Description: Biophysical Science Foundations

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cat-Nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
<th>Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSC</td>
<td>1951</td>
<td>10474</td>
<td>1, 2002</td>
<td>ONC</td>
<td>1.00</td>
<td>TWELVA</td>
</tr>
</tbody>
</table>

Academic Group: FOSCI
Academic Org: FOS002
HECS Band: 2
ASCED Code: 019999

STAFFING
Examiner: Bernadette McCabe
Moderator: Robert Learmonth

RATIONALE
The purpose of this course is to assist students to understand the chemistry, biochemistry and physics relevant to the functioning of the healthy human body. This course relates to studies in anatomy and physiology, pharmacology, pathophysiology and to nursing practice.

SYNOPSIS
This course contains the basic chemistry, biochemistry and physics necessary for understanding the functioning of the healthy human body and for nursing practice.

OBJECTIVES
On successful completion of this course students will be able

- to: demonstrate an understanding of basic chemical concepts with particular reference to chemical processes found within the healthy human body. describe the structure and functions of cells and their processes at the molecular level. demonstrate a knowledge of the principles of optics and acoustics as related to the eyes and ears. utilise an understanding of the scientific basis of therapeutic and diagnostic devices used in health care settings. demonstrate competence in theoretical and practical activities designed for nursing science.

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
</tr>
</thead>
</table>

2. BIOCHEMISTRY Properties of biological molecules - proteins, carbohydrates, nucleic acids and lipids. Enzymes, major metabolic pathways and biosynthetic processes.


TEXT and MATERIALS required to be PURCHASED or ACCESSED:

Books can be ordered by fax or telephone. For costs and further details use the 'Book Search' facility at http://bookshop.usq.edu.au by entering the author or title of the text.


REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.


Hollins, M. 1990 Medical physics, Thomas Nelson, Surrey.


Marieb, E.N. 2000 *Human anatomy and physiology*, 5th edn, Benjamin Cummings, Menlo Park, CA.


**STUDENT WORKLOAD REQUIREMENTS**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examinations</td>
<td>3</td>
</tr>
<tr>
<td>Laboratory or Practical Classes</td>
<td>20</td>
</tr>
<tr>
<td>Lectures</td>
<td>35</td>
</tr>
<tr>
<td>Private Study</td>
<td>95</td>
</tr>
<tr>
<td>Tutorial</td>
<td>9</td>
</tr>
</tbody>
</table>

**ASSESSMENT DETAILS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUIZZES-LAB &amp; TUTE SESSIONS</td>
<td>90.00</td>
<td>25.00</td>
<td>Y</td>
<td>04 Mar 2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(see note 1)</td>
</tr>
<tr>
<td>1HR CLOSED TEST - PHYSICS</td>
<td>40.00</td>
<td>25.00</td>
<td>Y</td>
<td>19 Apr 2002</td>
</tr>
<tr>
<td>PTA OF 2HR CLOSED EXAM-CHEM&amp;BI</td>
<td>70.00</td>
<td>39.00</td>
<td>Y</td>
<td>END S1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(see note 3)</td>
</tr>
<tr>
<td>PT B OF 2HR CLSD EXAM-CHEM&amp;BIO</td>
<td>20.00</td>
<td>11.00</td>
<td>Y</td>
<td>END S1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(see note 4)</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Examiner to advise details regarding quizzes on lab & tute sessions
2. Examination dates will be available during the Semester. Please refer to the examination timetable when published. Part A of 2hr exam - Chem & Biochem.
3. Examination dates will be available during the Semester. Please refer to the examination timetable when published. Part B exam - Chem & Biochem
OTHER REQUIREMENTS

1 Attendance Requirements It is the students’ responsibility to actively participate in all classes scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.

2 Practical Classes Students must actively participate in the practical classes for this course, to be able to demonstrate by involvement in these classes and by their practical reports, that they have achieved the practical objectives of the course. Medical certificates and other appropriate documentation do NOT exempt students from the attendance requirements for this course. A laboratory coat, closed-in shoes and long hair tied back are required for all laboratory sessions. Closed-in shoes are also required for tutorials held in the nursing science laboratories.

3 Requirements to Satisfactorily Complete each Assessment Item To satisfactorily complete the weekly quizzes, chemistry examination and biochemistry-physics examination, students must obtain at least 45% of the marks available for each assessment. Medical certificates and other appropriate documentation for a maximum of two (2) weeks, are taken into consideration when calculating final quiz marks. Students with valid documentation who fail to attend three (3) tutorials and/or three (3) laboratory sessions, may be issued with an I-Incomplete result. This will depend on the results achieved in the course assessments. Submission of written make-up work will be required by semester 2, week 3, of the current academic year.

4 Minimum Requirements to Pass the Course To be assured of a pass in this course, students must: obtain an overall mark of at least 50%, and obtain at least 45% in assessment items 1 to 5.

5 Grading Final grades for students will be determined by the addition of the marks obtained in each assessment item, weighted as in the Assessment Details, and by considering the students’ level of achievement of the objectives of the course.

6 Supplementary and Deferred Examinations Students who do not perform satisfactorily in weekly quizzes or in an examination, may, at the discretion of the Examiner, be granted a supplementary examination. Students will be granted a deferred examination only if they perform satisfactorily in all other assessment items. Any supplementary or deferred examinations for this unit will be held during the examination period at the end of semester 2, week 3 of the current academic year.

7 In accordance with the University’s Policy on Assignments (Regulation 5.6.1), the Examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances. This policy may be found in the USQ Handbook, the Distance Education Student Guide and the Faculty of Sciences’ Orientation Handbook for new on-campus students. All students are advised to study and follow the guidelines associated with this policy.

8 Examinations Closed Examination: Candidates are allowed to bring only writing and drawing instruments into the examination.