

York University
Faculty of Health
School of Kinesiology & Health Science

Course: HH/KINE 4900 M 3.0, Exercise Therapy for Chronic Diseases

Term: Winter 2019

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

Course Instructor:

Anthony Scimè
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Time: Lectures MW 11:30-1:00

Course Description:

This course will offer an overview of the use of exercise and physical activity in the evaluation and treatment of a variety of chronic diseases and disabilities. Topics covered will include the **physiological, molecular and cellular** responses to exercise on cardiovascular, metabolic, neuromuscular and immunological systems and diseases/disorders. Exercise programs have emerged as important modalities for the treatment of a variety of diseases and chronic conditions. Thus, this course will focus on an exploration of the experimental evidence examining the physiological and molecular benefits of exercise on these disease conditions. Concepts of physiology, nutrition, metabolism, cellular and molecular biology will thus be integrated in order to understand why exercise is such a great benefit to chronic diseases.

Course Objectives:

- 1) Understand the physiopathology of chronic diseases that contribute the most to morbidity in the population at the physiological, molecular and cellular level.
- 2) Increase the students existing knowledge base of acute and chronic physiological responses to exercise and implications of these responses for chronic disease prevention and treatment.
- 3) Understand how exercise and physical activity provides a benefit to chronic diseases at the cellular and molecular level.

Methodology:

Traditional lecture style with group discussions, problem based learning and case studies.

Topics Covered:

Skeletal muscle Adaptation to exercise
Metabolic Diseases and Obesity
Diabetes
Coronary Artery Disease (CAD)

Atherosclerosis
Hypertension
Metabolic Syndrome
Inflammation
Other Diseases

Evaluation: The final grade for the course will be based on the following items weighted as indicated:

Evaluation:

Test 1	20%
Test 2	21%
Final Test	19%
Essay	30%
Participation	10%

Bibliography:

Thompson, Walter R. ACSM's Guidelines for Exercise Testing and Prescription. 8th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, c2009.
Roitman, Jeffrey L. and LaFontaine, Tom. Strategies for Preventing and reducing Chronic Disease. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, c2012.
Myers Johnatha and Neiman, David. ACSM's Exercise Resources for Clinical Exercise Physiology. 2rd ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, c2010.
Others listed in class.

Grading, Assignment Submission:

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests* will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 90, B+ = 75 to 79, etc.)

(For a full description of York grading system see the York University Undergraduate Calendar - http://calendars.registrar.yorku.ca/pdfs/ug2004cal/calug04_5_acadinfo.pdf)

Lateness Penalties and Missed Tests:

Students with a documented reason for missing course exam or seminar, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (e.g., doctor's letter) may request accommodation from the Course Instructor. Further extensions or accommodation will require students to submit a formal petition to the Faculty.

IMPORTANT COURSE INFORMATION FOR STUDENTS:

All students are expected to familiarize themselves with the following information, 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