UNIVERSITY OF CALGARY
CUMMING SCHOOL OF MEDICINE

UNDERGRADUATE MEDICAL EDUCATION (UME)
Medical Doctor Program (MD)

COURSE OUTLINE

Course Number:	MDCN 516.01
Course Name:	Anesthesia Clerkship
Dates:	January 20, 2025 – April 26, 2026 (Class of 2026)
Schedules and classroom locations:	Rotation schedule & location information will be emailed and posted to Osler.

	Name	Email
Course Chair:	Dr. Karl Darcus	anaesth@ucalgary.ca
Evaluation Rep:	Dr. Nina Hardcastle	anaesth@ucalgary.ca
UME Program Coordinator:	JingChao Wang	anaesth@ucalgary.ca

Student Course Rep:	Rebecca Sugars & Rebecca Liedtke (Class of 2026)
Student Exam Rep:	

Course Description

Please refer to the University Calendar:

http://www.ucalgary.ca/pubs/calendar/current/medicine.html#8554

Prerequisites

Please refer to the University Calendar:
http://www.ucalgary.ca/pubs/calendar/current/medicine.html#8554

Supplementary Fees/Costs

- Lab Coat
- Stethoscope

OBJECTIVES

GENERAL OUTLINE

Monitoring: The Student must be able to demonstrate appropriate application and interpretation of commonly used monitors in anesthesia (ECG, NIBP, SpO2, capnography and gas analysis)

Fluid & electrolyte management: Students must be able to demonstrate knowledge and skills in establishing intravenous lines, fluid replacement principles, and blood transfusion indications/complications/ways to avoid.

Cardiac and Respiratory Physiology

Pharmacology: Students must be able to demonstrate knowledge of the pharmacodynamics and pharmacokinetics of intravenous agents (induction agents, opioids, muscle relaxants, sedatives and anti-emetics commonly used in anesthesia), and inhalational agents.

Mechanical skills & ventilatory management: Students must be able to demonstrate the skills necessary for maintaining a patent airway, manual ventilation, intubation and mechanical ventilation.

Pain management: Students must demonstrate knowledge of drugs, administration techniques, and regional anesthesia in the care of acute postoperative pain and chronic pain.

Preoperative evaluation: The students must demonstrate an approach to the assessment of risk and need for consultation for an anesthetic, identify appropriate laboratory investigations, pre-medications and fasting guidelines.

Postoperative management: The student must be able to demonstrate an approach to common recovery room problems (eg. pain, nausea, hypotension, hypertension).

Intra-Operative Emergencies

TERMINAL AND ENABLING OBJECTIVES

1. INTRA-OPERATIVE MONITORING

Terminal Objective

The student will understand and be able to apply the basic anesthetic monitors to an operative patient.

Enabling Objectives

In order to demonstrate understanding of the principles of routine electrocardiographic and blood pressure monitoring, the student will:

A. Canadian Anesthesia Society Standard Monitors

1. Describe which monitors are considered to be standard of care by the CAS

B. ECG:

1. Explain and demonstrate conventional ECG lead placement for a three and five lead ECG.
2. The student will describe what information can be determined from a three and five lead ECG

C. Non-invasive Blood pressure measuring

1. Identify common errors that occur in the interpretation of data obtained by noninvasive and invasive methods blood pressure measurement
2. Explain how to calculate MAP

D. Pulse Oximeter

1. Describe the two pieces of information that can be obtained from a pulse oximeter
2. Describe conditions where a pulse oximeter may not be accurate

E. Capnography

1. Describe three pieces of information that can be obtained from a capnography trace

F. Nerve Stimulator

1. Describe the information obtained from the nerve stimulator (with train-of-four and tetany) about the state of neuromuscular relaxation of the patient.

2. FLUID AND ELECTROLYTE MANAGEMENT

Terminal Objective

The student will prescribe and conduct appropriate fluid and electrolyte therapy for patients encountered during this rotation.

