1L7S1] | 10% | |
| Use bioinformatics to study genome evolution and how genetic variation makes evolution possible [1SLO1, 1SLO6] [1L7K1, 1L7S1] | 25% | |
| Become familiar with the viruses and bacteria and their importance in biotechnology [1SLO1, 1SLO6] [1L7K1, 1L7S2] | 20% | |
| Strengthen the understanding of Ecology and the different types of biomes that constitutes the earth. [1SLO1] [1L7K1] | 10% | |
| Describe and understand the dynamic energy and the chemical cycling in Ecosystem [1SLO1, 1SLO4] [1L7K1, 1L7S1] | 10% | |

| Relationship to Program Student Outcomes (Out of 100%) | | | | | |
|--|------|------|------|------|------|
| SLO1 | SLO2 | SLO3 | SLO4 | SLO5 | SLO6 |
| 67.5 | | | 5 | | 27.5 |

| Relationship to NQF Outcomes (Out of 100%) | | |
|--|------|------|
| L7K1 | L7S1 | L7S2 |
| 67.5 | 22.5 | 10 |

| Evaluation | |
|-----------------|--------|
| Assessment Tool | Weight |
| First | 30% |
| Second | 30% |
| Final | 40% |

| Policy | |
|-------------------|---|
| 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 a group of 5 students to work on projects related to the course topics. The details of each project will be discussed in the class. |
| 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 |
| 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 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. |
| 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. |

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