Description: Current Topics in Biomedical Sciences

<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>
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<tr>
<td>BIO</td>
<td>2901</td>
<td>62804</td>
<td>1, 2007</td>
<td>OHC</td>
<td>1.00</td>
<td>Toowoomba</td>
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Academic group: FOSCI
Academic org: FOS002
Student contribution band: 2
ASCED code: 019999

STAFFING
Examiner: Michael Kotiw
Moderator: Michael Watson

REQUISITES
Pre-requisite: BIO2103 or NSC1951

RATIONALE
An understanding of current advances in biomedical sciences will provide nurses and biomedical scientists with useful knowledge that will assist in clinical or research workplaces.

SYNOPSIS
In this course students extend their knowledge of basic biomedical sciences to include new technologies and alternative therapies that are utilised in diagnosing diseases or improving human health.

OBJECTIVES
On completion of this course students will be able to:

1. describe the basis of genetic inheritance, and diagnostic or therapeutic strategies using DNA technologies (Mid-Semester Test);
2. explain the role of stem cells and bioengineering and their potential in treatment of diseases (Mid-Semester Test);
3. discuss the pharmacological basis for the use of natural and herbal medicine including their interactions with conventional medicines (Exam);
4. explain the rationale for using various diagnostic imaging techniques (Exam);
5. describe how alterations in serum or tissue markers can be measured biochemically as a basis for diagnosis (Exam);
6. explain the importance of infection control in minimising the potential spread of diseases (Exam).
TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>1. Genetics, DNA technologies and DNA based diagnostics</td>
<td>23.00</td>
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<tr>
<td>2. Gene therapies</td>
<td>11.00</td>
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<tr>
<td>3. Stem cells and potential therapies</td>
<td>11.00</td>
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<tr>
<td>4. Natural and herbal medicines including drug interactions</td>
<td>11.00</td>
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<tr>
<td>5. Bioengineering and organ transplantations</td>
<td>11.00</td>
</tr>
<tr>
<td>6. Diagnostic imaging</td>
<td>11.00</td>
</tr>
<tr>
<td>7. Clinical Biochemistry</td>
<td>11.00</td>
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<tr>
<td>8. Aspects of Infection Control</td>
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</table>

TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at http://bookshop.usq.edu.au click 'Semester', then enter your 'Course Code' (no spaces).

Interactive Physiology CD-ROM
Bryant, B, Knights, K & Salerno, E 2003, Pharmacology for health professionals, Mosby, Sydney.
Marieb, EN 2006, Human anatomy and physiology, 7th edn, Benjamin/Cummings, Menlo Park, California.

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.

(Also available online through library catalogue)
(revised)
Hollins, M 1992, Medical physics, Thomas Nelson and Sons Ltd, Surrey.


**STUDENT WORKLOAD REQUIREMENTS**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Directed Study</td>
<td>9.00</td>
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<tr>
<td>Examinations</td>
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<tr>
<td>Lectures</td>
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<tr>
<td>Private Study</td>
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<td>Tutorials</td>
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**ASSESSMENT DETAILS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks out of</th>
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<tbody>
<tr>
<td>1HR CLOSED MID-SEMESTER TEST</td>
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<tr>
<td>1.5HR CLOSED EXAMINATION</td>
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<table>
<thead>
<tr>
<th>Due date</th>
<th>Wtg(%)</th>
<th>Marks out of</th>
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<tbody>
<tr>
<td>06 Mar 2007</td>
<td>33.00</td>
<td>50.00</td>
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<tr>
<td>END S1</td>
<td>67.00</td>
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</tr>
</tbody>
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**NOTES**

1. Examiner will advise the date of mid-semester closed test.
2. Examination dates will be available during the Semester. Please refer to the examination timetable when published.

**IMPORTANT ASSESSMENT INFORMATION**

1. **Attendance requirements:**
   - It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) 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. **Requirements for students to complete each assessment item satisfactorily:**
   - To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item.

3. **Penalties for late submission of required work:**
   - If students submit assignments after the due date without prior approval then a penalty of 10% of the total marks available for the assignment will apply for each working day late.

4. **Requirements for student to be awarded a passing grade in the course:**
   - To be assured of receiving a passing grade a student must submit all of the summative assessment items, achieve at least 50% in the examination and at least 50% of the available weighted marks for the summative assessment items. Students who do not qualify for a Passing grade may, at the discretion of the Examiner, be awarded a Supplementary Examination and/or assigned additional work to demonstrate to the Examiner that they
have achieved the required standard. It is expected that such students will have gained at least 45% of the total marks available for all summative assessment items.

5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the weighted aggregate of the marks obtained for each of the summative assessment items in the course.

6 Examination information:
In a Closed Examination, candidates are allowed to bring only writing and drawing instruments into the examination.

7 Examination period when Deferred/Supplementary examinations will be held:
Any Deferred or Supplementary examinations for this course will be held during the examination period of the following semester.

8 University Regulations:
Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL http://www.usq.edu.au/corporateservices/calendar/part5.htm or in the current USQ Handbook.

ASSESSMENT NOTES

9 Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded IDS (Incomplete-Deferred Examination); IDM (Incomplete Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).

10 In order to attend laboratory classes, students must provide and wear appropriate personal protective equipment. This shall include a laboratory coat, closed in shoes, and safety glasses. Such equipment must be approved by supervising staff. Failure to provide and wear the appropriate safety equipment will result in students being excluded from classes.