



المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: University of Tabuk	Date: 17/04/2019
College/Department : Science/Biology	

A. Course Identification and General Information

1. Course title and code: Cell Biology (BIO222)	
2. Credit hours: 3	
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Biology	
4. Name of faculty member responsible for the course:	
5. Level/year at which this course is offered: Level 4	
6. Pre-requisites for this course (if any): General Biology I (BIO 101)	
7. Co-requisites for this course (if any): BIO 471	
8. Location if not on main campus: N.A	
9. Mode of Instruction (mark all that apply):	
a. traditional classroom	<input checked="" type="checkbox"/> What percentage? <input type="text" value="75"/>
b. blended (traditional and online)	<input type="checkbox"/> What percentage? <input type="text"/>
c. e-learning	<input type="checkbox"/> What percentage? <input type="text"/>
d. correspondence	<input type="checkbox"/> What percentage? <input type="text"/>
f. other (Lab work)	<input checked="" type="checkbox"/> What percentage? <input type="text" value="25"/>
Comments:	

B Objectives

1. What is the main purpose for this course?
 - To make students able to understand basic and fundamental concepts of cell biology
 - To provide knowledge about the structure and function of cells
 - To give an idea about the history and doctrines related to cell biology
 - To trained students to identify the prokaryotic and eukaryotic cells with the help of microscopy/laboratory techniques and using images/charts.
 - To prepare students with the detailed description of structure and function of cell and cell organelles.
 - On the whole the students will be able to understand the cell as a basic structural and functional unit of life

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)
 - The course contents should be modified periodically
 - The contents should be arranged in a sequence starting from basic concepts of cell biology to advances in the field
 - More practices required in the laboratory techniques to understand the basic and fundamental concepts of cell biology
 - Assessment should be done by students at the end of each course
 - The report from QA committee will be discussed in a departmental meeting to find the strength and weaknesses related to a particular course
 - Comparison of course topics with equivalent local and international courses

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

- This course provides information on general introduction and history of cell biology, Cell theory. tools and Techniques in Cell Biology, molecules of the cell, types and structures of cells, structure of cell organelles, Chromosomes; in Prokaryotes and Eukaryotes, its special types, cell cycle and cell division.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
1. Introduction, History and Background of Cell Biology, Cell Theory	1	3
2. Tools and Techniques in Cell Biology (Microscopy, Cell Fractionation, Centrifugation)	1	3
3 Molecules of the Cell (Carbohydrates, Lipids, Proteins, Nucleic Acids)	1	3
4. Prokaryotic and Eukaryotic cell	1	3
5. Structure of Bacterial Cell	1	3
6. Structure of Plant Cell	1	3
7. Structure of Animal Cell	1	3

Revision and Midterm Exam		
8. Structure of Cell Organelles-I	1	3
9. Structure of Cell Organelles-I	1	3
10. Chromosomes (Prokaryotic and Eukaryotic, Special types of chromosomes)	1	3
11. Cell Cycle	1	3
12. Cell Division: Binary Fission in Bacteria, Mitosis	1	3
13. Cell Division: Meiosis and revision	1	3
Final Exam		

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	26			26		52
	Actual	26			26		52
Credit	Planned	2			1		3
	Actual	2			1		3

3. Additional private study/learning hours expected for students per week.

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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	<ul style="list-style-type: none"> - The course defines comprehensive and fundamental concepts of cell biology - Students are introduced to definitions, terminologies and an introduction to cell biology - The course describes cell history, cell types, cell structure and cell physiology and cell reproduction - It tells students a firm foundation in those core 	In-class lecturing where the previous knowledge is linked to the current and future topics.	<ul style="list-style-type: none"> - Conducting Quiz - Group discussions - Home assessment - Periodic Exams

