

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Cell Biology
Course number	PHPT1301
Faculty	
Department	
Course type	College Needs
Course level	1
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

- 1 - Students will understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membrane
- 2 - Students will understand how these cellular components are used to generate and utilize energy in cells.
- 3 - Students will understand how different substances transport through the cell membrane including passive and active transport.
- 4 - Students will understand the cell cycle and its regulation.
- 5 - Students will understand the biosynthesis of protein from gene.
- 6 - Students will understand cell communications and types of membrane receptors.

Course Contents

- 1 - Cell theory, cell diversity, and microscopes.
- 2 - Chemical organization of cell (elements, ions, buffers, and water and proteins)
- 3 - Carbohydrates, lipids, and nucleic acids
- 4 - DNA replication, two basic types of cells, and plasma membrane
- 5 - Nucleus, endoplasmic reticulum, Golgi apparatus, lysosomes.
- 6 - Microbodies, ribosomes, mitochondria, and centrioles.
- 7 - Cytoskeletons
- 8 - Midterm Exam
- 9 - Junctions between cells and unique features of plant cells
- 10 - Cell transport (passive and active transport)
- 11 - Cell cycle and its regulation
- 12 - Sexual reproduction and meiosis
- 13 - From gene to protein and mutations
- 14 - Cell signaling and cell death
- 15 - Final exam

Teaching and Learning Methods

- 1 - Lectures and discussions

Teaching and Learning Methods for the Disabled Students

1 - by using both the voice and screening show

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm	The seven week	40
Student activity and report	the eight week	10
Final exam	The fifteen week	60

Books and References

Course note	Cell biology for pharmacy students
Essential books	Colleen Belk, Virginia Borden, Biology science for life 2nd edition, 2006 Postlethwait, Hopson, Modern biology ,2006
Recommended books	Raven Johnson, Biology 6th edition,2001

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Cell theory, cell diversity, and microscopes	1				
Chemical organization of cell(elements, ions, buffers, and water and proteins	2				
Carbohydrates, lipids, and nucleic acids	3				
DNA replication, two basic types of cells, and plasma membrane	4				
Nucleus, endoplasmic reticulum, Golgi apparatus, lysosomes	5				
Microbodies, ribosomes, mitochondria, and centrioles	6				
Cytoskeletons	7				
Junctions between cells and unique features of plant cells	8				
Cell transport (passive and active transport	9				
Cell cycle and its regulation	10				
Sexual reproduction and meiosis	11				
From gene to protein and mutations	12				
Cell signaling and cell death	13-14				