

HH/KINE 4447 3.0 – Sex Differences in Exercise Physiology
Fall 2022
SCHOOL OF KINESIOLOGY & HEALTH SCIENCE
FACULTY OF HEALTH
YORK UNIVERSITY

Course Instructor:
Heather Edgell, PhD
355 Bethune College
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Office Hours: Available by appointment only.

Course Schedule:

Monday/Wednesday 11:30-1:00pm. *Most Wednesday classes are replaced by online lectures*
Room: R S203 on Mondays; R S205 on Wednesdays

Course website: eClass

Course Format: Online lectures, group review of lectures, group discussions of assigned readings.

Online lectures will be made available for students to watch prior to the corresponding review class the following Monday. Students will have the opportunity to review the online lecture with the instructor on Mondays prior to participating in group discussions of 1-2 research articles each week. Research articles need to be read before Monday class. Refer to the posted lecture schedule for specific dates of lectures/assignments/exams.

Prerequisites: Exercise physiology KINE 4010 (or equivalent).

Course Description:

This course will explore sex differences in physiological responses to stressors, including exercise. We will also investigate any known influence of estrogen and progesterone due to the menstrual cycle and menopause. This course will cover differences at the level of the cell, tissue, and whole body and will investigate cardiovascular, respiratory, and autonomic responses to exercise in health and disease.

Topics include:

1. Sex hormones and receptors
2. Cardiovascular and respiratory function
3. Musculoskeletal function
4. Autonomic reflexes during exercise
5. Adaptations to exercise training
6. Heart failure and rehabilitation
7. COPD and rehabilitation
8. Type II Diabetes and exercise

Course Objectives:

1. Learn the details of the sex hormones and their effect on the cell and body.

2. Learn how sex differences can influence all aspects of physiological function, specifically cardiovascular, respiratory, musculoskeletal and autonomic responses to stressors such as exercise, hypoxia, and hypercapnia.
3. Learn how the sexes differ in adaptations to exercise training in both health and disease.

Course materials:

Readings: Select research articles to be provided via eClass, or PubMed database

Supplementary text book: None

Attendance and participation in polls will require a mobile device (smart phone, tablet, laptop) with the iClicker Reef app or iClicker technology. If this is unavailable to you, please let the instructor know so that alternate arrangements can be made.

Evaluation:

Type – Multiple choice and short-answer exams

Participation in review class and article discussion – 10% for participation in in-person classes.

Exam #1 – 25% (Wednesday, September 28, 2022)

Exam #2 – 25% (Monday, October 31, 2022) – Material since previous midterm

In-class assignment – 20% (Monday, November 21, 2022)

Final exam – 20% (Monday, December 5, 2022). This exam will be cumulative.

Missed exams:

Students with a documented reason for missing an evaluation, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation (e.g. doctor's letter) may request accommodation from the Course Instructor. Documentation must be submitted within one week of the original exam/assignment date. Further extensions or accommodation will require students to submit a formal petition to the Faculty.

**Any deferred exams/assignments will be conducted on January 6th, 2023.

Grading:

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.). (For a full description of York grading system see the Undergraduate Calendar- http://calendars.registrar.yorku.ca/2012-2013/faculty_rules/AP/grading.htm)

Important Course Information:

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://secretariat-policies.info.yorku.ca/>.

Search for:

1. Academic Honesty (Policy)
2. Research Involving Human Participants (Policy)
3. Academic Accommodation for Students with Disabilities (Policy)
4. Disruptive and /or Harassing Behaviour in Academic Situations (Policy and Procedures)
5. Religious Observance Accommodation
(<https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs>)

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.