Course specification

University/Academy: Damnhour
Faculty/Institute: Science
Department: Zoology

1. course Data:

<table>
<thead>
<tr>
<th>Course code:</th>
<th>Course title:</th>
<th>Academic year: 2010/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zool 403</td>
<td>Cytology and Cytochemistry</td>
<td>level: 1st term/4th year</td>
</tr>
</tbody>
</table>

No. of instructional units:
- lecture 3hrs/week
- practical 4hrs/week

2. course Aim

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.

3. Intended learning outcome

a) Knowledge and understanding

A1. Recognize the structure and function of the cell.
A2. Describe different types of cytochemical technique.

b) Intellectual skills

By the end of the course student will have the ability to:

B1. Choose the cytochemical methods to determine the chemical composition of the cells
B2. Apply the basic skill of seeking, handling and interpreting information to awards the creation of new knowledge.
B3. Carry out critical review of the literature and to
be aware of alternative approaches to study of the cell biology.

c) Professional skills

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.

d) General skills

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

4. course content

- Cell membrane: cell junctions, endocytosis & exocytosis.
- Mitochondria: electron transport chain, mitochondrial protein synthesis, mitochondrial cytopathy syndrome.
- Golgi apparatus: structure and function.
  - Lysosomes
    Rough endoplasmic reticulum & smooth endoplasmic reticulum.
  - Cytoskeleton
  - Nucleus:
    Ultrastructure of the nucleus, Function of the nucleus, Protein synthesis, Cell Division, Cell
| 5. Teaching and learning methods | 1. Lecture.  
2. Practical.  
3. Contact hours.  
4. Problem-Based learning.  
5. Encourage students to use online and library resources. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6. teaching and learning methods for students with special needs</td>
<td></td>
</tr>
<tr>
<td>7. Student Assessment</td>
<td></td>
</tr>
</tbody>
</table>
| a. Procedures used: | Final-Term Examination: to assess student writing and drawing ability expressing his/her understanding of Cell Biology and Cytochemistry  
Class activities (reports, discussions, practical…etc): to assess the student intellectual, professional, practical and general and transferable skills |
| b. Schedule: | Assessment 1 Practical Examination Week 12  
Assessment 1 Final-Term Examination Week 14 |
| c. Weighing of Assessment: | - Mid-Term Examination 15 0.0%  
Final-Term Examination 150 75% |
<table>
<thead>
<tr>
<th>Assessment Type</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Examination</td>
<td>0.0%</td>
</tr>
<tr>
<td>Practical Examination</td>
<td>25%</td>
</tr>
<tr>
<td>Semester Work</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other types of assessment</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>200</strong></td>
</tr>
</tbody>
</table>

8. List of Textbooks and References:

- Histochemistry Theoretical and Applied, Pearse A Everson J. & A. Churchill Ltd.

a. Course Notes

b. Required Books (Textbooks)

c. Recommended Books

Basic Histology, Carlos Junqueira, Jose Careiro, Robert O. Kelley Prentice-Hall International, Inc.

d. Periodicals, web sites,…,etc

www.nature.com/ncb/index.html

Course Instructor: Dr. Mohamed El Gerbid

Head of Department: Prof. Karoline Kamel Abdel Aziz

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