MCMASTER UNIVERSITY  
Department of Kinesiology  

Kinesiology 4B03: Cardiovascular Disease Pathophysiology and Rehabilitation

Term: Term 1  
Instructor: Janet Pritchard, PhD  
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E-mail: pritzcm@mcmaster.ca (please put the course code in the email subject line)  
Office Hours: Wednesdays 5:30-6:30pm  
Lectures: Wednesdays 7:00-10:00pm in ITB AB102

DESCRIPTION

An examination of the pathophysiology of cardiovascular disease and evidence-based guidelines for its diagnosis, management, and rehabilitation.

OBJECTIVES: After completing this course, students will be able to:

1. Describe the epidemiology of cardiovascular diseases in Canada.

2. Discuss the history of and rationale for cardiovascular rehabilitation in Canada.

3. Explain the pathogenesis of atherosclerosis and compare and contrast the importance of risk factors in its development.

4. Explain the evidence-based pathophysiology, diagnosis and treatment/rehabilitation of various cardiovascular diseases (i.e., acute coronary syndrome, myocardial infarction, heart failure, congenital heart diseases, peripheral vascular disease, arrhythmias)

5. Explain the risk factor concept, list traditional risk factors and apply the risk factor concept to cardiovascular disease cases.

6. Discuss the approaches to clinical exercise testing in patients with cardiovascular disease, and exercise applications for patients with cardiovascular diseases.

7. Compare and contrast the prevalence and pathogenesis of cardiovascular diseases in women and men and in patients with type 2 diabetes.

8. Compare and contrast the role of functional foods and natural health products (NHPs) for the prevention and management of cardiovascular diseases.

REQUIRED TEXT(s)/READINGS

There is no required text for this class as readings and other useful resources will be posted on Avenue throughout the semester. However, much of the course content will overlap with the
content in the following textbook. Students who would like a hard copy of this textbook will be able to purchase it in the Bookstore.


This course will incorporate regular i-Clicker tests, so each student is expected to have an i-Clicker (must be registered as per instructions in the bookstore), and students must bring the i-Clicker to each class. Failure to bring their i-Clicker to class may result in deductions in participation marks.

**TOPICS TO BE COVERED**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>1</td>
<td>Sept 7</td>
<td>• Epidemiology of cardiovascular diseases&lt;br&gt;• Types of cardiovascular diseases&lt;br&gt;• Review of cardiovascular system anatomy and physiology&lt;br&gt;• Rationale for and history of cardiovascular rehabilitation</td>
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<td>2</td>
<td>Sept 14</td>
<td>• Pathogenesis of atherosclerosis and hypertension</td>
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<td>3</td>
<td>Sept 21</td>
<td>• Pathogenesis, diagnosis and treatment of: &lt;br&gt;• Ischemic heart disease &lt;br&gt;  o Coronary artery disease  &lt;br&gt;  o Acute coronary syndrome, angina  &lt;br&gt;  o Myocardial infarction</td>
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<td>4</td>
<td>Sept 28</td>
<td>• Pathogenesis, diagnosis and treatment of heart failure</td>
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<td>5</td>
<td>Oct 5</td>
<td>• Pathogenesis, diagnosis and treatment of congenital heart disease and cardiomyopathies</td>
<td>Test #1 from 7-8pm. Content: Week 1-4</td>
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<td><strong>FALL MIDTERM RECESS (Oct 10-14, 2016)</strong></td>
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<td>6</td>
<td>Oct 19</td>
<td>• Pathogenesis, diagnosis and treatment of peripheral vascular disease</td>
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<td>7</td>
<td>Oct 26</td>
<td>• Pathogenesis, diagnosis and treatment of cardiac arrhythmias</td>
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<td>8</td>
<td>Nov 2</td>
<td>• Cardiovascular disease in women</td>
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<td>9</td>
<td>Nov 9</td>
<td>• Cardiovascular disease in patients with other chronic diseases</td>
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<td>10</td>
<td>Nov 16</td>
<td>• Pathogenesis, diagnosis and treatment of rare cardiovascular diseases</td>
<td>Test #2 from 7-8pm. Content: Week 5-9</td>
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<td>11</td>
<td>Nov 23</td>
<td>• Role of functional foods and natural health products in the prevention and management of cardiovascular diseases</td>
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<td>12</td>
<td>Nov 30</td>
<td>• Clinical exercise testing and prescription in cardiac rehab settings</td>
<td>Make-up test date (outside of class time)</td>
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<td>13</td>
<td>Dec 7</td>
<td>Wrap-up and review for final exam</td>
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EVALUATION
Test 1, in class on Oct 5th (Make-up test: Wednesday Nov. 30th) 30%
Test 2, in class on Nov 16th (Make-up test: Wednesday Nov. 30th) 30%
i-Clicker questions delivered in lecture 5%
Final Examination, scheduled by Registrar 35%

