



CUMMING SCHOOL OF MEDICINE  
GRADUATE COURSE OUTLINE

<b>COURSE TITLE:</b>		<b>Topics in Systems Physiology</b>	
<b>Course</b>	<b>MDSC 620</b>		
<b>Pre/Co-Requisites</b>	Consent of the Course Coordinator		
<b>Faculty</b>	Cumming School of Medicine, Graduate Science Education		
<b>Instructor Name(s)</b>	Pierre-Yves von de Weid	<b>Email</b>	vonderwe@ucalgary.ca
<b>Office Location</b>	HSC1645	<b>Office Hours</b>	9:00 am - 5:00 pm, Mon-Fri
<b>Telephone No.</b>	403-2207967		
<b>Class Term, Days</b>	Monday September 9 <sup>th</sup> to Wednesday December 4 <sup>th</sup> 2019, M+W		
<b>Class Times</b>	10:30 – 11:50 am		
<b>Class Location</b>	O1509		

**COURSE INFORMATION/DESCRIPTION OF THE COURSE**

Designed for graduate students undertaking research in physiology or related disciplines, the course will broadly encompass basic physiological mechanisms with an emphasis on the role of the autonomic nervous system in the regulation of the cardiovascular, respiratory, gastrointestinal, renal, endocrine, and reproductive systems. A series of topics ranging from basic physiological systems through to translational clinical topics will be covered in a lecture and discussion format. Lectures will be followed by student presentations and critical discussion on related topics using selected original research articles. All students are expected to participate in whole group discussion.

**LEARNING RESOURCES/REQUIRED READING**

Access to library resources - There will not be a requirement for a designated textbook.

**COURSE OBJECTIVES/LEARNING OUTCOMES**

The general objective of the course is to (1) facilitate development of critical and analytical skills in selected topics in physiology and (2) create and develop an interactive learning environment

At the end of the course, students will be able to:

- (i) demonstrate an understanding of the fundamental regulation of major physiological organ systems
- (ii) critically analyze scientific research papers in selected areas of physiology
- (iii) apply principles of integrative physiology to scientific research
- (iv) demonstrate scientific critique, methods of research investigations and oral presentations

**CUT POINTS FOR GRADES**



This course adheres to the grading system outlined in the University of Calgary, Faculty of Graduate Studies Calendar. Grades of A+ and A are not distinguished in the calculation of GPAs. Percentage/letter grade conversion used for this course is as follows

Grade	Grade Point Value	Percentage Conversion	Graduate Description
A+	4.00	95-100	Outstanding
A	4.00	90-94	Excellent – superior performance showing comprehensive understanding of the subject matter
A-	3.70	85-89	Very Good Performance
B+	3.30	77-84	Good Performance
B	3.00	72-76	Satisfactory Performance
B-	2.70	68-71	Minimum Pass for Students in the Faculty of Graduate Studies
C+	2.30	63-67	All grades below ‘B-’ are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements

**Assessment Components:** The University policy on grading related matters is outlined in the [2019-2020 Calendar](#).

Assessment Methods	Description	Weight %	Due Date and Time
Oral presentation #1	Class journal club style presentation, student has choice of paper	20%	In Class
Oral presentation #2	Class journal club style presentation chosen from a list related to lectures’ topics	30%	In Class
Written paper	Written assignment on important discovery related to human physiology	30%	Dec 2 <sup>rd</sup> , midnight
Class participation	Individual participation throughout sessions	20%	

#### ASSESSMENT AND EVALUATION INFORMATION



**ATTENDANCE AND PARTICIPATION EXPECTATIONS:**

The schedule will be divided into lectures and journal club style presentations, with active participation and discussion expected for both. Students will each present 2 papers in a journal club style. The first one will be of their choice, related to their field of interest, while the second will be assigned/chosen based on a selection of papers provided by the instructors. Students are REQUIRED to complete the reading of assigned papers BEFORE each student presentation. Discussions in class will be conducted with the assumption that the papers assigned have been read. Students are also REQUIRED to submit a written assignment.

**GUIDELINES FOR SUBMITTING ASSIGNMENTS:**

Guidelines will be provided during the first class.

**FINAL EXAMINATIONS:**

No final examination.

**EXPECTATIONS FOR WRITING:**

Expectations will be provided during the first class.

