# Course specification

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

<table>
<thead>
<tr>
<th>1. course Data:</th>
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<tbody>
<tr>
<td><strong>Course code:</strong></td>
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<tr>
<td>Biochem 352</td>
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<td></td>
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<tr>
<td><strong>Specialization:</strong></td>
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<tr>
<td>Chemistry (special)</td>
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## 2. course Aim

By the end of this course, students should be able to:

- Understand the classification, General properties and Structure of carbohydrates, lipids, amino acids and proteins.
- Understand the enzymatic reactions and their catalytic effects.

## 3. Intended learning outcome

### a) Knowledge and understanding

By the end of this course, students should be able to:

- a1: Understand the chemistry and classification of carbohydrates, lipids, amino acids and proteins.
- a2: Recognize the enzymatic reactions.
- a3: Understand catalysis process.

### b) Intellectual skills

By the end of this course, students should be able to:

- b1: Conclude the principles of Carbohydrates, Lipids and proteins.
- b2: Evaluate the principles of enzymatic reactions and catalysis.

### c) Professional skills

None.

### d) General skills

- d1: Use IT and web search engines for collecting information.
- d2: Work effectively in a team, and independently on solving organic chemistry problems.
### 4. course content

- Classification, isomerization and reactions of carbohydrates (monosaccharide and disaccharides).
- Classification, isomerization and reactions of carbohydrates (polysaccharide).
- Classification of fatty acid and lipids.
- Physical and chemical properties of triglycerides.
- Classification and reactions of amino acids.
- Protein structure and purification.
- Introduction to enzymes and their catalytic reactions.
- Catalytic reactions.

### 5. Teaching and learning methods

5.1. Lectures and seminars using data show and board.
5.2. Laboratory work and assignment.
5.3. Problem classes and group tutorial.
5.4. Reports and discussion groups

### 6. teaching and learning methods for students with special needs

6.1 Stating the day's objectives at the beginning of the class.
6.2. Providing examples and identifying things that are not examples.
6.3. Printing out copies of overheads and make them available to students.

### 7. Student Assessment

**a) Procedures used:**

- 7.1. Mid term exam.
- 7.2. Practical exam.
- 7.3. Problems.
- 7.4. Assignments.
- 7.5 Written exam

**b) Schedule:**

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Week</th>
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<tbody>
<tr>
<td>2: Mid term</td>
<td>9</td>
</tr>
<tr>
<td>4: Final written</td>
<td>16</td>
</tr>
<tr>
<td>c) Weighing of Assessment:</td>
<td>Mid-Term Examination:</td>
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<tr>
<td>--------------------------</td>
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<tr>
<td></td>
<td>Final-Term Examination:</td>
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<tr>
<td></td>
<td>Practical Examination:</td>
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<tr>
<td></td>
<td>Semester Work:</td>
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<tr>
<td></td>
<td>Other types of assessment :</td>
</tr>
<tr>
<td></td>
<td>Total</td>
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<table>
<thead>
<tr>
<th>8. List of Textbooks and References:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Course Notes</td>
<td>None.</td>
</tr>
<tr>
<td>d) Periodicals, web sites,...,etc</td>
<td><a href="http://www.sciencedirect.com">www.sciencedirect.com</a></td>
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Course Instructor: ---------  
Head of Department: ---------  
Date: -----/-----/-----