Course specification

University/Academy: Damanhour
Faculty/Institute: Science
Department: Botany

1. course Data:

<table>
<thead>
<tr>
<th>Course code: MIC325</th>
<th>Course title: Cell Biology</th>
<th>Academic year/level: 2009/2010 Third year / 1st term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization: Chemistry-Microbiology</td>
<td>No. of instructional units: 1 hr/week lecture practical 3 hrs/week</td>
<td></td>
</tr>
</tbody>
</table>

2. course Aim

- By the end of this course, students should be able to:
  - Identify and illustrate the components of living cells
  - Understand the function of each component

3. Intended learning outcome

a) Knowledge and understanding

By the end of this course, students should be able to:
A1: Draw the living cells and illustrate both eukaryotic and prokaryotic cells
A2: Illustrate the cell structure, division, organization and behaviour.
A3: Write the relation between structure and function to some key cell organelles.
A4: List some mechanisms of cell signalling

b) Intellectual skills

By the end of this course, students should be able to:
B1: Predict the cell response to environmental changes.
B2: Apply basic skills of searching and interpreting information.

c) Professional skills

By the end of the course, student will be able to:
C1: Isolate the right tissue and stain it for chromosomal division.
C2: Prepare temporary and permanent slides for cell divisions.
C3: Karyotype certain tissues for genetic variations

d) General skills

D1: Exchange ideas, principles, theories and information by oral written and visual means.
D2: Work effectively both in a team and independently

4. course content

- Cell is the basic structure of all living beings
- Prokaryotic and eukaryotic cells
- Basic structures of cell and their functions
- Genetic material in prokaryotes
- Nucleus, the main organizer in eukaryotes
<table>
<thead>
<tr>
<th>The ribosomal machinery</th>
<th>How well ordered is the nucleus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromosomal structure, packaging</td>
<td>Gene expression in prokaryotes</td>
</tr>
<tr>
<td>Mitochondria and chloroplast</td>
<td>Evolutionary theories related to them</td>
</tr>
<tr>
<td>Yeast cells in experimental cell biology.</td>
<td>Excitable membranes</td>
</tr>
<tr>
<td>Cell Signaling, types, and chemotaxis</td>
<td></td>
</tr>
</tbody>
</table>

### 5. Teaching and learning methods

- Lectures, seminars, textbooks.
- Problems.
- Lab-work.
- Course work, essay

### 6. Student Assessment

- Mid-Term Examination: 10
- Final-Term Examination: 50
- Practical Examination: 30
- Semester Work: 10
- **Total**: 100

#### a) Procedures used:

- 

#### b) Schedule:

- 

#### c) Weighing of Assessment:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-Term Examination:</td>
<td>10</td>
</tr>
<tr>
<td>Final-Term Examination:</td>
<td>50</td>
</tr>
<tr>
<td>Practical Examination:</td>
<td>30</td>
</tr>
<tr>
<td>Semester Work:</td>
<td>10</td>
</tr>
<tr>
<td>Other types of asse</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### 7. List of Textbooks and

<table>
<thead>
<tr>
<th>Reference(s):</th>
<th>Elsevier Science (USA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Notes</td>
<td>-</td>
</tr>
<tr>
<td>Required Books (Textbooks)</td>
<td>-</td>
</tr>
<tr>
<td>Recommended Books</td>
<td>-----------</td>
</tr>
</tbody>
</table>
| Periodicals, websites, etc | Periodicals, Web Sites, . . . etc  

**Course Coordinator**  
Dr. Eman A. H. Mohamed

**Date:** 19/6/2009

**Head of Department**