Unit Outline 2012
Faculty of health

BIOCHEMISTRY OF EXERCISE
8339
This Unit Outline must be read in conjunction with:

a) *UC Student Guide to Policies*, which sets out University-wide policies and procedures, including information on matters such as plagiarism, grade descriptors, moderation, feedback and deferred exams, and is available at *(scroll to bottom of page)*  

b) *UC Guide to Student Services*, and is available at *(scroll to bottom of page)*  

c) Any additional information specified in section 6h.

## 1: General Information

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td><strong>Unit title</strong> Biochemistry of Exercise</td>
</tr>
<tr>
<td>1b</td>
<td><strong>Unit number</strong> 8339 - 8363</td>
</tr>
<tr>
<td>1c</td>
<td><strong>Teaching Period and year offered</strong> Semester 2, 2012</td>
</tr>
<tr>
<td>1d</td>
<td><strong>Credit point value</strong> 3</td>
</tr>
<tr>
<td>1e</td>
<td><strong>Unit level</strong> Year 1</td>
</tr>
</tbody>
</table>
| 1f | **Name of Unit Convener:** Naroa Etxebarria  
   **Room:** 12C3  
   **Phone:** (02) 6201 2163  
   **Email:** Naroa.Etxebarria@canberra.edu.au |
| 1g | **Administrative Assistant:** Dung Thi-Thuy Ngo  
   **Room:** 12C18  
   **Phone:** (02) 6201 2009  
   **Email:** dung.ngo@canberra.edu.au |
2: Academic Content

2a Unit description and learning outcomes
This unit presents a range of basic biochemistry and genetic principles that assist in the understanding of physical activity and exercise. The focus is on the integration and interpretation of principles in an exercise science setting. Students will gain an understanding that allows them to apply basic principles to physical activity and sport. This unit will be co-taught with unit Biochemistry of Exercise G.

At the end of this unit, students will be able to:
1. describe factors that influence biochemical and genetic principles;
2. describe the control of metabolism in the body as it relates to exercise; and
3. relate biochemical and genetic principles to exercise, sport and health

2b Generic skills
The following UC generic skills and attributes are described in more detail at https://guard.canberra.edu.au/policy/policy.php?pol_id=3030

1. Communication
2. Analysis and inquiry
3. Problem solving
4. Working independently and with others
5. Professionalism and social responsibility

This unit primarily addresses communication skills (1), analysis and inquiry (2) and problem solving (3). How these generic skills are incorporated in assessment in this unit is indicated in Section 5a.

2c Prerequisites and/or co-requisites
None

3: Delivery of Unit and Timetable

3a Delivery mode
This unit is taught in traditional mode, on campus in standard semesters with one two hour lectures per week and one two hour practical/tutorial. This unit will be delivered alongside 8363 (Biochemistry of Exercise G) but assessment for this unit (8339) will be different and as described in section 5. Lectures will be recorded and available on-line.

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Day</th>
<th>Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Friday</td>
<td>08:30-10:30</td>
<td>12B50</td>
</tr>
</tbody>
</table>

**Weeks 2, 4, 6, 10,12**

| Practical Group 1 | Monday | 09:30-11:30 | 12B48-49 |
| Practical Group 3 | Monday | 11:30-13:30 | 12B48-49 |
| Practical Group 5 | Monday | 14:30-16:30 | 12B48-49 |
| Practical Group 7 | Monday | 16:30-18:30 | 12B48-49 |

**Weeks 3, 5, 7, 11,13**

| Practical Group 2 | Monday | 09:30-11:30 | 12B48-49 |
| Practical Group 4 | Monday | 11:30-13:30 | 12B48-49 |
| Practical Group 6 | Monday | 14:30-16:30 | 12B48-49 |
| Practical Group 8 | Monday | 16:30-18:30 | 12B48-49 |
| Practical Group 9 | Tuesday | 17:30-19:30 | 12B48-49 |
### Timetable of activities, such as lectures/ tutorials/ practicals/ field classes, showing key dates and topics