**LATE AND/OR MISSING ASSIGNMENTS:**

We do not anticipate late assignments. However a 5% penalty per day will be given without prior agreement.

Is a passing grade on a particular component essential to pass the course as a whole? No

COURSE TIMETABLE			
Course Schedule Date	Topic & Reading	Instructor	Assignments/Due Dates & Times
Sep. 9 (M)	Introduction and overview to course	P.-Y. von der Weid	
Sep. 11 (W)	LECTURE 1: Physiology: A brief History	P.-Y. von der Weid	
Sep. 16 (M)	LECTURE 2: Scientific presentations, paper & critique example	P.-Y. von der Weid	
Sep. 18 (W)	LECTURE 3: Introduction to the Autonomic Nervous System	M. Giembycz	
Sep. 23 (M)	LECTURE 4: Respiratory system: ANS control of airway function in health & disease	M. Giembycz	
Sep. 25 (W)	LECTURE 5: Heart	W. Chen	
Sep. 30 (M)	LECTURE 6: Circulatory system: Lymphatics	P.-Y. von der Weid	
Oct. 2 (W)	Prep Time	No Class	

Oct. 7 (M)	Student Journal Club Presentation & discussion (I)	P.-Y. von der Weid	
<b>Oct. 14 (M)</b>	<b>Thanksgiving Holiday</b>	<b>NO CLASS</b>	
Oct. 9 (W)	Student Journal Club Presentation & discussion (II)	P.-Y. von der Weid	
Oct. 16 (W)	Student Journal Club Presentation & discussion (III)	P.-Y. von der Weid	
Oct. 21 (M)	Student Journal Club Presentation & discussion (IV)	P.-Y. von der Weid	
Oct. 23 (W)	LECTURE 7: Circulatory system: Vascular	W. Cole	
Oct. 28 (M)	LECTURE 8: GI: organization of GI function / physiology	K. Flaniggan	
Oct. 30 (W)	LECTURE 9: GI: enteric nervous system, brain gut axis /secretion motility	J.-B. Cavin	
Nov. 4 (M)	LECTURE 10: Endocrine - Adrenal	F. Smith	
Nov.6 (W)	LECTURE 11: Renal	F. Smith	
<b>Nov. 11 (M)</b>	<b>Reading Week</b>	<b>NO CLASS</b>	
<b>Nov. 13 (W)</b>	<b>Reading Week</b>	<b>NO CLASS</b>	
Nov. 18 (M)	LECTURE 12: Reproductive System: role of the ANS	D. Slater	
Nov. 20 (W)	Prep Time	No Class	
Nov. 25 (M)	Student Journal Club Presentation & discussion (V)	P.-Y. von der Weid	
Nov. 27 (W)	Student Journal Club Presentation & discussion (VI)	P.-Y. von der Weid	
Dec. 2 (M)	Student Journal Club Presentation & discussion (VII) -	P.-Y. von der Weid	Written paper due (midnight)
Dec. 4 (W)	Student Journal Club Presentation & discussion (VIII)	P.-Y. von der Weid	

**INTERNET AND ELECTRONIC COMMUNICATION DEVICE INFORMATION**

Cell phones must be turned off in class unless otherwise arranged with the instructor.



The use of laptop and mobile devices is acceptable when used in a manner appropriate to the course and classroom activities. Students are to refrain from accessing websites that may be distracting for fellow learners (e.g. personal emails, Facebook, YouTube). Students are responsible for being aware of the University's Internet and email use policy, which can be found at <https://www.ucalgary.ca/policies/files/policies/electronic-communicationspolicy.pdf>.

## **MEDIA AND RECORDING IN LEARNING ENVIRONMENTS**

### **Media recording for lesson capture**

The instructor may use media recordings to capture the delivery of a lecture. These recordings are intended to be used for lecture capture only and will not be used for any other purpose. Although the recording device will be fixed on the Instructor, in the event that incidental student participation is recorded, the instructor will ensure that any identifiable content (video or audio) is masked, or will seek consent to include the identifiable student content to making the content available on University approved platforms.

### **Media recording for assessment of student learning**

The instructor may use media recordings as part of the assessment of students. This may include but is not limited to classroom discussions, presentations, clinical practice, or skills testing that occur during the course. These recordings will be used for student assessment purposes only and will not be shared or used for any other purpose.

