

## Cardiology (BIOM4180)

Winter 2018

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Centre for Cardiovascular Investigations  
Biophysics Interdepartmental Group  
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Instructors: Dr. W. Glen Pyle & Dr. Ilka Lorenzen-Schmidt (ilorenze@uoguelph.ca; Room 1652 OVC; Ext. 54970)

Lectures: Tuesday and Thursday, 8:30-9:50 am; LA 204 (Pyle); 4:00-5:20 pm ANNU 156 (Lorenzen-Schmidt)

Course Objective: This advanced pathophysiology course focuses on the molecular basis for cardiac function and disease. Students are expected to gain an appreciation for the molecular and cellular mechanisms that allow the heart to function normally, and understand how alterations in these processes contribute to disease. The course is roughly divided into 3 units:

1. Molecular Cardiology: the molecular events that drive normal heart function will be presented, with some discussion of conditions that impact specific processes.
2. Diagnostic Modalities: commonly used clinical tools (eg. echocardiography and electrocardiography) will be presented. Students will learn the fundamental principles of these techniques, their clinical uses, and will gain some appreciation for their use in diagnosing cardiac abnormalities.
3. Altered Cardiac Physiology: The impact of physiological and pathological stressors will be examined, and the impact of these stressors on the molecular systems outlined in Unit 1 will be addressed.

Student Evaluation: Performance in each unit is evaluated with written tests, as well as a series of out-of-class assignments.

1. Unit Tests: Lecture content will be examined using written tests. While each unit has a distinct focus and the emphasis of each exam will be the contents of that particular unit, the comprehensive nature of cardiology necessitates that information from previous units may be used to answer various questions of any examination. Each test is worth 15% of the final grade, for a total contribution of 45% of the overall grade. If the student passes all three test with a grade of 65% or higher in each test, the two highest grades will be weighted at 22.5% each for a total of 45% of the final grade, while the lowest test will be dropped. No exceptions will be made to this rule and this will be done automatically by the course instructor.

- a) Test 1 – Molecular Cardiology, February 1, 5:30-7:00pm, LLC 1714 & 1715
- b) Test 2 – Clinical Modalities and Practice, March 1, 5:30-7:00pm, LLC 1714 & 1713
- c) Test 3 – Myocardial Disease and Altered Cardiac States, April 5, 5:30-7:00pm, LLC 1714 & 1713

Tests will be written, and comprised of any combination of short and long answer questions.

2. Popular Press and Blog Writing Assignment: Students are expected to sign-up for a Twitter account if they do not have one, or would prefer to use a dedicated account for this class. Once the account is established they can follow the course co-ordinator (@glenpyle) and other members of the class. Each student is responsible for posting their twitter name on Courselink (Discussions Lists > Twitter and Blog > Twitter Names). During the semester students will 'tweet' a minimum of 6 news stories or research articles on topics related to cardiology or cardiac research (10% of final grade). Use the hashtag '#biom4180' to mark tweets for the course (along with other hashtags as appropriate).

Once during the semester each student will select a topic related to one of their tweets. The topic and a link to the news or research article and tweet must be posted on Courselink (Discussions Lists > Twitter and Blog > Blog Post Topics). The first student to post the topic and article (link) on Courselink claims that topic. The student will then write a blog posting on the topic (1-2 pages, single spaced, 12 point font, 2 cm margins, not

including references) and submit the blog post for marking (15% of final grade). Each submitted topic and article must be unique. It is the responsibility of each student to ensure their subject and article is unique. If a repeat topic is chosen, the blog submission will be rejected and must be resubmitted. If the resubmission occurs after the deadline late penalties will be applied (10% deduction per day, including weekends). Review articles or non-peer reviewed references can only be used for general concepts or population statistics, and should be from reputable sources. The use of questionable references will result in a lower grade. The article should be written at a level that is generally understandable for a high school student or older. Once the blog is reviewed and deemed by the instructor to be suitable for posting, the instructor will post the entry to the class blog (<https://bestcardiologyclasssever.wordpress.com/>). Postings will contain the student’s name unless they wish to remain anonymous (choosing to exclude the student’s name from posting will not impact the grade).

Students will be able to sign up for one of four deadlines (March 2, 9, 16, or 23). Each group has limited capacity and enrollment is on a first come-first served basis. If a student does not sign up for a group they will be randomly assigned to a group.

3. Popular Media Presentation. Students working in groups up to 5 will create an educational video on a topic related to cardiology, cardiac biology, or a cardiovascular disease (25% of final grade). The product should present information on a cardiac issue in a format that is suitable for upload to YouTube. If students chose, content will also be uploaded to the non-profit educational Rumie Learn Cloud ([www.rumie.org](http://www.rumie.org)). In addition to the video students will provide a written report (up to 2 pages not including references, format as noted for the blog article above) that will act as a ‘teacher’s reference’ (5% of final grade). This includes identification of the target audience, why this audience has been selected, explanations of the content, external references, and (potentially) suggestions for teaching activities. It is strongly recommended that students discuss the subject and plan of presentation with the course instructor prior to starting the assignment. All presentations must be published on YouTube by April 6 and the written assignment submitted through CourseLink on the same day.

Late Assignments. Assignments handed in after the posted deadline will be penalized 10% per day, including weekend.

Textbooks: There is no textbook for this course. At the bottom of all lecture slides are relevant references that students are encouraged to consult if they seek further information.

Assessment	Date	Percent of Grade
In-class tests	February 1	45%
	March 1	(3 X 15%)
	April 5	
Twitter and Blog	March 2-23	25% (15%/10%)
YouTube Video	April 6	30%

Course and Instructor Evaluation: Students will be asked to complete a questionnaire on instructors’ teaching competence during the last two weeks of classes. This is part of information required by the University of evaluate faculty performance for purposes of Tenure, Promotion and Selective Increases. Administered by a third party rather than the instructors, these evaluations will be delivered to the respective instructors ONLY after the final grades have been submitted to the Registrar’s Office. Note: only the numerical ratings from the form will be made available to the Chair for administrative purposes — the Chair will NOT see any comments that are written on the evaluation forms.

Academic Misconduct: The University of Guelph takes a very serious view of Academic Misconduct. Included in this category are such activities as cheating on examinations, plagiarism, misrepresentation, and submitting the same material in two different courses without written permission. Students are expected to be familiar with the section on Academic Misconduct in the Undergraduate Calendar and should be aware that expulsion from the University is a possible penalty.