(Information might be provided in the form of a table)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lectures (12B50 - 08:30am)</th>
<th>Text chapter</th>
<th>Monday PRACTICAL - 2h (G=Group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13-17 Aug</td>
<td>INTRODUCTION LECTURE</td>
<td>1 (Extra)</td>
<td>(No class)</td>
</tr>
<tr>
<td>2</td>
<td>20-24 Aug</td>
<td>The Weightlifter (I)</td>
<td>2</td>
<td>G1, G2, G3, G4 Hydration and exercise</td>
</tr>
<tr>
<td>3</td>
<td>27-31 Aug</td>
<td>The Weightlifter (II)</td>
<td>2</td>
<td>G5, G6, G7, G8, G9 Hydration and exercise</td>
</tr>
<tr>
<td>4</td>
<td>3-7 Sep</td>
<td>The Sprinter</td>
<td>3</td>
<td>G1, G2, G3, G4, G9 Repeated Sprint-ability</td>
</tr>
<tr>
<td>5</td>
<td>10-14 Sep</td>
<td>The Middle-distance runner</td>
<td>4</td>
<td>G5, G6, G7, G8, G9 Repeated Sprint-ability</td>
</tr>
<tr>
<td>6</td>
<td>17-21 Sep</td>
<td>The endurance athlete (I)</td>
<td>5</td>
<td>G1, G2, G3, G4, G9 Aerobic capacity</td>
</tr>
<tr>
<td>7</td>
<td>24-28 Sep</td>
<td>Mid Semester Test (MST)</td>
<td></td>
<td>G5, G6, G7, G8, G9 Aerobic capacity</td>
</tr>
<tr>
<td>8</td>
<td>1-5 Oct</td>
<td>Class free period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>8-12 Oct</td>
<td>The endurance athlete (II)</td>
<td>5</td>
<td>(No class)</td>
</tr>
<tr>
<td>10</td>
<td>15-19 Oct</td>
<td>The games player</td>
<td>6</td>
<td>G1, G2, G3, G4, G9 Genetic and Doping</td>
</tr>
<tr>
<td>11</td>
<td>22-26 Oct</td>
<td>Sporting Talent (I)</td>
<td>7</td>
<td>G5, G6, G7, G8, G9 Genetic and Doping</td>
</tr>
<tr>
<td>12</td>
<td>29-2 Nov</td>
<td>Adaptations to training (I)</td>
<td>8</td>
<td>G1, G2, G3, G4, G9 Ergogenic aids</td>
</tr>
<tr>
<td>13</td>
<td>5-9 Nov</td>
<td>Adaptations to training (II)</td>
<td>8</td>
<td>G5, G6, G7, G8, G9 Ergogenic aids</td>
</tr>
<tr>
<td>14</td>
<td>12-16 Nov</td>
<td>Revision</td>
<td></td>
<td>(No class)</td>
</tr>
</tbody>
</table>

**EXAMINATION PERIOD**
(21st Nov – 9th Dec)
4: Unit Resources

4a Lists of required texts/readings

Recommended reading:


4b Materials and equipment
All students must bring their lab-report manual and scientific calculator to each tutorial session. The lab-report manual can be obtained and printed from Moodle.

All students will be required to attend laboratories dressed appropriately and able to engage in physical exercise. This includes a t-shirt, shorts and appropriate closed footwear.

4c Unit website

This Unit requires that you can access the Unit website (i.e. Moodle) at http://learnonline.canberra.edu.au/
5: Assessment

5a Assessment overview

<table>
<thead>
<tr>
<th>Assessment item (including exams held in the exam period)</th>
<th>Due date of assignments</th>
<th>Weighting (total to equal 100%)</th>
<th>Addresses learning outcome(s)</th>
<th>Related generic skill(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid Semester Test (MST)</td>
<td>Friday 28th September 08:30-10:30 (week 7)</td>
<td>35%</td>
<td>1, 2 &amp; 3</td>
<td>-Working independently -Problem solving</td>
</tr>
<tr>
<td>Practical/lab portfolio</td>
<td>At the end of each tutorial</td>
<td>15%</td>
<td>1, 2 &amp; 3</td>
<td>-Working independently and with others -Problem solving -Analysis and enquiry</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Examination Period</td>
<td>50%</td>
<td>1, 2 &amp; 3</td>
<td>-Working independently -Problem solving -Communication</td>
</tr>
</tbody>
</table>