Enabling Objectives

A. Intravenous Cannulation

1. The student will identify the commonly used sites for venous access and the indications, contraindications and major complications for each.
2. The student will have knowledge of the different sizes of intravenous catheter available and the rationale for their use
3. Demonstrate skill at establishing venous access with assistance by:
   a) Using sterile technique
   b) Successfully insert a peripheral venous catheter
   c) Protecting the venipuncture site and immobilizing the catheter
   d) Correct set up and connection of an intravenous infusion set to the intravenous catheter.

B. Fluid Therapy:

1. Initiate appropriate fluid and electrolyte therapy given a 70 kg adult, the student will develop a fluid management plan that identifies maintenance requirements, preoperative fluid deficits, and ongoing losses for the following situations:
   a) fasting for 3 hours, and for 12 hours
   b) blood loss not requiring transfusion
2. Identify what blood and blood components are available
3. In deciding whether or not to transfuse blood products in 70 kg patient, the student will:
   a) calculate the patient's red cell mass and circulating blood volume
   b) calculate the patient's allowable blood loss if the hemoglobin is 150 g/l and target allowable hemoglobin is 80 g/l
   c) demonstrate knowledge of factors involved in decision to transfuse (patient, surgical, laboratory)
4. Demonstrate knowledge and an approach to avoiding blood transfusion/blood loss during surgery
5. Demonstrate knowledge of the infectious and non-infectious risks of blood transfusion
6. Demonstrate knowledge of consequences of transfusion (immunological, electrolyte, volume status)
7. Understand the contents of various crystalloids (normal saline, Ringer’s lactate, D5W and perhaps Plasmalyte and Voluven) and their effects on blood chemistry.

3. CARDIAC AND RESPIRATORY PHYSIOLOGY

A. CARDIAC PHYSIOLOGY

1. Hypertension
    a. Medication management perioperatively
    b. Associated comorbidities
    c. End organ consequences
2. Ischemic heart disease
    a. Medication management perioperatively
    b. Signs & symptoms of acute coronary syndrome (ACS)
    c. Anesthetic considerations with drug choice, type of anesthetic (GA, spinal, block, local and sedation)
        d. Anesthetic considerations if patient has had recent myocardial infarction
3. Congestive heart failure
    a. Signs & symptoms of congestive heart failure (CHF)
4. Valvular disease and anesthetic goals (CRRAP – Contractility, Rate, Rhythm, Afterload, Preload)
    a. Aortic stenosis
    b. Mitral stenosis

B. PULMONARY PHYSIOLOGY

a. Asthma
    i. Medication management perioperatively
    ii. Anesthetic risks associated with asthmatic patient
b. COPD
    i. Medication management perioperatively
    ii. Anesthetic risks associated with COPD patient
c. Respiratory Tract infection
    i. When significant enough to cancel elective case
d. Smoking
    i. Smoking cessation and timing of benefits of same
e. Aspiration risk
    i. Factors associated with increased risk of aspiration
f. Obesity
        i. How/why obesity increases perioperative pulmonary risk

3. PHARMACOLOGY

Terminal Objective

The student will demonstrate knowledge of the commonly used intravenous and inhalation anesthetic agents to the level described below.

Enabling Objective

A. The student will demonstrate knowledge of the pharmacokinetics, pharmacodynamics, mechanism of action, side effects and dose of the following anesthetics by listing the indications, contraindications, risks, and benefits of the following agents (to the level of knowledge contained in the clerkship textbook):

1. IV induction agents propofol and ketamine
2. Opioids: (morphine, fentanyl, meperidine, naloxone)
3. Antinauseants: dimenhydrinate, metoclopramide, ondansetron, droperidol, haldol dexamethasone, aprepitant
4. Local anesthetics: lidocaine and bupivacaine
5. Volatile anesthetics: desflurane, sevoflurane
6. Anxiolytics: midazolam, flumazenil
7. Succinylcholine (Depolarizing neuromuscular blocking agent)
8. Rocuronium (Non-depolarizing neuromuscular blocking agent)
9. Inert Gas (N2O)
10. Non-Steroidal Anti-Inflammatory Drugs
11. Vasopressors: ephedrine and phenylephrine

B. The student will describe the concept of MAC (minimum alveolar concentration) and be able to demonstrate knowledge of the value of 1 MAC for desflurane and sevoflurane as well as factors that alter MAC.

