



Jordan University of Science and Technology
Faculty of Science & Arts
Applied Biological Sciences Department

BIO251 Cell Biology

First Semester 2017-2018

Course Catalog

3 Credit Hours. This a single semester course in cell biology that focuses on fundamental concepts such as the relationship between molecular structure and function, the dynamic character of cellular organelles, the use of chemical energy in running cellular activities and ensuring accurate macromolecular biosynthesis, the observed unity and diversity at the macromolecular and cellular levels, and the mechanisms that regulate cellular activities. Additionally, students will be exposed to the experimental approach in cell biology will gain some knowledge of how we know what we know in cell biology

Text Book

Title	Cell and Molecular Biology
Author(s)	Gerald Karp
Edition	6th Edition
Short Name	1
Other Information	Additional reading materials will be provided through the e-learning course website

Course References

Instructor

Name	Dr. Khaldon Bodoor
Office Location	-
Office Hours	Sun : 12:30 - 13:30 Mon : 10:00 - 11:00 Mon : 11:30 - 12:30 Tue : 12:30 - 13:30 Wed : 11:30 - 12:30 Thu : 12:30 - 13:30
Email	khaldon_bodoor@just.edu.jo

Class Schedule & Room

Section 1:

Lecture Time: Sun, Tue, Thu : 11:30 - 12:30

Room: M2202

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	Introduction to the Study of Cell and Molecular Biology	ch1 From 1
Week 2	The Chemical Basis of Life	ch2 From 1
Weeks 3, 4	The Structure and Function of the Plasma Membrane	ch4 From 1
Weeks 5, 6	Interactions Between Cells and Their Environment	ch7 From 1
Weeks 7, 8	Cytoplasmic Membrane Systems	ch8 From 1
Weeks 8, 9	The Cytoskeleton and Cell Motility	ch9 From 1
Weeks 9, 10	The Cell Nucleus and the Control of Gene Expression	ch12 From 1
Week 11	Cellular Reproduction	ch14 From 1
Week 12	Cell Signaling and Signal Transduction	ch15 From 1
Week 13	Cancer	ch16 From 1
Weeks 14, 15	Techniques in Cell and Molecular Biology	ch18 From 1

Mapping of Course Objectives to Program Student Outcomes¹

Assessment method

Understand the basic properties of cells and describe and the structure and function of cellular organelles [1A, 1D]	
Describe the interactions between cells and their environments and understand the molecular basis of cellular signaling [1C]	
Understand the concept of cellular reproduction and the cellular basis of cancer [1C, 1E]	
Get a brief introduction to the tools and experiments related to cell biology [1B, 1D]	
Students should be able to discuss and analyze contemporary issue in cell biology [1F]	

Relationship to Program Student Outcomes (Out of 100%)

A	B	C	D	E	F
12.50	10	30	22.50	10	15

Policy

Class Attendance	Your class attendance is mandatory. Absences in excess of 20% of the total lecture hours will result in your being dropped from the course with a failing grade
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Makeup Exams	Make-up exam appeals should be filed within one week of the missed exam
Cell phones	Cell phones are completely prohibited during examinations according to the university regulations i.e. you are not allowed to bring your phone into the exam hall
Cell phones	Cell phones must be turned off during lectures. No incoming or outgoing calls or text messages are allowed
Cheating	Unethical conduct, including cheating during examinations, will result in punishment by the university administration

Date Printed: 2017-11-28

Cellular and Molecular Biology publishes original articles, reviews, short communications, methods, meta-analysis notes, letters to editor and comments in the interdisciplinary science of Cellular and Molecular Biology linking and integrating molecular biology, biophysics, biochemistry, enzymology, physiology and biotechnology in a dynamic cell and tissue biology environment, applied to human, animals, plants tissues as well to microbial and viral cells. The journal Cellular and Molecular Biology is therefore open to intense
Abbreviated title: Cell Mol Biol (Noisy-le-grand). Issues : Monthly and Special Theme Issues (throughout the year). © C M B Association. All rights reserved. Contact: executive-editor@cellmolbiol.org. Cell and molecular biology are related fields of biology that are often combined. Cell biology. Molecular biology. Journal of Cell and Molecular Biology. Institute of Molecular and Cell Biology (disambiguation). GRE Biochemistry, Cell and Molecular Biology Test. International Review of Cell and Molecular Biology. American Journal of Respiratory Cell and Molecular Biology. Weill Institute for Cell and Molecular Biology. Max Planck Institute of Molecular Cell Biology and Genetics. Molecular Biology of THE CELL Fifth Edition Molecular Biology of THE CELL Fifth Edition Bruce Alberts Alexander Johnson Julian Lewis Martin Raff Keith Roberts Peter Walter With problems by John Wilson Tim Hunt Garland Science Vice President: Denise Schanck Assistant Editor: Sigrid Masson Production Editor and Layout: Emma Jeffcock Senior Publisher: Jackie Harbor Illustrator: Nigel Orme Designer: Matthew McClements, Blink Studio, Ltd. Editors: Marjorie Anderson and Sherry Granum Copy Editor: Bruce Goatly Indexer: Merrall-Ross International, Ltd. Permissions Coordinator: Mary Dispenza Cell Biolo... Since many cellular motions are too slow to be seen in real time, it is often helpful to make time-lapse movies. Here, the camera records successive frames separated by a short time delay, so that when the resulting picture series is played at normal speed, events appear greatly speeded up. Because most tissue samples are too thick for their individual cells to be examined directly at high resolution, they must be cut into very thin transparent slices, or sections. To first immobilize, kill, and preserve the cells within the tissue they must be treated with a fixative. Common fixatives include formaldehyde and glutaraldehyde, which form covalent bonds with the free amino groups of proteins, cross-linking them so they are stabilized and locked into position.