



Course Specifications (Postgraduate Degree)

Course Title:	Advanced cell physiology
Course Code:	(532 Zoo)
Program:	Master
Department:	Zoology Department
College:	College of Science
Institution:	King Saud University

A. Course Identification.....	3
6. Mode of Instruction (mark all that apply)	3
B. Course Objectives and Learning Outcomes.....	3
1. Course Description	3
2. Course Main Objective.....	3
3. Course Learning Outcomes	4
C. Course Content	4
D. Teaching and Assessment	4
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods	4
2. Assessment Tasks for Students	6
E. Student Academic Counseling and Support	6
F. Learning Resources and Facilities.....	6
1. Learning Resources	6
2. Educational and research Facilities and Equipment Required	6
G. Course Quality Evaluation	7
H. Specification Approval Data	7

A. Course Identification

1. Credit hours: 2 (1 + 1) / week
2. Course type <input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective
3. Level/year at which this course is offered: 2017-2018
4. Pre-requisites for this course (if any):
5. Co-requisites for this course (if any):

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom		
2	Blended	*	100
3	E-learning		
4	Correspondence		
5	Other		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	14
2	Laboratory/Studio	30
3	Seminars	
4	Others (specify)	
Total		44

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description
2. Course Main Objective A study of cells at the physiological level including the structure and function of organelles and membranes, enzymology, energy relationships and metabolic control, response to radiations, the regulation of cell growth and differentiation.

3. Course Learning Outcomes

Course Learning Outcomes (CLOs)		Aligned PLOs*
1	Knowledge	
1.1		
1.2		
1.3		
1...		
2	Skills	
2.1		
2.2		
2.3		
2...		
3	Values	
3.1		
3.2		
3.3		
3...		

* Program Learning Outcomes

C. Course Content

No	List of Topics	Contact Hours
1	introduction	1
2	Cell structure and function	3
3	Bioenergetics and enzymes.	2
4	Metabolism	2
5	Cell death Necrosis and Apoptosis	2
..6.	Cell respond to radiation	4
Total		

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Knowledge of cell structure and function	<ul style="list-style-type: none"> Using power point and illustrations. Developing skills to prepare 	Methods of assessment of knowledge acquired Midterm and final exams.
1.2	Knowledge of enzymes		
1.3	Knowledge of metabolism and regulation of metabolism		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.4	Knowledge of differentiation and its regulation	histological slide from living tissues. <ul style="list-style-type: none"> Developing skills to examine slides under light microscope. Question Answer session. Students response to instructors questions: Assessment Lab work Reports	
1.5	Knowledge of cell Death		
1.6	Knowledge of radiation and its effect on the cell		
2.0	Skills		
2.1	Skills of how to examine and identify the histological features of some mammalian organs. Skills to prepare slides Skills to use instruments for different analyses Skills to use computers and internet	<ul style="list-style-type: none"> Use of computer programs Methods for useful internet search Home work assignments. Preparation Slide examination under light microscope. 	<ul style="list-style-type: none"> Checking home assignments. Mid and final exams. Evaluation of scientific reports and presentations.
2.2	Checking home assignments. Mid and final exams. Evaluation of scientific reports and presentations.	<ul style="list-style-type: none"> Use of computer programs Methods for useful internet search Home work assignments. 	<ul style="list-style-type: none"> Checking home assignments. Mid and final exams. Evaluation of scientific reports and presentations.
3.0	Values		
3.1	Ability to work in a team to conduct a specific project. <ul style="list-style-type: none"> Ability to work independently to conduct a specific project. Ability to communicate results of work to others. 	Teaching strategies to be used to develop these skills and abilities <ul style="list-style-type: none"> Work independently. Using the internet to search a specific topic and discuss it with the teacher. 	Methods of assessment of students interpersonal skills and capacity to carry responsibility <ul style="list-style-type: none"> Assessment of her ability to solve problems. Assessment of student to be responsible.

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		Encourage library visits looking for references.	<ul style="list-style-type: none"> Assessment of student to be self confident.

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Med- term exam	Week 10	20/100
2	Class activities and homework	Week 14	10/100
3	Lab homework	Week 14	20/100
4	Lab exam	Week 15	10/100
5			
6			
7			
8			

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Direct supervision by staff member over lab sessions.
- Office hours 1 hr/ week

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Karp, G.(1999).Cell and molecular biology. John Wiley and sons, USA
Essential Reference Materials	
Electronic Materials	Websites on the internet that are relevant to the topics of the course
Other Learning Materials	Microsoft office package

2. Educational and research Facilities and Equipment Required

Item	Resources
Accommodation	Equipped laboratories.

Item	Resources
(Classrooms, laboratories, demonstration rooms/labs, etc.)	
Technology Resources (AV, data show, Smart Board, software, etc.)	Computer room containing at least 30-50 units
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Chemicals and reagents

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods

Evaluation Areas/Issues (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	