THE UNIVERSITY OF BRITISH COLUMBIA
SCHOOL OF KINESIOLOGY
KIN 500C (2018)
ADVANCED CONCEPTS IN CARDIOVASCULAR PHYSIOLOGY AND REHABILITATION

Instructors:	**Dr. Darren E. R. Warburton**
Office Hours:	**By Appointment**
Location:	**Rm. 208, Lower Mall Research Station**

LECTURES

Tuesdays and Thursdays, 11:00 am – 12:30 pm (Seminar Room Lower Mall Research Station)

Credits: 3; Term 2

PREREQUISITES

Graduate Standing. Students should have a strong (undergraduate) background in exercise physiology and cardiovascular physiology. Students should also have experience in clinical exercise physiology.

RECOMMENDED TEXTS (NOT REQUIRED)

Guidelines for Cardiac Rehabilitation and Cardiovascular Disease Prevention: Translating Knowledge into Action. Third Edition, Canadian Association of Cardiac Rehabilitation, 2010. ISBN: 9780968585139

Warburton, D.E.R. (Ed.). (2016). *Health-related Exercise Prescription for the Qualified Exercise Professional* (Sixth ed.). Vancouver, BC: Health & Fitness Society of BC. ISBN: 978-0-9916794-0-9

DESCRIPTION

The purpose of the course is to examine advanced concepts in cardiovascular physiology and rehabilitation as they relate to the health and well-being of Indigenous peoples. This course involves a strong practical component incorporating self-directed learning strategies throughout. Graduate students are expected to develop and participate in research based on actual practice. Students may work with diverse clientele including children and youth, Indigenous Elders, and patients with living with chronic medical conditions. Instruction will take place within a traditional classroom or laboratory, a field-based setting, and/or clinical settings. Students will develop a working knowledge of various health and wellness appraisal procedures and tools. Students will gain an understanding of how these protocols and methodologies can be utilized to administer appropriate exercise rehabilitation for optimizing functional status, health, and wellness. Accordingly, students will gain an understanding of the appropriate treatments for a variety of conditions. This course is part of the new menu of courses within Indigenous Studies in Kinesiology dedicated to Indigenous health and well-being.

PRIMARY LEARNING OUTCOMES

Upon completion of this course, successful students will be able to:

1. Describe physiological and psychological benefits of comprehensive clinical exercise rehabilitation in various populations.
2. Describe the various physiological assessment techniques used in the field of clinical exercise physiology and rehabilitation.
3. Critically evaluate the literature to determine evidence-based best practice.
4. Demonstrate critical thinking in an applied manner.
5. Demonstrate a clear understanding of the determinants of health and wellbeing in Indigenous communities.

EVALUATION

1. Group Wiki Page	40%
2. Individual Technique/Methodology Presentation	40%
3. Research Paper	20%

COURSE FORMAT

Lectures

This course incorporates self-directed learning techniques, and as such requires that the students have completed their recommended readings before each class and that they take an active role in the lectures and research-related activities. A series of recommended readings for students are provided; however, it is anticipated that students will make use of extensive resources outside of these readings. The readings and topics will be posted on Connect.

This course relies heavily on self-directed learning; therefore, students must take responsibility for their learning including (but not exclusive to) incorporating information not provided in the course texts and readings. The marks may be scaled to maintain the normal average and distribution for this course. It is important to note that marks in this course are awarded based on hard work and dedication and not through negotiation.

Students are required to be active participants in the discovery of information and the solution of the cases. Thus, unlike traditional lectures, in this course students will have an active engagement with course content. Students must come to class well prepared including the completion of the recommended readings for the course. Students are expected to build upon the information from previous case studies and other courses in their undergraduate education. The skills learned from various fields (such as the humanities, biological sciences, etc) can be used effectively in tackling the various problems presented.

Group Wiki Project (40%)

During the first week of classes, students will be assigned randomly to a small problem-based learning group. This group will generally consist of 3-4 members. This group will work together to create a group Wiki page on a specific area related to cardiovascular physiology and/or clinical exercise rehabilitation for Indigenous peoples. Students will need to plan appropriately for the development of this Wiki page. All Wiki pages must be completed at least one week before the end of class and will be evaluated by peers (anonymously) and by Dr. Warburton. The significant proportion of the course will be allocated to the development of the Wiki pages.

Individual Technique/Methodology Presentation (40%)

Each student in this course will be responsible for conceptualizing a topic to present to the class related to an advanced cardiovascular physiology assessment or rehabilitation technique. This topic will be related to the group Wiki project and included on the group Wiki page. Students will also be required to create a quality video production of their presentation that can be shared amongst participants in the course and our international collaborators. Video recording and editing equipment are available in the School of Kinesiology. Students will be marked on the professionalism of their presentation (in both seminar and video format), the quality of their work, and the innovation of the technology. Students should avoid covering topics that are familiar to those in undergraduate education and discuss topics that are innovative and new to many in the course. Example topics may include advanced technologies such as glucose tolerance testing, measures of Quality of Life, impedance cardiography, left ventricular torsion and twist mechanics, acetylene rebreathing, baroreceptor reflex/sensitivity assessment, transcranial Doppler sonography, accelerometry, the assessment of sedentary behaviour, etc.

Research Paper (20%)

Each student is required to complete a well-referenced paper related to his/her individual presentation. It is the goal to publish each article in the Health & Fitness Journal of Canada. The format of each article should follow the guidelines of the Health & Fitness Journal of Canada (http://www.healthandfitnessjournalofcanada.com). The word limit of these papers is consistent with the style of article submitted: Original articles (up to 6000 words), Review Articles (2000-3000 words), and Commentaries (500-1000 words).