



CUMMING SCHOOL OF MEDICINE
GRADUATE COURSE OUTLINE MDSC 623.03
Respiratory and Ventilatory Physiology I – An Introductory Course
Fall 2020

COURSE TITLE:			
Course	MDSC 623.03 Respiratory and Ventilator Physiology I – An Introductory Course		
Pre/Co-Requisites	Permission from Dr. Winston is required		
Faculty	Cumming School of Medicine, Graduate Science Education		
Instructor Name(s)	Dr. Brent Winston	Email	bwinston@ucalgary.ca
Office Location	HRIC 4C64	Office Hours	8:30 to 4:30 pm
Instructor Email Policy	Email if there are any questions		
Telephone No.	403-220-4341		
TA Name		Email	
Class Term, Days	Thursday		
Class Times	3:00 pm to 6:00 pm		
Class Location	ICU Classroom, McCaig Tower		

This course is offered in a face-to-face format. When unable to participate live and in person due to the time difference or unforeseen circumstances, inform the instructor in advance and propose and implement propose an alternative participation activity. Students who are unable to attend in person will be offered to attend the session by Zoom by pre-arrangement.

COURSE INFORMATION/DESCRIPTION OF THE COURSE
This is a 600 level half course for graduate students interested in physiology and for Respiriology and Critical Care trainees. The purpose is to teach basic Respiratory and Critical Care Physiology. Evaluations will be done by two exams and one paper assignment. The exams are worth 25% each and the paper assignment is worth 50% of the final grade.
LEARNING RESOURCES/REQUIRED READING
<ol style="list-style-type: none"> 1. Murry and Nadel – Textbook of Respiratory Medicine –6th Editoin Volume 1 2. Nunn’s Applied Respiratory Physiology by Andre Lumb – 7th Edition <p>Students are responsible for all the reading material and the material covered in class.</p>

COURSE OBJECTIVES/LEARNING OUTCOMES

To understand pulmonary physiology and ventilator physiology from a beginner's perspective.

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	85-94	Excellent – superior performance showing comprehensive understanding of the subject matter
A-	3.70	80-84	Very Good Performance
B+	3.30	75-79	Good Performance
B	3.00	70-74	Satisfactory Performance
B-	2.70	65-69	Minimum Pass for Students in the Faculty of Graduate Studies
C+	2.30	55-64	All grades below 'B-' are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements
C	2.00	50-54	

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

Assessment Methods	Description	Weight %	Due Date and Time
Exam	Handed out Oct 1, 2020	25 %	October 8, 2020 at 15:00
Exam	Handed out November 5, 2020	25 %	November 12, 2020 at 15:00
Paper	Topic to be selected, discussed and agreed upon with Dr. Winston by November 17, 2020.	50%	December 10, 2020 at 15:00

	Paper is to be 10-20 pages, double spaced, not including figures and references.		

ASSESSMENT AND EVALUATION INFORMATION

ATTENDANCE AND PARTICIPATION EXPECTATIONS:

Students are expected to attend classes and participate in discussions with the lecturer

GUIDELINES FOR SUBMITTING ASSIGNMENTS:

All assignments are due at 15:00 and can be delivered in person or by email to Leslie Cooper at email: cooperl@ucalgary.ca

FINAL EXAMINATIONS:

EXPECTATIONS FOR WRITING:

Final paper is expected to be typed, 10-20 pages, double spaced, not including figures and references. A 2 cm margin around the paper is expected.

LATE AND/OR MISSING ASSIGNMENTS:

Late assignments will not be accepted without prior discussion with Dr. Winston.

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
Thursday, Sept. 10	Anatomy and development of the respiratory tract	Dr Brent Winston	Ch 1, 2 and 3 Murray and Nadel.
Thursday, Sept 17	Innate and adaptive immunity in the lung	Dr. Bryan Yipp	Ch 12 & 13 Murray and Nadel
Thursday, Sept 24	Pulmonary Circulation and regulation of fluid balance	Dr. Mitesh Thakrar	Ch 6 Murray and Nadel
Thursday, Oct 1	Respiratory System Mechanics and Energetics	Dr. Dan Zuege	Ch 5 Murray and Nadel
	EXAM 1 handed out		Due October 8 (worth 25%)

Thursday, Oct 8	Acid-Base Balance	Dr. Amanda Roze des Ordon	Ch 7 Murray and Nadel
Thursday, Oct 15	Ventilation, blood flow and gas exchange	Dr. Luc Berthume	Ch 4 Murray and Nadel
Thursday, Oct 22	Alveolar epithelium and pulmonary surfactant and fluid transport	Dr. Matthias Amrein	Ch 8 & 9 Murray and Nadel
Thursday, Oct 29	Pulmonary Function Testing and Clinical Exercise Testing	Dr. Christopher Hergott	Ch 25 & 26 Murray and Nadel
Thursday, Nov 5	Mucus secretion and aerosol desposition and clearance	Dr. Patrick Mitchell	Ch 10 & 11 Murray and Nadel
	EXAM 2 handed out		Due Nov 12 (worth 25%)
Thursday, Nov 12	READING WEEK – NO CLASSES		
Monday, Nov 16	Please ensure final paper topic has been selected, discussed, and agreed upon with Dr. Winston		
Thursday, Nov 19	Mechanical Ventilation I	Dr. Paul Boiteau	Ch 101 Murray and Nadel & Ch 32 Nunn's
Thursday, Nov 26	Control of breathing – Hyperventilation, Hypoventilation, and sleep disordered breathing	Dr. Patrick Hanly	Ch 85-89 Murray and Nadel
Thursday, Dec 3	Mechanoical Ventilation II: Modes of ventilation	Dr. Paul Boiteau	Ch 101 Murray and Nadel & Ch 32 Nunn's
Thursday, Dec 10	Injury and repair	Dr. Francis Green	Ch 15 Murray and Nadel & Ch 31 Nunn's
	FINAL PAPER DUE - The paper needs to be on a topic about respiratory physiology, after discussion and agreement with Dr. Winston. 10-20 pages double spaced ,not including figures and references.		in Dr. Winston's office by 3 pm (50% of final grade)

Conduct During Lectures

The classroom should be respected as a safe place to share ideas without judgement - a community in which we can all learn from one another. Students are expected to frame their comments and questions to lecturers in



respectful and appropriate language, always maintaining sensitivity towards the topic. Students, employees, and academic staff are also expected to demonstrate behaviour in class that promotes and maintains a positive and productive learning environment.

As members of the University community, students, employees and academic staff are expected to demonstrate conduct that is consistent with the University of Calgary Calendar, the Code of Conduct and Non-Academic Misconduct policy and procedures, which can be found at <https://www.ucalgary.ca/policies/forms/title>.

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/. 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) 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/ or email ombuds@ucalgary.ca

Student Union: The SU Vice-President Academic can be reached at (403) 220-3911 or 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; 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, emergency phone or the yellow phone located at most parking lot pay booths. Please ensure your personal safety by taking advantage of this service.