C. The student will know what receptor at the neuromuscular junction is blocked by neuromuscular blocking drugs.

D. The student will list the adverse effects of inhaled N2O

E. The student will recognize signs, symptoms and pathophysiology of allergic reactions (including anaphylaxis) and understand management.

4. AIRWAY SKILLS: MECHANICAL SKILLS & VENTILATORY MANAGEMENT

Terminal Objective

Given at least 7 unconscious patients, the student will provide appropriate airway support. This will include oral endotracheal intubation, LMA placement and positive pressure ventilation by face mask.

Enabling Objectives

A. Mechanical Skills

1. The student will describe the indications, risks, and benefits of ventilation by mask, LMA and by endotracheal tube.
2. The student will be able to choose the correct size of LMA and ET tube for adult male and female patients.
3. The student will describe and identify basic oropharyngeal and laryngotracheal anatomy, including the following:
   a) Tongue
   b) Epiglottis
   c) Vocal cords
   d) Thyroid and cricoid cartilages
   e) Superior and recurrent laryngeal nerves
   f) Vallecula
   g) Laryngoscopy grade
4. The student will identify and treat upper airway obstruction during mask ventilation, using:
   a) jaw thrust, head tilt, chin lift
   b) oropharyngeal and nasopharyngeal airway
5. With proper technique, the student will attempt tracheal intubation in at least 4 patients. The student must be able to demonstrate how to recognize an esophageal intubation.
6. The students will be able to identify the physiologic responses to laryngoscopy and induction.
7. The student will identify 3 indications for rapid sequence induction (RSI), the steps required, and the principles upon which it is based. The student will know the contraindications to a RSI.
8. The student will list and recognize criteria for extubation in anesthetized patients.

B. Ventilation Management

1. The student will correctly identify the correlation between pulse oximeter reading and arterial blood oxygen tension (oxyhemoglobin dissociation curve & factors that shift the curve).
2. The student will understand
   a) normal value for CO_2
   b) gradient between $ETCO_2$ and arterial CO_2
   c) conditions that would increase or decrease $ETCO_2$
3. The student will be able to define cyanosis, hypoxemia and hypoxia
4. The student will explain a differential diagnosis for hypoxemia.

5. PAIN MANAGEMENT

Terminal Objective

The student will demonstrate a basic knowledge of local anesthetic and opioid pharmacology.

Enabling Objectives

A. Local Anesthetics

1. The student will list two commonly used local anesthetics and classify according to amide or ester linkage.
2. The student will calculate maximum doses for Lidocaine and Bupivacaine used for local infiltration anesthesia with and without epinephrine.
3. The student will be able to describe signs and symptoms of intravenous local anesthetic toxicity.
4. The student will describe the treatment for local anesthetic toxicity.

A. Acute Pain Management

1. The student will appreciate the role of regional anesthesia, narcotics and non-narcotic medications in the treatment of post-operative pain.
2. The student will understand the use of oral narcotic medications and understand the conversion from IV to oral dosing.
3. The student will understand the theory of patient-controlled analgesia (PCA) use and be able to list its advantages in pain management.
4. Describe the physiologic consequences of pain.
5. The student will be familiar with the different non-narcotic medications used in the treatment of pain including:
   a) TCA
   b) Anticonvulsants
   c) NSAIDS
   d) Acetaminophen

B. Chronic Pain

1. The student will gain increased understanding of the multidimensional nature of the medical, psychological, social and spiritual dimensions to the patient's pain problem
2. The student will be familiar with the different medications used in chronic pain treatment including:
   a) Opioids (oral and parenteral)
   b) TCA
   c) Anticonvulsants
   d) NSAIDS
   e) Acetaminophen

C. Regional Anesthesia/Analgesia

1. Describe the anatomy of both spinal and epidural neuraxial techniques
2. Describe the contraindications of neuraxial anesthesia
3. Describe the complications of neuraxial anesthesia (wet tap, infection/hematoma, post-dural puncture headache, paralysis) and how they present.