5b Details of each assessment item

- Mid Semester Test (Monday 28th September 2012, 08:30-10:30, 12B50) (35%)

The MST will cover the lectures (weeks 1-6) AND practical/lab material (weeks 2-7). The exam will be completed in normal lecture time and will last a maximum of 100 minutes. The exam will comprise of multiple choice questions. No learning resources (textbooks and lecture notes) are allowed in the exam. Non-programmable scientific calculators and unannotated non-electronic dictionary (English/Foreign) are permitted and a 2B pencil (to complete the computer answered sheets).

In specific circumstances a student can apply to undertake a deferred examination. A request for deferred examination should be emailed to the unit convenor no later than 12 noon on Wednesday the 26th September 2012. Appropriate documentary evidence must be provided prior to presenting for the deferred exam.

The deferred exam will take place in week 9 (date and time to be confirmed). You will need a medical certificate or have spoken to me at least 48 hrs before the exam to sit the deferred exam.

- Practical/laboratory portfolio (at the end of each week’s practical/lab session) (15%)

Each practical/lab sessions will have different components such as data collection, answering questions, drawing graphs and/or interpreting results and data. Your lab manual will have a section to complete and submit to me at the beginning of the next practical/lab session. There are 5 different practical/labs and each will be worth 3% of your final and overall mark. The practical/laboratory portfolios can only be handed in during tutorial times and only the latest portfolio to be handed in will be accepted during the practical session.
-Final Exam (Examination Period) (50%)

The final exam will be comprehensive, and as such will test the student’s knowledge of material covered in all lectures and practical labs for the entire semester. The exam will last a maximum of 2 hours and will comprise of multiple choice and short answer questions. No learning resources (textbooks and lecture notes) are allowed in the exam. Non-programmable scientific calculators and unannotated non-electronic dictionary (English/Foreign) are permitted and a 2B pencil (to complete the computer answered sheets) and black/blue pen will be required to adequately complete the exam.

5c Special assessment requirements
In order to pass this unit, students must attempt all assessment items and achieve an overall pass grade. An aggregate mark of 50% and above is required for a pass in the unit.

Special assessment arrangements can be made for students with extenuating circumstances (must be supported by a medical certificate, evidence from a counsellor or other supporting documentation) and who submit a completed Variation to Assessment form to Sports Studies. Variation to Assessment forms are available on Moodle and from Sports Studies Administration (12C18). The unit convener will determine the revised due date after the submission of appropriate documentation.

Requests for extension & penalties for late assignments
Students who submit an assignment after the due date and time will be penalised. The student that submit the tutorial portfolio late will get a maximum of 50% of the total mark. These penalties will apply unless a completed Variation to Assessment form has been submitted to Sports Studies.

Referencing
All referencing in the lab manual must be of APA style. An example of this style can be seen in the Journal of Sports Sciences (http://www.tandf.co.uk/journals/titles/02640414.asp). This style can also be found in Refworks (http://www.canberra.edu.au/library/research-gateway/research_help/refworks).

5d Supplementary assessment
Supplementary assessment will only be offered to a student who has failed only one unit in their final semester of study with a final grade of between 45-49%, and the unit is required for course completion.

5e Academic Integrity
Students have a responsibility to uphold University standards on ethical scholarship. Good scholarship involves building on the work of others and use of others’ work must be acknowledged with proper attribution made. Cheating, plagiarism, and falsification of data are dishonest practices which contravene academic values.

5f Text-matching software
Academic integrity is highly valued in the Faculty of Health. Plagiarism can be detected through a range of methods such as staff familiarity with the subject area, text-matching software and random searches using the Google search engine and key phrases from a students work. Students are encouraged to undertake the Academic Integrity Module (AIM), see link. http://www.canberra.edu.au/tlc/assessment-practice-at-uc/assessment-tasks
6: Student Responsibility

6a Workload
The amount of time you will need to spend on study in this unit will depend on a number of factors including your prior knowledge, learning skill level and learning style. Nevertheless, in planning your time commitments you should note that for a 3cp unit the total notional workload over the semester or term is assumed to be 150 hours. These hours include time spent in classes. The total workload for units of different credit point value should vary proportionally. For example, for a 6cp unit the total notional workload over a semester or term is assumed to be 300 hours.

