Chemistry for Clinical Sciences

Module Code: CLS3003-B
Academic Year: 2018-19
Credit Rating: 20
School: School of Pharmacy and Medical Sciences
Subject Area: Clinical Sciences
FHEQ Level: FHEQ Level 3

Pre-requisites:
Co-requisites:

Contact Hours

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Lectures</td>
<td>29</td>
</tr>
<tr>
<td>Tutorials</td>
<td>24</td>
</tr>
<tr>
<td>Directed Study</td>
<td>147</td>
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</tbody>
</table>

Availability Periods

<table>
<thead>
<tr>
<th>Occurrence</th>
<th>Location/Period</th>
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<tbody>
<tr>
<td>BDA</td>
<td>University of Bradford / Academic Year (Sept - May)</td>
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Module Aims
To reinforce basic knowledge of general Chemistry and extend it to cover more advanced aspects of bonding and organic chemistry. To extend this knowledge base through the study of the concepts of enthalpy changes; general and aqueous equilibrium; acids, bases, pH and buffers; and simple organic reactions with reference to a biological or medical context.

Outline Syllabus
Atomic structure: nuclear and electronic (up to s,p,d orbitals). Chemical equations. Mole concept, relative atomic/molar masses, molar volume, reacting masses, molar conc. Intramolecular bonding: ionic, covalent, dative, electronegativity, polarity. Intermolecular

**Module Learning Outcomes**

*On successful completion of this module, students will be able to...*

1. Describe the key features of the structure of atoms, chemical bonding, molecular structure, and organic reactions.

2. Explain the properties of biomolecules, metabolic processes, and medical treatments in terms of chemical structure, bonding and reactivity.

3. Explain the factors affecting the energy changes, rate and equilibrium position of a reaction, and their relevance to biochemical reactions in the human body.

4. Apply principles of physical chemistry to solve numerical problems involving chemical quantities, thermochemistry, reaction kinetics, equilibria, and acid-base chemist.

5. Describe and apply scientific concepts.

6. Use logical thinking skills.

7. Use study, written communication and numeracy skills.

**Learning, Teaching and Assessment Strategy**

Information outlining the knowledge and understanding required of this module is delivered in lectures. Problem-solving workshops and tutorials will be used to practise and reinforce the taught component. Feedback during workshops and in formative assessment will enable you to monitor your progress. You will use your directed study time to access suggested resources for further reading, to practice problem solving and to monitor and direct your own learning. Your knowledge base, problem-solving and numeracy skills will be assessed by examinations at the end of each semester.

**Mode of Assessment**

<table>
<thead>
<tr>
<th>Type</th>
<th>Method</th>
<th>Description</th>
<th>Length</th>
<th>Weighting</th>
<th>Final Assess'</th>
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<tbody>
<tr>
<td>Summative</td>
<td>Examination</td>
<td>One 1 hour MCQ examination End of Semester 1</td>
<td>1 hour</td>
<td>40%</td>
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<tr>
<td>Summative Examination</td>
<td>One 1.5 Hours closed book MCQ and Calculations examination End of Semester 2.</td>
<td>1.5 hours</td>
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**Legacy Code (if applicable)**

CS-0011L

**Reading List**

To view Reading List, please go to [rebus:list](#).