6. PREOPERATIVE EVALUATION

Terminal Objective

The student must be able to demonstrate a preoperative interview including history and physical examination and be able to identify factors that influence risk of anesthesia and perioperative morbidity and mortality.

The student will determine whether measures can be taken to reduce peri-operative risk

Enabling Objectives

The student will demonstrate knowledge of the components of the anesthetic preoperative evaluation as follows:

A. The student will conduct at least 4 preanesthetic assessments and present them in standard fashion to a staff anesthesiologist. These assessments will include:

1. Taking a directed history and obtaining important information from the hospital chart (emphasis on review of systems, prior medical conditions, recent illness, past anesthetic history and family history)
2. Performing a directed physical examination, including assessment of the upper airway. The airway assessment will be observed to include an evaluation of mouth opening, identification of oral and supraglottic structures, dentition, Mallampati score, temporomandibular joint mobility, cervical spine mobility, mentum to thyroid cartilage (MT) distance, and trachea, neck or chest wall abnormalities. In addition assessment of patient vital signs and cardio pulmonary systems.
3. Recognizing and/or predicting a difficult airway
4. Finding and interpreting pertinent laboratory and diagnostic imaging results based on known or suspected disease
5. Assigning appropriate ASA physical status
6. Knowing the CAS standards for fasting

B. The student will identify specific factors that increase the patients' perioperative risk, (including those below), and explain why the patient's risk is increased.

1. Malignant hyperthermia
2. recent myocardial infarction
3. dysrhythmia
4. hypovolemia
5. GERD
6. renal failure
7. chronic obstructive pulmonary disease
8. upper and lower respiratory tract infection
9. abnormal succinylcholine metabolism
10. family history of operative arrest
11. emergency surgery
12. congestive cardiac failure
13. valvular heart disease
14. smoking
15. bowel obstruction
16. hepatic insufficiency
17. angina pectoris
18. hypertension
19. obesity
20. Muscular Dystrophy
21. pneumothorax
22. asthma
23. sepsis

C. The student will describe the significance of chronic medications in the perioperative period, including:

1. monoamine oxidase inhibitors.
2. approaches to perioperative management of patients taking anticoagulants
3. cardiac medications including antihypertensives, diuretics, statins.
4. chronic opioid use, including buprenorphine
5. herbal medications

D. The student will determine what pre-operative medications are needed in terms of:

1. Anxiolytics
2. Anti-nauseants
3. Antibiotics
4. Diabetic medications
5. Anti-hypertensives, diuretics and statins
6. Steroids

E. Demonstrate an understanding of informed consent and what is required for a patient to be considered able to give informed consent (and when consent may be invalid).

7. POSTOPERATIVE MANAGEMENT

Terminal Objectives

The student will be aware of the common effects of anesthesia and surgery that persist into the postoperative period.

Enabling Objectives

1. The student will demonstrate knowledge and an approach to common post-operative issues.
2. The student will demonstrate knowledge and an approach to a patient with post-operative hypertension and hypotension, including a general approach to bleeding and acute coronary syndrome.
3. The student will demonstrate knowledge and an approach to possible treatment choices including the use of narcotic and non-narcotic medications for post-operative pain.
4. The student will demonstrate knowledge and an approach to identifying patients at risk for post-operative nausea and determine treatment.

8. General

Terminal objectives

The student will be aware of the importance of collaboration between each individual involved in the peri-operative management of a patient, including health professionals from other disciplines.

Enabling Objectives

1. The student will demonstrate respectful behaviour and work effectively in an inter-professional health care team.
2. The student will demonstrate an understanding of the roles of other inter-professionals involved in the peri-operative management of a patient

Intra-operative Emergencies

A. Develop a differential diagnosis & approach for initial treatment of each of the following:

1. Hypertension

2. Hypotension

3. Hypoxemia

4. High airway pressures

5. Tachycardia

6. Bradycardia

7. Hypercapnia

8. Hypocapnia

9. Hyperthermia

10. Hemorrhage

Course Text(s)/Recommended Reading/Learning Resources

Ottawa Anesthesia Primer, Sullivan, 2012
Clinical Anesthesiology, Edition 3, Morgan, Mikhail, Lange 2001.