6b Special needs
Students who need assistance in undertaking the unit because of disability or other circumstances should inform their Unit Convener or UC AccessAbility (formerly the Disabilities Office) as soon as possible so the necessary arrangements can be made.

6c Participation requirements

Lectures
Students are expected to attend or listen to the lectures on-line as part of the unit. Lectures will contain material that is relevant to all assessment items. Announcements and information presented during lectures is deemed to have been made to all students enrolled in the unit.

Laboratory/tutorial classes
Students are expected to attend and attendance will be noted. You are expected to participate in all laboratory/tutorial classes, which are associated with assessment items. Attendance at laboratory/tutorial classes is essential to meet the unit outcomes. A lower or fail grade may be a consequence of non-attendance as all laboratories are related to assessment tasks.

It is the student’s responsibility to ensure that their attendance at laboratory/tutorial classes is recorded correctly and that they complete assessment items allocated to that class. In the case of illness, misadventure, or unavoidable commitments, students should contact the lecturer as soon as possible, preferably before the absence is incurred, but no later than one day after the scheduled laboratory/tutorial class. Relevant documentation (e.g. medical or counsellor’s certificate) must be provided.

Students are required to attend and complete assessment items based on the laboratory/tutorial for which they have been enrolled. If you have exceptional circumstances and need to change laboratory/tutorial class groups then you must seek written permission from the unit convenor beforehand. Students must submit a completed Variation to Assessment form if they do not attend compulsory laboratory/tutorial classes or fail to complete the assessment items.

6d Withdrawal
If you are planning to withdraw please discuss with your unit convenor. Please see this link for further information on deadlines.

6e Required IT skills
All students must have access to a computer that allows them to access email messages on a regular basis and permits access to the internet. It is expected all students have the required UC IT entry skills to complete this unit.
6f Costs
There are no costs associated with this unit other than the purchase of textbooks and printing the lab report manual (which should be brought to every laboratory/tutorial). The health resource centre (HLRC) is located in 12C24. It is a facility designed to enhance the learning and university experience for health students with particular emphasis on students in their first year. A drop-in service of students helping students is also available. Visit the HLRC coordinator for more details.

6g Work placements, internships or practicums
There is no work integrated learning in this unit.

6h Additional information
Always keep an electronic and hard copy of your practical/lab portfolio. In the rare instance that your original goes astray, you will have a copy. The following reasons for not handing in or late handing of assignments will not be considered:

- Lost of electronic data for stolen and lost computer/laptops.
- Illness without a valid medical note
- Traffic or clashes with other classes. This should be avoided by giving yourself plenty of time to ensure handing in assignments or exam attendance.

7: Student Feedback

All students enrolled in this unit will have an opportunity to provide anonymous feedback on the unit at the end of the Semester via the Unit Satisfaction Survey (USS) which you can access by logging into MyUC via the UC homepage: [http://www.canberra.edu.au/home/](http://www.canberra.edu.au/home/). Your lecturer or tutor may also invite you to provide more detailed feedback on their teaching through an anonymous questionnaire.

It is the third year this unit is running and some changes have been made to this year’s course according to students’ feedback from last year. Content has been cut down to benefit clarity in the understanding of main mechanism behind exercise biochemistry.

8: Authority of this Unit Outline

Any change to the information contained in Section 2 (Academic content), and Section 5 (Assessment) of this document, will only be made by the Unit Convener if the written agreement of Head of Discipline and a majority of students has been obtained; and if written advice of the change is then provided on the unit site in the learning management system. If this is not possible, written advice of the change must be then forwarded to each student enrolled in the unit at their registered term address. Any individual student who believes him/herself to be disadvantaged by a change is encouraged to discuss the matter with the Unit Convener.