

Course E-Syllabus

1	Course title	Molecular Biology
2	Course number	5501424
3	Credit hours	3 hours lecture
	Contact hours (theory, practical)	3 hours
4	Prerequisites/corequisites	5501331
5	Program title	Bachelor degree in Biological Sciences
6	Program code	550
7	Awarding institution	University of Jordan-Aqaba Branch
8	School	Basic and Marine Sciences
9	Department	Marine Biology
10	Level of course	Fourth Year
11	Year of study and semester (s)	First Semester 2020/2021
12	Final Qualification	B.Sc.
13	Other department (s) involved in teaching the course	none
14	Language of Instruction	English
15	Teaching methodology	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input checked="" type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	20/09/2020

18 Course Coordinator:

Dr. Zeinab H. Arabeyyat
Office number: 342
Office hours: 10:00 – 11:00 am (Sunday and Monday)
Phone numbers: 032090450 ext. 36051
Email address: z.arabeyyat@ju.edu.jo

19 Other instructors:

N/A

20 Course Description:

As stated in the approved study plan.

Molecular structure in some marine organisms and description of the factors that affect their molecular structure. DNA and amino acids, gene replication, gene expression, DNA replication and mutants, DNA repair.

21 Course aims and outcomes:

A- Aims:

To become familiar with the basic molecular topics in biology, such as the molecular structure and function of genetic material, chromosomes, chromatin structure, mutations, DNA replication, DNA repair and recombination, basic mechanisms of transcription, mRNA processing and translation.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

(Knowledge and understanding)

At the end of this module, students will be able to describe the basics of molecular biology.

Cognitive skills (Thinking and analysis)

The thinking skills will be developed by repetition of long and hard terms in molecular biology. To make this happen, the first step is to bring the skill to a conscious level where the student is deliberately thinking about improving this skill.

By participating in new activities, students can stretch their brains. In other words, the more a student practices or rehearses a new activity, the greater the number of neurons that get involved and the active space in the brain devoted to this new activity. The brain then expands to accommodate the assignment. Moreover, immediate feedback provides these types of close proximity associations. Good brain training needs to facilitate immediate feedback of two types – positive feedback and corrective feedback. One-on-one training makes this possible. With these techniques, learning is made possible on many levels.

22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/p latform	Evaluation Methods**	References
1 - 2	1.1 – 1.6	Chapter 1: The structure of DNA	Zoom and E-Learning	Direct questions	Textbooks
3	1.7 – 1.9	Chapter 2: Genome organization: from nucleotides to chromatin		Direct questions and Homework	Textbooks
4 - 5	1.10 – 1.15	Chapter 3: From gene to protein		Direct questions	Textbooks
6 - 7	1.16 – 1.21	Chapter 4: DNA replication		Direct questions	Textbooks
8 - 9	1.22 – 1.27	Chapter 5: Transcription in eukaryotes and prokaryotes		Direct questions	Textbooks
10 - 11	1.28 – 1.33	Chapter 6: Gene expression		Direct questions	Textbooks
12	1.34 – 1.36	Oral Presentations		Oral questions	Textbooks
The date of midterm and final exams will be announced later					

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

23 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Homework Assignments	10	Genome organization: from nucleotides to chromatin, and DNA replication	5 & 7	E-Learning
Midterm Exam	30	The structure of DNA, Genome organization: from nucleotides to chromatin, From gene to protein, and DNA replication	6	LMSystem
Oral Presentation	10	Optional selection from all topics	12	Zoom
Final Exam	50	All topics	14	-

24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

Computer and internet connection are required for watching lectures, reading the module documents and reviewing related eBooks, applying for online test, answering and submitting homework.

25 Course Policies:

A- Attendance policies:

- I strongly recommend students attend every lecture. Missing any lecture will put them at a distinct disadvantage when test taken.
- Any student with six or more unexcused absences from lecture can be legally dropped from the course.

B- Absences from exams and handing in assignments on time:

The only valid excuses for missing an exam are death in the family, illness, or accident. In this case, student must provide evidence of some kind and must report me within 3 days.

C- Health and safety procedures:

Students who miss the exam due to illness or other excuse must notify me within the first week after the exam, so make up arrangements can be made.

D- Honesty policy regarding cheating, plagiarism, misbehavior:

- Students are not expected to talk loudly while the lecturer is lecturing,
- After two warning, the Student will be automatically removed from the class or the online lecture.
- Any act of cheating, or academic misconduct is subject to penalties.
- The minimum penalty for any students caught cheating will receive a zero on that test.

E- Grading policy:

Type	Grading
Homework Assignments:	10%
Midterm Exam:	30%
Presentation:	10%
Final Exam:	50%
Total	100%

Exams: The examinations consist of any combination of multiple choice, and true or false questions.

F- Available university services that support achievement in the course:

Library sources are available and internet.

26 References:

A- Required book(s), assigned reading and audio-visuals:

- Allison L. A. (2007). Fundamental Molecular Biology, Blackwell Publishing, Malden, MA, USA. 748 pp.
- Weaver, RF. Molecular Biology. New York, NY. McGraw-Hill publisher. 5th edition, 892 pp.
- Other readings (Will be provided as PDF).

B- Recommended books, materials and media:

Selected videos from YouTube,
Electronic online-free books, and
Moodle.

27 Additional information:

N/A

Name of Course Coordinator: **Dr. Zeinab H. Arabeyyat** Signature:  Date: **20/09/2020**

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----