



## Course specification

University/Academy: Damnhour

Faculty/Institute: Science

Department: Zoology

1. course Data:		
Course code: <b>Zool 403</b>	Course title: Cytology and Cytochemistry	Academic year:2010/2011 level: 1 <sup>st</sup> term/4 <sup>th</sup> year
Specialization: Zoology and chemistry	No. of instructional units: lecture <input type="text" value="3hrs/week"/> practical <input type="text" value="4hrs/week"/>	

<b>2. course Aim</b>	The overriding aim for all awards in the course is to provide knowledge on cell biology with particular emphasis on the cell structure and function; cell regulation; specific properties of tumor cell; cells with specialized functions; methods for cytochemistry techniques.
<b>3. Intended learning outcome</b>	
<b>a) Knowledge and understanding</b>	A1. Recognize the structure and function of the cell. A2. Describe different types of cytochemical technique.
<b>b) Intellectual skills</b>	By the end of the course student will have the ability to: <b>B1. Choose the cytochemical methods to determine the chemical composition of the cells</b> <b>B2. Apply the basic skill of seeking, handling and interpreting information to awards the creation of new knowledge.</b> B3. Carry out critical review of the literature and to



	be aware of alternative approaches to study of the cell biology.
<b>c) Professional skills</b>	By the end of the course student will have the ability to: C1. Use instruments to investigate the different cell structures under the electron microscope. C2. Elicit their practical skills to understand the scientific approach in cytology and cytochemistry. C3. Manage skills that enable a harmonic working group.
<b>d) General skills</b>	At the end of this course students will have: D1: write reports with the standard scientific guidelines. D2: Go through the internet and other electronic sources as a source of information D3: Exchange ideas, principles and information by oral, written and visual means
<b>4. course content</b>	<ul style="list-style-type: none"><li>• Cell membrane: cell junctions, endocytosis &amp; exocytosis.-----</li></ul> Mitochondria: electron transport chain, mitochondrial protein synthesis, mitochondrial cytopathy syndrome. Golgi apparatus: structure and function. <ul style="list-style-type: none"><li>• Lysosomes</li><li>• Rough endoplasmic reticulum &amp; smooth endoplasmic reticulum.</li><li>• Cytoskeleton</li><li>• Nucleus: Ultrastructure of the nucleus, Function of the nucleus, Protein synthesis, Cell Division, Cell</li></ul>



	<p>Signaling Cells with specialized functions.</p> <ul style="list-style-type: none"> <li>• Specific properties of tumor cell.</li> <li>• Methods for cytochemical techniques:</li> <li>• Methods for detection of Carbohydrates</li> </ul> <p>Methods for detection of lipids</p>						
<b>5. Teaching and learning methods</b>	<ol style="list-style-type: none"> <li>1. Lecture.</li> <li>2. Practical.</li> <li>3. Contact hours.</li> <li>4. Problem-Based learning.</li> <li>5. Encourage students to use online and library resources.</li> </ol>						
<b>6. teaching and learning methods for students with special needs</b>	-----						
<b>7. Student Assessment</b>							
<b>a. Procedures used:</b>	<p>Final-Term Examination: to assess student writing and drawing ability expressing his/her understanding of Cell Biology and Cytochemistry</p> <p><b>Class activities</b> (reports, discussions, practical...etc): to assess the student intellectual, professional, practical and general and transferable skills</p>						
<b>b. Schedule:</b>	<p>Assessment 1 <b>Practical Examination</b> Week 12</p> <p>Assessment 1 <b>Final-Term Examination</b> Week14</p>						
<b>c. Weighing of Assessment:</b>	<table> <tr> <td>- Mid-Term Examination</td> <td>15</td> <td>0.0%</td> </tr> <tr> <td>Final-Term Examination</td> <td>150</td> <td>75%</td> </tr> </table>	- Mid-Term Examination	15	0.0%	Final-Term Examination	150	75%
- Mid-Term Examination	15	0.0%					
Final-Term Examination	150	75%					



	Oral Examination		0.0%
	Practical Examination	25	25%
	Semester Work	10	0.0%
	<u>Other types of assessment</u>		<u>0.0 %</u>
	Total	200	100
<b>8. List of Textbooks and References:</b>	<ul style="list-style-type: none"><li>- The Cell a Molecular Approach, Geoffrey M. Cooper, second ed, Sinauer Associates, Inc.</li><li>Histochemistry Theoretical and Applied, Pearse A Everson J. &amp; A. Chrchill Ltd.</li></ul>		
<b>a. Course Notes</b>	-----		
<b>b. Required Books (Textbooks)</b>	-----		
<b>c. Recommended Books</b>	Basic Histology, Carlos Junqueira, Jose Careiro, Robert O. Kelley Prentice-Hall International, Inc.		
<b>d. Periodicals, web sites,...,etc</b>	<a href="http://www.nature.com/ncb/index.html">www.nature.com/ncb/index.html</a>		

**Course Instructor: Dr. Mohamed El Gerbid**

**Head of Department: Prof . Karoline Kamel Abdel Aziz**

**Date: -----/-----/-----**