PLEASE NOTE:
All resource materials including books must be signed out through the Anesthesia Program Secretary. If you do not return resource materials, you will not get credit for your Anesthesia rotation.

Useful resources

1. Canadian Blood Services Circular of Information for blood products.

   https://blood.ca/en/hospitals/circular-information

2. Review physiology taught in Course 3 - CV and Resp

3. Anesthesia Podcasts found on Osler. Please note that our program has prepared several podcasts that can be reviewed at your leisure. These have been prepared for medical students as a review of various topics important in the specialty of Anesthesia. Many of these will cover some of your essential clinical presentations that you are required to complete.

4. This is a short video, made by our residents, demonstrating what you can expect when you come to your anesthesia rotation.

   http://umepodcast.ucalgary.ca/3/34

5. "A Medical Student's Anesthesia Primer or How to Look Like a Star on Your First Day"
   This document is attached below. It was written in 2000 by an American anesthesiologist. There have been some changes in practice since 2000, for example you won't see vecuronium anymore but you will see rocuronium, and there are some small differences between US and Canadian practice, but overall this is a good summary to get you started in anesthesia.

Evaluation and Course Requirements

ANESTHESIA

- Daily Reports = MP #
- Satisfactory Final Preceptor ITER = MP
- Logbook = MC*
- Clinical Expectations = MC
- Attendance and participation in teaching sessions = MC
- Professionalism Expectations = MP
- Meet all expectations outlined in Core Document = MC

MP = must pass (failure to do so will result in overall evaluation of "Unsatisfactory" for rotation)

MC = must complete (failure to do so will result in overall evaluation of "Satisfactory with Performance Deficiency" for rotation)

MC* = must complete before rotation deadline (failure to do so will result in requirement to defer summative examination to the deferral/rewrite date)

Please refer to Clerkship Student Handbook - https://cumming.ucalgary.ca/mdprogram/current-students/clerkship/student-handbook and core document on OSLER - https://osler.ucalgary.ca/

Calculators for MCQ exam – simple calculators are allowed for your exams.

Assessment Dates

The assessment dates provided in the Evaluation and Course Requirements may be subject to change due to circumstances beyond the MD Program's control. In the event that an assessment date must be changed notification of the change will be emailed to the student by the evaluation team and posted on OSLER. Students will be given as much notice of the assessment date change as possible.

The pre-clerkship schedule of all courses can be found on the timetable here
https://cumming.ucalgary.ca/mdprogram/current-students/pre-clerkship-year-1-2/timetable
The detailed day by day schedule is found on Osler. https://osler.ucalgary.ca/

Grading

The University of Calgary Medical Doctor Program is a Pass/Fail program. The grading system that will appear on a student's legal transcript is as follows:

Grade	Description
CR	Completed Requirements
RM	Remedial Work Required
F	Fail
I	Incomplete
W	Withdrawal
MT	Multi-Term (Used for Part A Courses that fall under 2 different terms in the calendar year.)

For Pre-Clerkship - A student's final grade for the course is the sum of the separate components. It is not necessary to pass each mandatory component separately in order to pass the course.

For Clerkship - A rotation signed off as "Satisfactory with Performance Deficiencies" will appear as a

credit on a student's medical school transcript.

Assignments/Projects

The following criteria shall generally apply to all written assignments. Students are expected to submit all major assignments on or before the due dates. Unless prior arrangements have been made, major assignments worth marks submitted after the specified due date will be considered late. Late major assignments will receive a 0 % grade. Other assignments will not be accepted after the due date.

Timeliness

In general, dates listed in Core Documents are intended to act as guidelines for assisting students to complete their learning activities and assignments in a timely fashion. Students encountering difficulties completing assignments due to health or other serious factors must contact the Course Chair to arrange a deferral of term work. A Physician/Counsellor Statement to confirm an absence for health reasons may be required.