### **Media recording for self-assessment of teaching practices**

The instructor may use media recordings as a tool for self-assessment of their teaching practices. Although the recording device will be fixed on the instructor, it is possible that student participation in the course may be inadvertently captured. These recordings will be used for instructor self-assessment only and will not be used for any other purpose.

### **Student Recording of Lectures**

Audio or video recording of lectures is prohibited except where explicit permission has been received from the instructor.

## **UNIVERSITY OF CALGARY POLICIES AND SUPPORTS**

### **ACADEMIC ACCOMMODATIONS**

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit [www.ucalgary.ca/access/](http://www.ucalgary.ca/access/). Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full



policy on Student Accommodations is available at <http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>

### **IMPORTANT INFORMATION**

Any research in which students are invited to participate will be explained in class and approved by the appropriate University Research Ethics Board

### **INSTRUCTOR INTELLECTUAL PROPERTY**

Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

### **COPYRIGHT LEGISLATION**

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright ([www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf](http://www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf)) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

### **ACADEMIC INTEGRITY**

The Cumming School of Medicine expects intellectual honesty from its students. Course participants should be aware of University policies relating to Principles of Conduct, Plagiarism and Academic Integrity. These are found in the printed Faculty of Graduate Studies Calendar, or online under Academic Regulations in the Faculty of Graduate Studies Calendar, available at [Faculty of Graduate Studies Academic Regulations](#)

### **ACADEMIC MISCONDUCT**

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

### **EMERGENCY EVACUATION AND ASSEMBLY POINTS**

Assembly points for emergencies have been identified across campus. The primary assembly points for South Campus (Health Science Centre (HSC); Health & Research Innovation Centre (HRIC); Heritage Medical Research Building (HMRB) and Teaching, Research and Wellness (TRW)) are:

- HSC and HMRB: HRIC Atrium (alternate assembly point is Parking Lot 6)
- HRIC: HMRB Atrium (alternate assembly point is Parking Lot 6)
- TRW: McCaig Tower (alternate assembly point is HMRB – Atrium)

### **APPEALS**



If there is a concern with the course, academic matter or a grade, first communicate with the instructor. If these concerns cannot be resolved, students can proceed with an academic appeal, as per Section N of the Faculty of Graduate Studies Calendar. Students must follow the official process and should contact the Student Ombuds Office (<http://www.ucalgary.ca/provost/students/ombuds>) for assistance with this and with any other academic concerns, including academic and non-academic misconduct

### **THE FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY (FOIP) ACT**

This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP) and students should identify themselves on written assignments (exams and term work.) by their name and ID number on the front page and ID on each subsequent page. Assignments given by you to your course instructor will remain confidential unless otherwise stated before submission. The assignment cannot be returned to anyone else without your expressed permission to the instructor. Grades will be made available on an individual basis and students will not have access to other students' grades without expressed consent. Similarly, any information about yourself that you share with your course instructor will not be given to anyone else without your permission

### **WELLNESS AND MENTAL HEALTH RESOURCES**

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the excellent mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre), <https://www.ucalgary.ca/wellnesscentre/services/mental-health-services> and the Campus Mental Health Strategy website <https://www.ucalgary.ca/mentalhealth/>

### **SUPPORTS FOR STUDENT LEARNING, SUCCESS, AND SAFETY**

**Student Ombudsman:** The Student Ombuds' Office supports and provides a safe, neutral space for students. For more information, please visit [www.ucalgary.ca/ombuds/](http://www.ucalgary.ca/ombuds/) or email [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca)

**Student Union:** The SU Vice-President Academic can be reached at (403) 220-3911 or [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca); Information about the SU, including elected Faculty Representatives can be found here: <https://www.su.ucalgary.ca>

**Graduate Student's Association:** The GSA Vice-President Academic can be reached at (403) 220- 5997 or [gsa.vpa@ucalgary.ca](mailto:gsa.vpa@ucalgary.ca); Information about the GSA can be found here: <https://gsa.ucalgary.ca>

### **SAFEWALK**

Campus security will escort individuals, day or night, anywhere on campus (including McMahon Stadium, Health Sciences Centre, Student Family Housing, the Alberta Children's Hospital and the University LRT station). Call 403-220-5333 or visit <http://www.ucalgary.ca/security/safewalk>. Use any campus phone,



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emergency phone or the yellow phone located at most parking lot pay booths. Please ensure your personal safety by taking advantage of this service.