EXERSCI 301 Exercise Physiology 2

(15 points)
Semester 1, Grafton & Newmarket Campuses

Prerequisites: 15 points from EXERSCI 201, MEDSCI 205, SPORTSCI 201
Restriction: SPORTSCI 301

Who should take this course?
This course provides scientific background for understanding the biological regulation of the adaptation to physical exercise or inactivity in healthy individuals during a life span. The course has two components 1) examines the fundamentals of exercise physiology including homeostasis, the endocrine system, the cardiorespiratory system, the immune system, and introduces students to paediatric exercise physiology 2) explains the physiological mechanisms of the adaptation to exercise. Practical skills include objectively evaluating and reporting respiratory and cardiovascular parameters. The course uses a blended learning system, with online knowledge topics and lectures organized within themed modules. Students also complete laboratory classes that introduce techniques required for coursework reports.

Calendar Prescription
Biological regulation of the adaptation to physical exercise or inactivity. Homeostasis regulation and the adaptation of the cardiopulmonary, endocrine and immune systems to exercise and training. Evaluation of neuromuscular power and aerobic power and endurance in healthy individuals. Reporting of experimental methods and findings in human exercise physiology.

Intended Learning Outcomes of the Course
By the end of the course it is expected that students will be able to:

1. Describe the biological processes and mechanisms of the physiological responses and adaptations to habitual exercise and inactivity.

2. Explain in depth the functions of the cardiorespiratory, endocrine and immune systems in the homeostatic regulation of the provision for, and consequences of, acute and chronic exercise.

3. Select laboratory equipment and protocols in the valid and accurate characterization of the responses and adaptations of the neuromuscular and cardiorespiratory systems to acute and chronic exercise, in healthy adult participants.

4. Describe laboratory experimentation in written scientific reports.
5. Summarise scientific evidence in the development and application of "evidence-based" concepts and prospective opportunities in health, exercise and performance practice/business/professions.

**Learning and Teaching**

Students are expected to attend two 1-hour lectures each week and four 3-hour laboratory sessions during the semester. These laboratory classes are a key component to learning and applying the lecture material, using scientific equipment and developing data collection, exercise prescription and physiological assessment skills with human participants (you and your classmates).

**Course Coordinator**

Dr Silmara Gusso  
Department of Exercise Sciences  
Faculty of Science  
373 7599 extn 83795  
s.gusso@auckland.ac.nz

**Assessment**

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<tr>
<th>Assessment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Mid-Semester Test</td>
<td>20%</td>
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<tr>
<td>Laboratory Reports (4)</td>
<td>30%</td>
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<td>Final Exam</td>
<td>50%</td>
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*subject change

**Required Readings, Further Readings and Textbook Resources**

Essential Readings are mostly research articles and are provided via Talis/CANVAS. Research articles and textbooks identified as Further Resources are similarly available.


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