EXERSCI 101
Foundations of Exercise Sciences and Sport
(15 points)
(Semester 1, City Campus)

Who should take this course?

If you are enrolled in a science major and interested in the scientific basis of physical activity, exercise and sport, then you’d find this course very interesting.

If you are thinking of majoring in Exercise Sciences, then it is essential you do this introductory course as it provides a holistic view of this discipline as well as fundamental knowledge of its four sub-disciplines. Lectures and tutorials will be primarily based on human physiology, neuroscience, biomechanics and sport and exercise psychology.

You will struggle in this paper if you have NOT taken science in high school. The course involves introductory-level physics and basic mathematical calculations along with human biology. Extra help is available if your math/physics skills are a bit rusty.

Learning Outcomes

1. To know and apply essential mathematical knowledge, classical mechanics and fundamental principles of biomechanics to the study of human movement.
2. To know the fundamental principles of exercise physiology including multiple energy systems and adaptations to aerobic- and strength-training as well as how these are applied to the study of human movement.
3. To understand how lack of physical activity leads to development of chronic diseases such as dyslipidemia, cardiovascular diseases and Type II diabetes.
4. To know the fundamental principles of neuroscience, information processing and motor control and how these are applied to the study of human movement.
5. To know the fundamental principles of motor learning, skill acquisition as well as brain health throughout the lifespan.
6. To know the fundamental principles of exercise and sport psychology and how these are applied to the study of human movement.
7. To apply essential interdisciplinary knowledge of sport and exercise science to the description of problems of human movement.
8. To acquire skills of academic numeracy and literacy and learn to effectively communicate scientific principles of exercise sciences verbally and in writing.
9. To know the relationship and application of sport and exercise science knowledge to related disciplinary areas including, health, wellness, rehabilitation, performance, and physical activity for living.
10. To know and recognise future professional opportunities that require knowledge of exercise science and sport.

Learning and Teaching

Students are expected to attend 2 lectures per week and 1 tutorial every fortnight, held in the City. Tutorials are focused on consolidating what you learnt in lectures as well as learning new academic numeracy and literacy skills. There are also optional ‘Drop In’ sessions organised each week in the City where you could simply walk in and have a chat with the lecturer to discuss things you don’t understand. At the end of each fortnight, there will be a small assignment which assesses your learning.
Teaching Staff

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Assessment*

Mid-term Test (50 min.) (MCQs and SAQs) 25%
5 Written Assignments of 5% ea. 25%
Final Exam (2 hours) (SAQs and mini-essays) 50%

*Weightings subject to change

Recommended Textbooks

You may use the 3rd Edition as well.
Books are available at the City and Tamaki Libraries.

Student Feedback (2013)

Student satisfaction with quality of the course: 90.2%.
Effectiveness of lecturer as a teacher: 96.6%.
The course content was structured in a clear and a logical manner: 98%.

Student Comments:

“The structure of the course and the way it was presented was exceptional!”

“Waruna was a clear speaker, used really good analogies and explained things in a really easy to understand terms. And his slides were excellent”.

“Waruna’s witty comments were very engaging!”

“The doodles (“live” drawing on the document projector) really helped because they helped me understand concepts in a visual way”.

“I changed my major after doing this course and now going to continue in “Exercise Sciences”.

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