Faculty of Engineering

COURSE OUTLINE

BME 201–Quantitative Human Physiology

Term – Summer 2018 (201805)

Instructor

Dr. Carmen Sima
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Office Hours

Days: TBD
Time: TBD
Location: TBD

Course Objectives:

Physiology is the science of the function of living systems. This course discusses anatomical, physiological, and pathophysiological features of the main systems of the human body. In addition, it provides information regarding function of these systems from both medical and engineering perspectives.

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

1. Describe the structure (anatomy) of the major human organs and systems
2. Understand the function (physiology) of the major human organs and systems
3. Identify the interactions between different human organs and systems
4. Interpret the physiological measures under different conditions
5. Discuss the significance of the measured physiological parameters
6. Analyze different physiological control mechanisms
7. Discuss various mathematical models of physiological processes
8. Apply engineering principles to the medical field

Syllabus

Organization of nervous system; Cardiovascular system and blood; Mechanics of breathing and alveolar ventilation; Kidney function and homeostasis; General principles of endocrine system.

A-Section(s): A01 / CRN : 30055 Days: Tuesday and Thursday Time: 6:30pm – 7:50pm Location: Eng. Comp. Sci. Building (ECS) 104	Dates: May 07 – Aug 03, 2018

B-Section(s): B01 / CRN : 30056 Days: Monday Time: 4:00pm – 6:50pm Location: McKinnon Building 171	Dates: May 28, Jun 11, Jun 25, Jul 16, 2018

B-Section(s): B03 / CRN : 30057 Days: Wednesday Time: 1:00p.m.-3:50p.m. Location: McKinnon Building 171	Dates: May 30, Jun 13, Jun 27, Jul 18, 2018

T-Section(s): T01 / CRN : 30058 Days: Monday Time: 3:00p.m.-3:50p.m. Location: Eng. Comp. Sci. Building (ECS) 104	Dates: May 07 – Aug 03, 2018

Required Text

Title:
Author:
Publisher:
Year:

Optional Text

Title: Quantitative human physiology: An introduction (2nd Ed)
Author: Joseph Feher
Publisher: Academic Press
Year: 2016

References:

Title: Medical Physiology
Author: Guyton, AC and Hall, JE
Publisher: Elsevier Saunders
Year: 2006

Assessments:

Assignments	20%	June 24, 2018
Labs	20%	TBD
Mid-terms	48%	Date: May 29, June 19, July 10, July 31, 2018
Student Presentations	6%	TBD
Group work assessment	6%	TBD

Note:

Failure to complete all laboratory requirements will result in a grade of N being awarded for the course.

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

https://web.uvic.ca/calendar2018-05/undergrad/info/regulations/grading.html

There will be no supplemental examination for this course.

Note to students: Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Assistant to set up an appointment.

Accommodation of Religious Observance:
https://web.uvic.ca/calendar2018-05/undergrad/info/regulations/religious-observanc.html

Policy on Inclusivity and Diversity:
https://web.uvic.ca/calendar2018-05/general/policies.html

Standards of Professional Behaviour: You are advised to read the Faculty of Engineering document Standards for Professional Behaviour, which contains important information regarding conduct in courses, labs, and in the general use of facilities.
https://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the entry in the current Undergraduate Calendar for the UVic policy on academic integrity.
https://web.uvic.ca/calendar2018-05/undergrad/info/regulations/academic-integrity.html

Equality: This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Resource Centre for Students with a Disability located in the Campus Services Building.
The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

Course Lecture Notes: Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.