Senate Committee on Academic Standards, Curriculum & Pedagogy

KINE4450 -Advanced exercise physiology: Cardiovascular system

FACULTY OF HEALTH
KINESIOLOGY AND HEALTH SCIENCE

Course: HH/KINE 4450. 3.0 – Advanced exercise physiology :Cardiovascular
Course Webpage: Course: HH/KINE4450 A - Advanced Exercise Physiology: Cardiovascular (Fall 2023-2024) (yorku.ca)

Term: Fall Term 2023

Prerequisite / Co-requisite: HH/KINE 2011 3.0 Human physiology I, HH/KINE 3012 3.0 Human physiology II, Exercise physiology 4010 3.0

Course Instructor

List all course instructors. Include listing of teaching assistants, when information is available. If full teaching complement not identified prior to start of term, provide an updated list as in-class handout and/or on course website.

Course director: Emilie Roudier
(416) 736-2000 ext 44312
Life science building LSB429D
eroudier@yorku.ca
Course consultation hours: by appointment only, via Zoom or in-person
Teaching assistant: NA

- **This is an in-person course.**
- **All lectures will be recorded unless technical issues have raised.**
- **Participation marks involved attending and exchanging ideas during 3 journal club sessions.**
- **There will be 3 online quizzes (to perform at home, open resource) and three in-class midterm examinations.**
- **See below for more details including format, dates, etc...**

Time and Location

Lectures	MW 10:00	DB 1006 Keele campus

Land acknowledgement: "York University recognizes that many Indigenous Nations have longstanding relationships with the territories upon which York University campuses are located that precede the establishment of York University. York University acknowledges its presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, and the Huron-Wendat. It is now home to many First Nation, Inuit and Métis communities. We acknowledge the current treaty holders, the Mississaugas of the Credit First

Nation. This territory is subject of the Dish with One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region."

Office hours.
Office hours can take place virtually, by phone call or in person, date and time must be arranged beforehand by emailing to the course director or the teaching assistant. Maximum duration of an appointment is 30 minutes. Once contacted by email the course director or teaching assistant will confirm the location (online through a Zoom meeting, phone and only if needed in person), date and time of the appointment. For virtual office hours, the course director will provide a link to a Zoom meeting room upon request made by students (office hours appointment). The link provided will guide the students regarding how to reach the meeting room and how to use Zoom (through Browser or installing the App). Zoom meeting can be done on a laptop, desktop, smart phone or phone.

Technical requirements for taking the course:
This course is delivered in person on the Keele campus. All course material is available on E-Class. If classroom allows it, in-person lecture will be recorded with animated PowerPoint slide and lecturer description of slides. These recordings will be available within the following week in E-Class (most of the time 48 hours unless technical issues arise). In-class activities involving students discussion will not be recorded. When possible, the lecturer will provide a summary of activities at the start of the next lecture.

Expanded Course Description

This course takes an in-depth look at the physiological responses of the cardiovascular system to acute exercise and prolonged endurance training. The course aims to explain how the cardiovascular system to a single bout of exercise and how the cardiovascular system adapts to regular training. The course will discuss how exercise modulates the functions or characteristics of the main components of the cardiovascular system: the blood, the heart and the blood vessels. This course will also discuss the adaptation taking place in response to regular physical activity, using training as an example. Adaptations taking place in endurance and extreme endurance athletes will be used to illustrate how the cardiovascular system adapt and is remodelled, discussing the impacts on health.

This course is based on in-person sessions where formal lectures and intertwined with activities that support reflection and active learning by discussing and exchanging ideas.

Weekly announcements notify students of the course activity and required readings. It is the student responsibility to follow the course announcements and to perform activities in a timely manner.

Course Objectives

(1) Brief statement of the purpose:

The purpose of this course is to guide student through an analysis of the scientific literature that described the physiological responses of the cardiovascular system to acute exercise and to exercise training. This course aims to guide the student through seminal studies in the field as well as most advanced and recent literature in the field of cardiovascular physiology. Also, it aims to provide students a better understanding how exercise through in cardiovascular physiology, allowing the students to develop a critical thinking approach to the analysis of scientific literature.

(2) Brief list of specific learning outcomes of the course:

At the end of the course, the students will be able to:

- Discuss how the cardiovascular system responds to an acute bout of exercise to maintain body function and performance.

- Discuss how the cardiovascular system adapt to exercise training (more particularly endurance training) to enhance performance
- Critically examine scientific evidence in the field of cardiovascular physiology
- Explain how exercise training adaptations occurring in the cardiovascular system support health in the general population.
- Think critically about the benefits and risks of extreme training on cardiovascular health of athletes.
- Perform scientific writing efficiently, demonstrating capacity to summarize information concisely, accurately to answer integrative physiology questions.

Course Text / Readings

All material (slideshow with notes, scientific articles that are required readings) will be provided on E-class in a timely manner. Course materials is organized in E-class by main topic.

Required readings (research articles) for this course include scientific articles provided in the E-class. E-class folders contain the required readings for the main topics. For research articles PDF files and link to the articles are provided. Additional required materials, such as Podcast or Video will be provided in E-class.

In addition to the scientific literature cited in the lecture, basic knowledge related to exercise cardiovascular physiology are extracted from the references indicated below and are available at York University library website (might require to log in using your :

- **Physiology of Sport and Exercise**, Wilmore, Costill & Kenney, *Human Kinetics Ed. Some lectures are based on some chapters of this textbook. York University - Physiology of Sport and Exercise Wilmore (exlibrisgroup.com)*
- *Primal Pictures (Anatomy.tv). London, England: Primal Pictures Ltd., 2001. Print. See Primal Pictures. See interactive chapters about the blood, the cardiovascular system*

NB: Additional references used to create the lectures are referenced in the notes or bottom of lecture slides.

Evaluation *

- **Analyzing research articles (45%):**
  - **Participation to 3 journal club sessions (6%):** Students use the in-class session to discuss research articles (required readings) with their peers in an informal format (journal club type). The course instructor or teaching assistant will guide the discussion and provide additional information as needed. To gain participation marks, student needs to be present and active. Student who cannot join the journal club session must contact the course instructor for alternative way to participate online.
    - Please follow the course announcement for the dates of journal club sessions. Tentative dates (might be subjected to change) are:
      - **September 13th, October 16th, November 8th**
  - **3 open book online quizzes (13% each)** related to the research articles (required readings): Each quiz contains a series of multiple choice, true/false and short answer questions (4%) and one assay question (9%) using scientific writing (student choose one question out of the few proposed).
    - Online quizzes will close on
      - **September 20th, 2023**
      - **October 23rd, 2023**
      - **November 15th, 2023**

- **Three mid-term in-class examinations (non-cumulative) (for a total 55% of the final mark)**. Mid-term examination will include 5 to 8 questions, including a couple of multiple choice, true and false questions. Most questions will require you to write one or two short paragraphs.
    - In-class examination 1 worth 18.5% of the final mark.
        - **Monday October 2nd, 2023, (50-75 minutes, to be determined)**
    - In-class examination 2 worth 18.5% of the final mark
        - **Monday November 6th, 2023 (50-75 minutes, to be determined)**
    - In-class examination 3 worth 18% of the final mark
        - **Wednesday November 29th, 2023 (50-75 minutes, to be determined).**

By November 8th, 2023 (drop deadline), students will have returned 67% of the course work and should have 48.5% of the work marked.

Grading, Assignment Submission, Lateness Penalties and Missed Tests

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.). 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 - Programs | 2022-23 Undergraduate Academic Calendar | York University

Students may take a limited number of courses for degree credit on an ungraded (pass/fail) basis. For full information on this option see Alternative Grading Option in the *Faculty of Health* section of the Undergraduate Calendar: https://registrar.yorku.ca/grades/legends/health

Assignment Submission: Proper academic performance depends on students doing their work not only well, but on time. Accordingly, assignments for this course must be received on the due date specified for the assignment (deadlines are specified in the course outline or in E-class). Accordingly, assignments for this course must be received on the due date specified for the assignment. Assignments are to be handed online on E-class, instructions for submission will be described in both the in-person sessions and in E-class. The instructor will also make announcements on E-class to inform students regarding submission process when appropriate. Forums will close at the time and dates indicated on E-class. Deadlines of assignments will also appear on E-class assignments.

Lateness Penalty: Assignments received later than the due date will be penalized (**penalized 0.5 % per day of delay.** For example, if an assignment worth 19%, the instructor will apply -0.5% for each day of delay. Assignments submitted 5 business days after the deadline will not be considered. Exceptions to the lateness penalty for valid reasons such as illness, compassionate grounds, etc., may be entertained by the Course Instructor but will require supporting documentation (e.g., a doctor's letter).

Missed Tests: Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., may request accommodation from the Course Instructor. Accommodation includes that the instructor will set up make up deferred examinations in the case of a missed in-class examination or new deadline for the submission of the assignment; only if the appropriate documentations is provided to the course director. Further extensions or accommodation will require students to submit a formal petition to the Faculty of Health.

ACADEMIC HONESTY AND INTEGRITY

In this course, we strive to maintain academic integrity to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing SPARK's Academic Integrity module at the beginning of

the course. Breaches of academic integrity range from cheating (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.) to aiding and abetting (helping someone else to cheat). All breaches in this course will be reported to the appropriate university authorities, and can be punishable according to the Senate Policy on Academic Honesty.

To promote academic integrity in this course, students will be normally required to submit their written assignments to Turnitin (via the course E-Class) for a review of textual similarity and the detection of possible plagiarism. In so doing, students will allow their material to be included as source documents in the Turnitin.com reference database, where they will be used only for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin service are described on the Turnitin.com website.

ADDITIONAL INFORMATION

Referencing Style: The referencing style approved by the course director is the Vancouver style. It is expected that students provide referencing in the writing work (essay question in online quizzes and in-class examination if appropriate). About Vancouver referencing style - Vancouver printable guide - Library Guides at University of Queensland Library (uq.edu.au)

WRITING AND LEARNING SKILLS

You are strongly encouraged to seek assistance from the following university units.

1. Writing Centre Welcome to the Writing Centre - The Faculty of LA&PS (yorku.ca)
2. Learning Commons (yorku.ca)
3. Learning Skills Services - Student Community & Leadership Development (yorku.ca)

Calumet and Stong Colleges' Student Success Programming:

Calumet and Stong Colleges aim to support the success of Faculty of Health students through a variety of **free programs** throughout their university career:

- Orientation helps new students transition into university, discover campus resources, and establish social and academic networks.
- Peer Mentoring connects well-trained upper-year students with first year and transfer students to help them transition into university.
- Course Representative Program aims to build the leadership skills of its Course Reps while contributing to the academic success and resourcefulness of students in core program classes.
- Peer-Assisted Study Session (P.A.S.S.) involve upper-level academically successful and well-trained students who facilitate study sessions in courses that are known to be historically challenging.
- Peer Tutoring offers one-on-one academic support by trained Peer Tutors.
- Calumet and Stong Colleges also support students' Health & Wellness, leadership and professional skills development, student/community engagement and wellbeing, career exploration, Indigenous Circle, awards and recognition, and provide opportunities to students to work or volunteer.
- Please connect with your Course Director about any specific academic resources for this class.
- For additional resources/information about our student success programs, please consult our websites (Calumet College; Stong College), email scchelp@yorku.ca, and/or follow us on Instagram (Calumet College; Stong College), Facebook (Calumet College; Stong College) and LinkedIn

Are you receiving our weekly email (Calumet and Stong Colleges - Upcoming evens)? If not, please check your Inbox and Junk folders. If you do not find our weekly emails, then please add your 'preferred email'

to your Passport York personal profile. If you need support, please contact ccscadmn@yorku.ca, and request to be added to the listerv.

IMPORTANT COURSE INFORMATION FOR STUDENTS

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Academic Standards, Curriculum & Pedagogy webpage (see Reports, Initiatives, Documents) - https://secretariat.info.yorku.ca/files/CourseInformationForStudentsAugust2012-.pdf

- Senate Policy on Academic Honesty and the 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

November 2013
Links updated August 30, 2018

Updated by Emilie Roudier on August 8th, 2023