	principles on which cell biology is founded		
1.2	<ul style="list-style-type: none"> - In the completion of course students will be memorized with the basic concepts of cell biology - Students will be able to recognize different types of cells - The students will be trained with different lab techniques related with cell biology - At the end of the course the students will be able to define cell and cell division, cell organelles, chromosomes, chromosomes aberrations, etc. 	<ul style="list-style-type: none"> - Able to write Tutorial discussions. - Describe scientific method in thinking by solving scientific problems 	<ul style="list-style-type: none"> - Activities and homework evaluations - Asking questions while delivering lecture
2.0	Cognitive Skills		
2.1	<ul style="list-style-type: none"> - Analyze and explain cell and cell organelles under the microscope - Differentiate Prokaryotic and Eukaryotic cells, Plant cells and Animal Cells. 	<ul style="list-style-type: none"> - Use of microscopic diagrams - Prepare slides from onion peel (for study of cells) and onion root tip for recognition of stages of cell division. 	<ul style="list-style-type: none"> - Students interpretation during the class - Evaluation of lab reports and examinations.
2.2	<ul style="list-style-type: none"> - Differentiate the stages of cell division under the microscope or using printed diagram of cell division - Analyze different types of chromosomes. 	<p>Explain through the models, charts and slides</p>	<ul style="list-style-type: none"> - Students performance in the lab - Evaluation of activities and homeworks.
3.0	Interpersonal Skills & Responsibility		
3.1	<ul style="list-style-type: none"> - Demonstrate the gained knowledge and to work in a team to conduct a specific project. - Ability to judge a specific project with minimal supervision 	<ul style="list-style-type: none"> - Use of scientific methods in thinking by solving scientific problems - Demonstration as part of a team - Conducting group experiments and their evaluation. 	<ul style="list-style-type: none"> - Group discussions on a given topic - Write projects reports - Evaluate the laboratory written reports resulted from experiments.
3.2	<ul style="list-style-type: none"> - Demonstrate the results of work to others. - Use of teaching abilities 	<ul style="list-style-type: none"> - To evaluate, dividing students into groups to cooperate with each other during laboratory works - To analyze leadership skills, different students are given responsibility of team leader at 	<ul style="list-style-type: none"> - Demonstration of lab work as power point presentation by the individual student. - Evaluation of projects conducted individually.

		different times during the lab tasks	
4.0	Communication, Information Technology, Numerical		
4.1	Demonstration and use of internet and specifically MS office	Demonstrate the use and operation of computer in the course requirements	In class short MCQs quizzes (orally and written)
4.2	Communicate effectively with lectures and colleagues	Students refer the recommended websites given to demonstrate projects on different biomes of the world, followed by projects discussion with the students	- Using web based and electronic media to gain information. - Conducting quiz, pre-final and final exams
5.0	Psychomotor		
5.1	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
5.2	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Short Quizzes	3	10%
2	Midterm Practical Exam	10	10%
3	Midterm Exam	10	25%
4	Final-Practical Exam	14	15%
5	Final Exam	15	40%
6	Total		100%

D. Student Academic Counseling and Support

<p>1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)</p> <ul style="list-style-type: none"> • Office hours 6-8 hr/ week • help sessions 1hr/ week aided by two faculty members
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E Learning Resources

<p>1. List Required Textbooks - Thomas DP and William CE (2002) Cell Biology, WB Saunders Company , First Edition. ISBN-10-0721639976, ISBN-13-9780721639970)</p>
<p>2. List Essential References Materials (Journals, Reports, etc.) Thomas DP and William CE (2002) Cell Biology, WB Saunders Company , First Edition. ISBN-10-</p>

0721639976, ISBN-13-9780721639970)

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

Websites on the internet that are relevant to the topics of the course

www.sciencedirect.com

- Saudi Digital Library

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Multi media associated with the text book and the relevant websites

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

-Lecture halls, containing white boards and electronic monitors

- The seats fit the number of students

- Laboratories equipped with tables and water sources, microscopes, slides, plant and animal samples

2. Technology resources (AV, data show, Smart Board, software, etc.)

Not applicable

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Distribute of questioners for course evaluation by students

Students – teaching staff members meetings

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Peer consultation by departmental course committee

- Self-evaluation of the program by the department

3. Processes for Improvement of Teaching

Installation of modern microscopes, digital labs and maintenance

- Implementation of suggestions administration

- Implementation of suggestions by departmental course committee

Monitoring of teaching activities by administration

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Providing samples of all kind of assessment in the departmental course portfolio of each course
- Assigning group of faculty members teaching the same course to grade same questions for various students. Faculty from other institutions are invited to review the accuracy of the grading policy.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The course material and learning outcomes are periodically reviewed and the changes to be taken are approved in the departmental and higher councils.
 - The head of department and faculty take the responsibility of implementing the proposed changes
- Use of statistics of course evaluation by students to improve the course

Name of Course Instructor: Dr. Amira Bouafsoun

Signature: *Dr. Amira Bouafsoun* Date Specification Completed: 17/04/2019

Program Coordinator: **Dr. Omar Salem Obeid Bahattab**

Signature: *Omar Bahattab* Date Received: 16/8/1440