**COURSE CONTENT**

<table>
<thead>
<tr>
<th>Date</th>
<th>1 February 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Year</td>
<td>2006/2007</td>
</tr>
<tr>
<td>Study Year (if applicable)</td>
<td>First</td>
</tr>
<tr>
<td>Course Code &amp; Title</td>
<td>CBC122 Biological Chemistry 2</td>
</tr>
<tr>
<td>Academic Unit</td>
<td>3 AU</td>
</tr>
<tr>
<td>Pre-requisite</td>
<td>A or H2 Level Chemistry or equivalent or by permission</td>
</tr>
</tbody>
</table>

**CBC122 Biological Chemistry 2**
[Lectures: 39; Tutorial: 10; Pre-requisite: A or H2 Level Chemistry or equivalent or by permission; Academic Units: 3]

**Content**
Enzyme reactions, structures and functions; introduction to drug action; enzyme kinetics; methods to determine enzyme structure; metallo enzymes; cofactors.

**Objectives**
To apply the principles of chemical reactivity to living systems.

**Learning Outcomes**
Students will be able to predict modes of reactivity of biomolecules both qualitatively and quantitatively, understand the effect of enzyme structure on enzyme function and understand the roles of major classes of biomolecules. Students will appreciate the capabilities of different methods for enzyme structure determination.

**Course Outline**
- DNA, RNA and nucleic acid metabolism  
  - 4 hrs
- Basic organic reactions in biological systems  
  - 4 hrs
- Single biotransformations and common mechanisms  
  - 5 hrs
- Enzyme, Enzyme inhibition and kinetics  
  - 4 hrs
- Carbohydrates metabolism (Glycolysis)  
  - 4 hrs
- The citric acid cycle  
  - 4 hrs
- The pentose phosphate pathway  
  - 4 hrs
- Metabolisms of amino acids  
  - 4 hrs
- Synthesis of peptides  
  - 6 hrs

**Course Assessment**
Students will be assessed by:
- A final 2-hour written examination (60%)
- Continuous assessment (40%)

**Textbooks/References**
Organic Chemistry, John McMurry, 6 Ed. Thomson, 2004
The Organic Chemistry of Biological Pathways, by John McMurry & Tadhg Begley, Roberts & Co Publishers, 2004