

1. Course Description zoo 242

2. Course Main Objective

To be able to know the emergence of modern cell biology and the concept of prokaryotic and eukaryotic cells.

1. To enable students with basic knowledge of the biological membrane and their structure and function. This includes transport across membranes, signal transduction and protein targeting.
2. To enable students with basic knowledge of structure and function of cell organelles and cytoskeleton system.
3. To enable students to learn basic knowledge about the cell cycle, apoptosis and stem cells.
4. To be able to know the mechanism of glycolysis, Krebs cycle and oxidative phosphorylation

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	To list the basic knowledge of structure and function of the cell.	K1
1.2	Define basic knowledge about the cell cycle, apoptosis and stem cells.	K2
1.3	Outline the biological membrane and their structure and function as well as the mechanism of cellular respiration.	K2
2	Skills :	
2.1	Finding out the structure of cell organelles.	S1
2.2	Analyze data	S2
2.3	Use computers and internet to aid in data analysis.	S4
3	Values:	
3.1	Ability to work in a team to conduct a specific project.	V1
3.3	Ability to Participate in discussion results of work in groups.	V2

Course Content

No	List of Topics	Contact Hours
1	The emergence of modern cell biology	1
2	Prokaryotic and Eukaryotic cells	1
3	Biological membranes	4
4	Transports across membranes	4
5	Cell signal transduction and protein targeting.	2
6	Cell Organelles (Structure and Function) and cytoskeleton	6
7	The cell cycle, apoptosis and stem cells.	4

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 and Understanding		
1.1	To list the basic knowledge of structure and function of the cell.	Lectures are given using PowerPoint and handouts	Written exams.
1.2	Define basic knowledge about the cell cycle, apoptosis and stem cells.		Practical exam.
1.3	Outline the biological membrane and their structure and function as well as the mechanism of cellular respiration.	Using light and electron microscope to examine slides.	Discussion
1.4		Reports and Oral presentations	
2.0	Skills		
2.1	Finding out the structure of cell organelles.	Using illustrations materials Laboratory training. Activities and assignments. Discussion	Midterm and final exams
2.2	Analyze data		Evaluation of lab reports and examinations
2.3	Use computers and internet to aid in data analysis.		Evaluation of oral presentations.
2.4			
3.0	Values		
3.1	Ability to work in a team to conduct a specific project.	Using smart class rooms.	Estimating of student's reports and its conclusion in discussion
3.2	Ability to Participate in discussion results of work in groups.	Encouraging students to analyze data and write reports.	
3.3			