Professional Conduct

As members of the University community, students and staff are expected to demonstrate conduct that is consistent with the University of Calgary Calendar. The specific expectations cited in the Calendar include

- Respect for the dignity of all persons
- Fair and equitable treatment of individuals in our diverse community
- Personal integrity and trustworthiness
- Respect for academic freedom, and
- Respect for personal and University (or Host Institution) property.

Students and staff are expected to model behaviour in class that is consistent with our professional values and ethics. Students and staff are also expected to demonstrate professional behaviour in class that promotes and maintains a positive and productive learning environment. All students and staff are also expected to respect, appreciate, and encourage expression of diverse world views and perspectives. All members of the University community are expected to offer their fellow community members unconditional respect and constructive feedback. While critical thought and debate is valued in response to concepts and opinions shared in class, feedback must at all times be focused on the ideas or opinions shared and not on the person who has stated them.

Where a breach of an above-mentioned expectation occurs in class, the incident should be reported immediately to the Associate Dean or his/her designate. As stated in the University Calendar, students who seriously breach these guidelines may be subject to a range of penalties ranging from receiving a failing grade in an assignment to expulsion from the University.

University of Calgary Medical School – Student Code of Conduct
https://cumming.ucalgary.ca/mdprogram/current-students/pre-clerkship-year-1-2/student-code-conduct

Electronic Submission of Course Work

Most assignments will be submitted via email to the Program Coordinator, UME unless otherwise stated. Assignments may be submitted in MS Word or Rich Text formats. It is the student's responsibility to confirm with the Program Coordinator that the assignment has been received. This may be done through utilization of the return receipt function available on most email packages, or by a follow up confirmation email to the Program Coordinator.

It is the Program Coordinator's responsibility to reply to any confirmation email from the student, and to inform the student promptly if there are any problems with the file (unable to open attachment, damaged data, etc.). In such cases, it is the responsibility of the student to promptly consult with the Program Coordinator regarding an alternate delivery method (e.g. courier, fax, etc.). It is the student's responsibility to retain a copy of the original document.

One45 Overview

The MD Program utilizes the One45 Software Program for assessment purposes for all evaluations in Year 1, 2 and 3. Students are able to view completed evaluations online through this software program. Evaluations and assessment data are collected at regular intervals.

It is the student's responsibility to distribute their evaluations to preceptors during any given course and to follow up with preceptors if evaluations have not been completed by the deadline given out by the Undergraduate Medical Education (UME) Office.

In addition to assessments and evaluations, One45 is also utilized to evaluate your preceptors and to gather information from students on their learning experiences.

All students are provided training at the beginning of their program in Year 1. This would include a personal log in access code and password.

One45 is used throughout your training in the MD Program (Undergrad) as well as Residency (PGME).

Website Link to Access One45: https://calgary.one45.com/

Problems Accessing One45: Please contact the Academic Technologies at osler@ucalgary.ca

Course Evaluation/Feedback

Student feedback will be sought at the end of each learning session as well as at the end of each course through the electronic UME evaluation tool.

At the end of each learning activity (ie. Lecture, small group, orientations, etc.), students will be asked to complete online evaluation forms to provide feedback to instructors regarding the effectiveness of their teaching and achievement of the learning objectives. An overall course evaluation will be completed following course completion.

Students are welcome to discuss the process and content of the course at any time with the Course Chairs or Preceptors.

Clinical Core Overview (Pre-Clerkship Only)

Please refer to the Clinical Correlation Guidelines here:
https://cumming.ucalgary.ca/mdprogram/about/governance/policies

Course specific learning objectives for Clinical Core in the setting of this course can be found in the course documents.

Clinical Correlation Rules of Conduct

Students and preceptors will not be used as patients for clinical correlation sessions. This means that students will not examine the preceptor, the preceptor will not examine the students and students will not examine one another.

