# Course specification

**University/Academy:** Damanhour  
**Faculty/Institute:** Science  
**Department:** Zoology

### 1. Course Data:

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course title</th>
<th>Academic year/level</th>
<th>Specialization</th>
<th>No. of instructional units</th>
</tr>
</thead>
<tbody>
<tr>
<td>mic 324</td>
<td>immunology and protozoa</td>
<td>2009/2010 3rd year student (first term)</td>
<td>Chemistry/microbiology</td>
<td>lecture 2, practical 3</td>
</tr>
</tbody>
</table>

### 2. Course Aim

By the end of the course, students will be able to:

- Realize the principles of nomenclature and classification of organisms related to protozoa kingdom.
- Understand the basic biological concepts of protozoa related organisms.
- Recognize basic concepts of immunology and protozoa.

### 3. Intended learning outcome

#### a) Knowledge and understanding

By the end of the course, students will be able to:

A1: Write the significant differences between variant forms of protozoa  
A2: Describe the structure of different protozoa kingdom related forms.  
A3: List the basic concepts of immunology and protozoa

#### b) Intellectual skills

By the end of the course, the students are expected to develop higher order skills that are reflected in their ability to:

B1: Compare between prokaryotes and eukaryotes.  
B2: Classify protozoa and related organisms at the genus level.  
B3: Apply the basic knowledge of immunology in handling and interpreting information.

#### c) Professional skills

By the end of the course, students will be able to:

C1: Demonstrate the main features of a number of simple protozoa-related organisms.  
C2: Use the simple microscope to identify different protozoa samples.  
C3: Practice the different immunology and protozoa features

#### d) General skills

By the end of the course, students will be able to:
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D1: Exchange ideas, principles and information by oral, written and visual means.  
D2: Work effectively both in a team and independently.  
D3: Use the information technology to gather information and right reports.

4. course content

- Introduction to immunology  
- Blood, immunology  
- Infection immunity  
- Acquired immunity  
- Normal protection against diseases  
- Immune reaction  
- Hypersensitivity

5. Teaching and learning methods

- a. Lecture using PowerPoint presentations.  
- b. Practical sections.  
- d. Independent reading throughout basic Texts books and research papers.

6. teaching and learning methods for students with special needs

N/A

7. Student Assessment

- Mid-term exam  
- Final practical exam  
- Final written exam.

a) Procedures used:

- Data show, overhead projector, simple microscopes, compound light microscopes and some prepared slides for protozoans

b) Schedule:

- Assessment 1: Quizzes. Week: 4-7  
- Assessment 2: Mid term exam. Week: 8  
- Assessment 3: Practical exam. Week: 15  
- Assessment 4: Final term exam. Week: 16

c) Weighing of Assessment:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester work</td>
<td>10</td>
</tr>
<tr>
<td>Mid term exam</td>
<td>10</td>
</tr>
<tr>
<td>Practical examination</td>
<td>30</td>
</tr>
<tr>
<td>Final term exam</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
</tr>
</tbody>
</table>

8. List of Textbooks and References:

- Course Notes  
- 6.2. Essential Books (Text Books)
|----------------|-------------------------------------------------------------------------------------------------------------------------------------|
| b) Required Books (Textbooks) | Essential Books (Text Books)  
| c) Recommended Books |  |
| d) Periodicals, web sites, etc | - |

Course Instructor: Head of Department: Dr.

Date: 17/8/2009