هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	**Cell Biology**
Course Code:	**BIOL211**
Program:	**B.Sc.**
Department:	**Biology**
College:	**College of Science**
Institution:	**Jazan University (JU)**
Version:	**T-104 V2022**
Last Revision Date:	**19 December 2022**

Table of Contents:

A. General information about the course:

Course Identification					
1. Credit hours:	3h (2L+1P)				
2. Course type					
a.	University ☐	College ☐	Department☒	Track☐	Others☐
b.	Required ☒	Elective☐			
3. Level/year at which this course is offered:	Level3 / First Year				
4. Course General Description This course presents some topics of cell biology, including prokaryotic and eukaryotic cells, cell theory, organic and inorganic components of the cell, cell organelles (structure & function), cell division, apoptosis, and stem cells.					
5. Pre-requirements for this course (if any): **General Biology101-BIOL**					
6. Co- requirements for this course (if any): None					
7. Course Main Objective(s) **This course is designed to provide students with the following concepts:** **1-** To identify the differences between prokaryotic and eukaryotic cells. **2-** To study the chemical structure of the cell. **3-** To study the cell wall and plasma membrane structure and function 4- To understand the structure and functions of the cell organelles. 5- To compare the mitotic and meiotic divisions. 6- To study stem cell 7- To study Apoptosis phenomena and their types					

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	22	50%
2.	E-learning	0	0%
3.	Hybrid • Traditional classroom • E-learning	0	0%
4.	Distance learning	0	0%
5.	Other (Lab work)	22	50%

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	22
2.	Laboratory/Studio	22
3.	Field	
4.	Tutorial	
5.	Others (specify)	2
	Total	46

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Define all principles, concepts, theories, and aspects concerning with Cell biology.	**K 1.1.1**	Lecture, discussion in class and labs	**Direct:** Quiz and mid-term & final Exams. **Indirect**: student survey
1.2	Differentiate (Compare) between different mechanisms, functions, practices and aspects related to cell biology.	**K 1.2.1**	Lecture, discussion in class and labs	**Direct:** Quiz and mid-term & final Exams. **Indirect**: student survey
1.3	Interpret by using your knowledge and understanding of some cell biology phenomena	**K 1.3.2**	Lecture, discussion in class and labs	**Direct:** Quiz and mid-term & final Exams. **Indirect**: student survey
2.0	Skills			
2.1	Examine theoretically or practically the slides, photos, diagrams, or statements of cell biology aspects.	**S 2.1.3**	Lecture, discussion in class and labs	**Direct:** Quiz and mid-term & final Exams. **Indirect**: student survey
2.2	Argue different cell biology approaches in the laboratory or field or even theoretically.	**S 2.2.2**	Lecture, discussion in class and labs	**Direct:** Quiz and mid-term & final Exams. **Indirect**: student survey
2.3	Write a report about any practical or theoretical tasks related to biological science	**S 2.3.1**	Lecture, discussion in class and labs	**Direct:** Quiz and mid-term & final Exams. **Indirect**: student survey
3.0	Values			
3.1	Access multiple sources of information, capture essential information and distinguish it from extraneous data.	**V 3.13**	Lecture, discussion in class and	**Direct:** Lecture and Lab. discussion **Indirect**: Lab and

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
			labs	student survey
	Illustrate awareness of risk assessment and safety observation when dealing with various equipment at various fields.	**V 3.2.1**	Lecture, discussion in class and labs	**Direct:** Lecture and Lab. discussion **Indirect**: Lab and student survey

B. Course Content

1. Theory Part:

No	List of Topics	Contact Hours
1.	**Introduction, Cell theory:** History of Cytology, Cell theory, Cytology and Biology, Prokaryotic, & Eukaryotic cell	3
2.	**Chemical components of the cell:** Organic component, inorganic component, Macromolecules.	Self-learning
3.	**Cell Membranes:** structure, modifications	3
4.	**Cell Organelles:** Nucleus, Mitochondria, Endoplasmic membrane, Golgi apparatus, Plastides, ...etc.	12
5.	**Cell division:** Cell cycle, Meiosis, Mitosis	Self-learning
6.	**Apoptosis:** Definition, types, importance	2
7.	**Stem cells:** Definition, types, importance	2
Total		22

2. Experimental Part

No	List of Topics	Contact Hours
11.	The Microscope	2
12.	Chemistry of Living Organisms	2
13.	The Cell	2
14.	Cell Division	2
15.	Excretion	2
16.	Animal Cell Organelles	2
17.	Plant Cell Organelles	2
18.	Reproduction	2

19.	Dialysis	2
20.	Blood analysis	2
Total		20

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Theoretical Assignment	3	5%
2.	Theoretical quiz	5	5%
3.	Mid-term exam	6	10%
4.	Lab Quiz	8	5%
5.	Practical assignment	9	5%
6.	Final practical exam	12	20%
7.	Final exam	13	50%
Total			100%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	- الرباعي. علي، واخرين (2015). علم الخلية.
Supportive References	Thomas D. Pollard, William C. Earnshaw, Graham T. Johnson (2017). Cell Biology. Elsevier
Electronic Materials	. **www.emc.maricopa.edu** ▪ **www.biology.clc.uc.edu**
Other Learning Materials	▪ مكرم ضياء شكارة (2014). علم الخلية. دار المسيرة للنشر والتوزيع والطباعة. شركة جمال محمد حيف

2. Required Facilities and equipment

Items	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	1 Lecture room(s) for groups of 50 students. 1 Laboratory for group of 25 students.
Technology Resources (AV, data show, Smart Board, software, etc.)	AV, data show, Smart Board, Blackboard
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Light microscopes, glassware, chemicals, consumables, dissection tools.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students, Peer and program leader	Indirect (CES) - Indirect peer evaluation
Effectiveness of students assessment	Students, Program assessment committee	Direct/ Indirect
Quality of learning resources	Students, Faculty members	Indirect
The extent to which CLOs have been achieved	Instructor	Direct/Indirect
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	

Course coordinator: **Dr. Ahmed M. Reyad**

Signature:

Head of Department

Name: **Dr. ABDULLAH YAHYA MASHRAQI**

Signature: