

# Senate Committee on Academic Standards, Curriculum & Pedagogy

## KINE4901 - Exercise Therapy for Chronic Diseases: Cardiovascular Diseases

### FACULTY OF HEALTH KINESIOLOGY AND HEALTH SCIENCE

**Course:** HH/KINE 4901. 3.0 – Exercise therapy for chronic diseases: Cardiovascular diseases

**Course\_Webpage** [Course: HH/KINE4901 M - Exercise Therapy for Chronic Diseases: Cardiovascular Diseases \(Winter 2023-2024\) | eClass \(yorku.ca\)](#)

**Term:** Winter Term 2024

**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

Course director: Emilie Roudier  
(416) 736-2000 ext 44312  
Life science building LSB429D  
[eroudier@yorku.ca](mailto: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	Tuesdays	11:30	for 90 minutes	at ACW-204
	Thursdays	11:30	for 90 minutes	at DB-1016

**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 will guide the students through the evidence that support the use of exercise for the evaluation, the prevention and the improvement of conditions associated with cardiovascular diseases. This course is based on lectures, readings and discussions that take place online in Moodle forums and during synchronous sessions.

We will review the underlying mechanisms of atherosclerosis, a process at the origin of cardiovascular diseases, and discuss the risk factors promoting atherosclerosis before studying the impact of exercise on these mechanisms. Then, the key concepts of clinical exercise physiology will be briefly presented. We will discuss few chronic cardiovascular diseases and conditions, including hypertension, coronary heart disease, heart failure, peripheral arterial diseases, and pulmonary hypertension. An in-depth analysis of the impact of exercise therapy on the physiopathology of chosen diseases will be performed using review articles and research articles. Through this detail analysis, students will gain a better understanding of how exercise can be used as a therapeutic approach. An emphasis will be placed on the analysis of the experimental evidence from molecular and integrative physiology whereby beneficial effect of exercise had been demonstrated.

For each of these conditions, the course will:

- Give a global perspective on the given chronic condition,
- Allow an in depth-analysis of the physiopathology of the given disease or condition,
- Present the guidelines (when available) for the prevention, evaluation, management, or treatment of the condition through exercise and the evidence at the basis of these guidelines,
- Guide the students through the analyses of key research articles in the field,
- Reorganise key features or data to create summaries for the general public.

### **Course Objectives**

#### **(1) Brief statement of the purpose:**

The purpose of this course is to guide student through the scientific evidence that exercise has therapeutic values to manage chronic cardiovascular disease. At the end of the course students will have gain skills to be able to critically analyse the literature related to the study of the effect of exercise on chronic diseases. This course also aims to help the students developing written communication skills to be able to transfer the knowledge gained from the analysis of the scientific literature to the general public to increase awareness about the effects of exercise on the chronic disease studied

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

- At the end of the course, the students will be able to:
- Discuss the molecular, cellular, and physiological mechanisms by which chronic diseases or conditions alter the organism, and more particularly the vascular system.
- Evaluate how physical activity improve some specific features of the given chronic disease or condition through the interpretation of scientific data
- Recall the guidelines and describe the scientific evidence at the basis of these guidelines.
- Advocate for the use of exercise for the prevention, the testing or the management or treatment of chronic diseases or conditions using of evidence-based rationales.
- Combine the knowledge acquired through the analysis of scientific articles to create concise summary of best practice for the general public.

## 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 :

- Parts of the topics developed in this course are inspired by chapters from the textbook “Clinical exercise physiology” by Erhman, Gordon, Visich, and Keyetian (edition Human Kinetics) @ <http://www.humankinetics.com/ClinicalExercisePhysiology/>
- *Primal Pictures (Anatomy.tv)*. London, England: Primal Pictures Ltd., 2001. Print. See [Primal Pictures](#). See interactive chapters about the [cardiovascular system](#)

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

## Evaluation \*

- **Participation to “3 establishing exercise recommendation meetings (ERM)” during in-person sessions (6%: 3 topics 2.0% per topics):** Students use the in-class session to discuss systematic review articles (required readings) with their peers in an informal format. Students will be invited to choose one systematic review articles related to one of the course topics. The course instructor or teaching assistant will guide the discussion and provide additional information as needed. To gain participation marks, students need to be present and active. Students who cannot join these sessions must contact the course instructor for an alternative way to participate. Follow course announcements regarding dates of these sessions as they can be subjected to changes due to the pace of the course. Tentative dates are **January 25<sup>th</sup>, February 15<sup>th</sup>, and March 12<sup>th</sup>**.
- **3 open book online quizzes (5% each)** related to required readings mainly the systematic review articles discussed in BRM. Each quiz contains a series of multiple choice, true/false and short answer questions (5%). Online quizzes will open after the best recommendation meetings and close on:
  - **February 1<sup>st</sup>, 2024**
  - **February 27<sup>th</sup>, 2024**
  - **March 19<sup>th</sup>, 2024**

- **3 short summaries of best recommendations.** After reading the systematic reviews and attending the best recommendations meetings students will be invited to summarize their exercise recommendations for the cardiovascular diseases or conditions discussed in the meetings. These summaries must include a table that provide details about the type of exercises and their efficiencies, a table legend (max 75 words) and a short paragraph with references (max 400 words). Students must use Vancouver referencing style. [About Vancouver referencing style - Vancouver printable guide - Library Guides at University of Queensland Library \(uq.edu.au\)](#) . These summaries are due on the same dates that online quizzes:
  - **February 1<sup>st</sup>, 2024**
  - **February 27<sup>th</sup>, 2024**
  - **March 19<sup>th</sup>, 2024**

- **Two in-class examinations (total of 38%).**

They will be based on short answers questions and reflective questions.

- In-class examination 1 worth 19% of the final mark:
  - **February 8<sup>th</sup>, 2024, (75 minutes)**
- In-class examination 2 worth 19% of the final mark:
  - **March 28<sup>th</sup>, 2024 (75 minutes)**
- **One final assignment (total 23%).** Students will create a document dedicated to the public that presents how exercise supports the management of cardiovascular diseases. This document aims to summarize accurate scientific evidence using visual items and text. The goal is to help patients with cardiovascular diseases or at high-cardiovascular risk factors understand how exercise helps manage their conditions. This work is due on April 8<sup>th</sup>.

**By March 11<sup>th</sup>, 2024 (drop deadline), 45% of students' work will be completed and graded if work is submitted on time.**

### **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](mailto: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 [ccscadm@yorku.ca](mailto:ccscadm@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

*Updated by Emilie Roudier on January 8<sup>th</sup>, 2024*