

HH/KINE 4900 N 3.0 – EXERCISE THERAPY FOR CHRONIC DISEASE

Winter 2017

SCHOOL OF KINESIOLOGY & HEALTH SCIENCE
FACULTY OF HEALTH
YORK UNIVERSITY

Instructor:

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Office Hours: a regular time period will not be scheduled. However, time can be arranged by request via email or in-person.

Course Description:

This course will integrate analyses of the physiological, cellular and molecular underpinnings of major chronic diseases with the utility of physical activity or exercise in evaluating, preventing and treating specific pathologies. A strong emphasis will be placed on understanding the mechanisms by which exercise improves health and reduces the risk for chronic diseases. This approach will unify concepts in physiology, metabolism, biochemistry, cellular biology and nutrition in order to develop a comprehensive understanding of how physical movement is inextricably linked to physical health.

Course Objectives:

1. Understand the pathophysiology of major chronic diseases at the physiological, cellular and molecular levels.
2. Expand student comprehension in the specific physiological and cellular challenges imposed by exercise and how a variety of systems are activated in response to maintain normal homeostasis.
3. Develop an understanding of how exercise and physical activity sustain normal health and how sedentarism leads to disease.
4. Ultimately, to develop a comprehensive appreciation for how physical activity is tightly interwoven with physical health.

Topics Covered:

Coronary Artery Disease (CAD)

- Atherosclerosis
- Hypertension

Metabolic Diseases

- Obesity
- Diabetes Mellitus – Type 2 and Metabolic Syndrome
- Diabetes Mellitus – Type 1

Evaluation:

Type – multiple choice exams (mixed format on final exam)

Exam #1 – 35% (Mon. Feb. 6th, 2017)

Exam #2 – 45% (Mon. March 20th, 2017). This exam is cumulative.

Exam #3 – 20% (In class, last day of class – Wed. April 5th, 2017). This exam will present questions that are cumulative of the entire course. Most of the questions will pertain to the material covered after exam #2.

Make-up exams: York University's policy regarding missed examinations will be employed (www.yorku.ca/ecanel/policies/misexam.html). Specifically, no make-up exams are provided. A grade of ZERO will be applied to the exam unless the student notifies the instructor up to 24 hr after the exam commences the reason for missing the examination. Once notified, the instructor will request appropriate documentation verifying the circumstances for the missed exam. See the website above for York University's policy on appropriate medical and non-medical documentation.

If an exam is missed, the value of the exam will be split equally to the remaining exams. Specifically, if Exam #1 is missed (35%), Exam #2 will be worth 62.5% and Exam #3 will be worth 37.5%. If Exam #2 is missed, Exam #1 will be worth 57.5% and Exam #3 will be worth 42.5% each. If Exam #3 is missed, Exam #1 will be worth 45% and Exam #2 will be worth 55%. Again, students cannot *choose* to miss an exam – appropriate documentation will be requested!

Course Schedule:

Mondays/Wednesdays 11:30am-1:00pm

Room: SC 222

Reading week: Feb 18-24, 2016

Course Format: Lectures supplemented with group discussions, case studies and problem-based learning.

Prerequisites: Physiology of Exercise KINE 4010 (or equivalent). Human Physiology I and KINE 3011 and 3012 (or equivalent). Human Nutrition KINE 4020 (or equivalent).

Bibliography:

1. ACSM's Guidelines for Exercise Testing and Prescription. Lippincott Williams & Wilkins. 8th Ed., 2009
2. Roitman, Jeffrey L. and LaFontaine, Tom. Strategies for Preventing and Reducing Chronic Disease. Wolters LKluwer Health/Lippincott Williams & Wilkins. 2012.
3. Myers, Johnathan and Neiman, David. ACSM's Exercise Resources for Clinical Exercise Physiology. 2nd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins. 2010.

Important course information:

All students are expected to familiarize themselves with the following information which are available on the Senate Committee on Curriculum & Academic Standards webpage (see Reports, Initiatives, Documents)

http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm.

- York's Academic Honesty policy and Procedures Academic Integrity Website
- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
- Student Conduct Standards
- Religious Observance Accommodation

NOTE: ANY derogatory emails are regarded as harassment and will be directed to the Office of Student Conduct. No cell phones, ipods, ipads, earphones, etc are permitted during the exams. Always bring a pencil, pen and calculator to each exam. Students using a laptop, tablet or cell phone for any reason other than typing or viewing lecture material will be asked to turn off their device or leave the room.

By enrolling in this course, you agree to all terms in this syllabus.