i-Clicker evaluation
30-35 questions will be delivered over the course of the term, with final assignment of marks (5%) determined using the following scheme. Please note that class absence notification in the format of MSAF or otherwise will not impact the i-Clicker evaluation, as there is a provision in the marking scheme for missed questions.

80-100% of questions answered = 5%
65-79% of questions answered = 4%
50-64% of questions answered = 3%
35-49% of questions answered = 2%
20-34% of questions answered = 1%
<20% of questions answered = 0%

POLICY REGARDING DEFERRED TESTS AND EXAMS
Students who miss the term test or final exam for legitimate reasons such as illness may be allowed to write a deferred or "make-up" test. All missed tests will be written on Wednesday Nov 30th. The instructor reserves the right to alter the format of the make-up tests in comparison to the scheduled in-class tests. In all instances, appropriate documentation must be submitted to the Office of the Associate Dean, Faculty of Science.

Students who miss a Registrar-scheduled final exam can apply to the Associate Dean’s office for permission to write in the deferred final exam schedule. In all cases, appropriate documentation must be submitted to the Office of the Associate Dean, Faculty of Science, for consideration of deferred examination permission. Under no circumstances will the instructor re-schedule a final exam for individual students.

ACADEMIC INTEGRITY
Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences (e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript reading "Grade of F assigned for academic dishonesty", and/or suspension or expulsion from the university). It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at: http://www.mcmaster.ca/univsec/policy/AcademicIntegrity.pdf

The following illustrates only three forms of academic dishonesty:
• Plagiarism (e.g. the submission of work that is not one's own or for which other credit has been obtained),
• Improper collaboration in group work.
• Copying or using unauthorized aids in tests and examinations.
ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES
Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone (905) 525-9140 ext. 28652 or email sas@mcmaster.ca. For further information, consult McMaster University’s Policy of Academic Accommodation of Students with Disabilities. http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicAccommodation-StudentsWithDisabilities.pdf

ON-LINE LEARNING RESOURCES
In this course, we will be using Avenue. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

USE OF COURSE MATERIAL
Course materials provided by the instructor are for use by students registered in this class only. Under no circumstances are these materials to be shared, posted or sold to a third party without permission from the instructor. This includes, but not limited to, online posting of instructor provided lecture/lab notes, online lectures, recordings of lectures, or any lab materials on a website other that the Avenue site designed for this course.

MODIFICATIONS TO COURSE
The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

MISSED STUDENT ABSENT
If you are absent from the university for a minor medical reason, lasting fewer than 3 days, you may report your absence, without documentation, using the McMaster Student Absence Form. Absences for a longer duration or for other reasons (eg. Religious, personal) must be reported to your Faculty/Program office, with documentation, and relief from term work may not necessarily be granted. When using the MSAF, report your absence to Dr. Pritchard at pritcjm@mcmaster.ca. Then contact the instructor/lab TA immediately (normally within 2 working days) by email/telephone/in person to learn what relief may be granted for the work you have missed, and details such as revised deadlines, or time and location of a make-up exam.

FEEDBACK
It really helps us improve our services when we hear from our students, faculty and staff about what we can do better. A feedback process brings to our attention situations in which we may not have adequately considered accessibility and allows us to better plan for accessibility in the future.