Course specification

University/Academy: Damanhour
Faculty_Institute: Science
Department: chemistry

1. **Course Data:**

<table>
<thead>
<tr>
<th>Course code:</th>
<th>Course title:</th>
<th>Academic year/level:</th>
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<tbody>
<tr>
<td>Biochem. 322</td>
<td>BIOPHYSICAL CHEMISTRY (2)</td>
<td>2009/2010</td>
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<td></td>
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<td>Third year – First semester</td>
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Specialization: Chemistry/biochemistry

No. of instructional units: lecture 2 practical 3

2. **Course Aim**

The aim of the course is to know composition of biological membranes, Transport of ions and molecules through biological membranes and Bioenergetics.

3. **Intended learning outcome**

**a) Knowledge and understanding**

Successful students will have achieved a comprehensive knowledge of the major concepts, principles and theories of biophysical chemistry that include:

- a1- composition of biological membranes
- a2- Transport of ions and molecules through biological membranes
- a3- Bioenergetics

**b) Intellectual skills**

By the end of the course, the student is expected to:

- b1- Demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to transport through biomembranes.
- b2- Apply such knowledge and understanding to the solution of bioenergetics problems.
b3- Evaluate information and data from a variety of sources in order to gain a coherent understanding of theory and practice.

c) **Professional skills**

At the end of this course students will have the ability to

- c1- Carry out the Determination of enzyme activity of hydrolases, transferases and ligases
- c2- Record, collate, analyze and report data collected in laboratory.
- c3- Manage skills that enable a harmonic working group.

d) **General skills**

At the end of this course students will have

- d1- Study skills needed for continuing professional development.
- d2- Interpersonal skills, relating to the ability to interact with other people and to engage in team-working.
- d3- Time-management and organizational skills, as evidenced by the ability to plan and implement efficient and effective modes of working.

4. **course content**

- Composition of biological membranes
- Transport of ions and molecules through biological membranes
- Bioenergetics.

5. **Teaching and learning methods**

5.1- Lecture
5.2 - Practical
5.3 - Contact hours.
5.4- Problem-Based Learning.
5.5- Encourage students to use online and library resources.
<table>
<thead>
<tr>
<th>6. teaching and learning methods for students with special needs</th>
<th>resources.</th>
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<tbody>
<tr>
<td>7. Student Assessment</td>
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<tr>
<td>a) Procedures used:</td>
<td>7.1- Final-Term Examination to assess the student skill in presenting facts, applications, theories and calculations. 7.2- Class activities (reports, discussions, practical...etc) to assess the student intellectual, professional and practical, and general and transferable skills.</td>
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<tr>
<td>b) Schedule:</td>
<td>Assessment 1 Practical Examination Week 14 Assessment 1 Final-Term Examination Week16</td>
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<tr>
<td>c) Weighing of Assessment:</td>
<td>Mid-Term Examination 0 % Final-Term Examination 75 % Oral Examination. 0 % Practical Examination 25 % Semester Work 0 % Other types of assessment 0 % Total 100%</td>
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<tr>
<td>Any formative only assessments.</td>
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<td>8. List of Textbooks and References:</td>
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<tr>
<td>a) Course Notes</td>
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### Required Books (Textbooks)
- Principles of biochemistry, Ed. Lehninger, AL., CBS, publishers& distributors, India

### Recommended Books

### Periodicals, websites, etc
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**Course Instructor:** Dr. Doha Beltagi  
**Head of Department:** Dr. Medhat A. Shaker  
**Date:** -----/-----/2010