UME Policies, Guidelines, Forms, & TORs

Please refer to the MD program website
https://cumming.ucalgary.ca/mdprogram/about/governance

Reappraisals and Appeals

Please refer to the CSM Reappraisal of Graded Term Work and Academic Assessments and CSM UME Academic Assessment and Graded Term Work Procedures for details regarding reappraisals and appeals https://cumming.ucalgary.ca/mdprogram/about/governance/policies

Please note by policy and terms of reference if you plan to request a reappraisal of the result(s) of this exam/course, a formal reappraisal request in writing needs to be submitted to md.reappraisals@ucalgary.ca within 10 days of receiving the result.

If the student disagrees with the decision of the UME Student Evaluation Committee, the student may appeal that decision to the UME University Faculty Appeals Committee. Please refer to the CSM UME Academic Assessment and Graded Term Work Procedures for procedure for appeals. https://cumming.ucalgary.ca/mdprogram/about/governance

Academic Accommodation

Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities available https://live-ucalgary.ucalgary.ca/student-services/access.

Student Accessibility Services, please contact their office at (403) 220-8237, visit: MacEwan Student Centre room 452 or email: access@ucalgary.ca. Students who have not registered with the Student Accessibility Services are not eligible for formal academic accommodation.

Accommodations on Protected Grounds Other Than Disability

Students who require an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the appropriate Assistant or Associate Dean

Students who require an accommodation unrelated to their coursework, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Vice-Provost (Student Experience).

For additional information on support services and accommodations for students with disabilities, visit https://live-ucalgary.ucalgary.ca/student-services/access

Academic Integrity

The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.

It is expected that all work submitted in assignments should be the student's own work, written expressly by the student for this particular course. Students are referred to the section on academic integrity in the University Calendar (https://www.ucalgary.ca/pubs/calendar/current/k-3.html) and are reminded that plagiarism is an extremely serious academic offence.

Student Misconduct

A single offence of cheating, plagiarism, or other academic misconduct, on term work, tests, or final examinations, etc., may lead to disciplinary probation or a student's suspension or expulsion from the faculty by the Dean, if it is determined that the offence warrants such action. A student is defined as any person registered at the University for credit or non-credit courses.

Freedom of Information and Protection of Privacy

The Freedom of Information and Protection of Privacy (FOIP) Act indicates that 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 express permission. Similarly, any information about yourself that you share with your course instructor will not be given to anyone else

without your permission.

Emergency Evacuations and Assembly Points

Assembly points for emergencies have been identified across campus. The primary assembly point for the Health Sciences Centre (HSC) building is HRIC - Atrium. For more information, see the University of Calgary's Emergency Management website: https://www.ucalgary.ca/risk/emergency-management/evac-drills-assembly-points/assembly-points

Emergency Evacuation Procedures - https://www.ucalgary.ca/risk/emergency-management/plans-and-procedures. In the case of an emergency during exam, immediately stop writing the examination and follow the direction of the invigilator and go to the nearest exit. Students should not gather personal belongings.

Internet and electronic device information and responsible use

Students are welcome to use laptops and other electronic note-taking devices in this course unless otherwise stated. Please be considerate of others when using these devices.

Supports for student learning, success, and safety

Student Advocacy & Wellness Hub (SAWH): https://cumming.ucalgary.ca/student-advocacy-wellness-hub/home

AMA Physician and Family Support Program: https://www.albertadoctors.org/services/physicians/pfsp

Student Union Wellness Centre: https://www.ucalgary.ca/wellnesscentre/

Safewalk: http://www.ucalgary.ca/security/safewalk

Campus security - call (403) 220-5333

Student Success Centre: https://www.ucalgary.ca/ssc/

Library Resources: http://library.ucalgary.ca/

Student Union (https://www.su.ucalgary.ca/about/who-we-are/elected-officials/) or Graduate Student's Association (https://gsa.ucalgary.ca/about-the-gsa/gsa-executive-board/) representative contact information

Student Ombudsman: http://www.ucalgary.ca/ombuds/role

Copyright

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy) 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 unauthorized 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.

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 (http://www.ucalgary.ca/mentalhealth).

Research Ethics
If a student is interested in undertaking an assignment that will involve collecting information from members of the public, he or she should speak with the Assistant Dean, Research (UME) and consult the CHREB ethics website (https://ucalgary.ca/research/researchers/ethics-compliance/chreb) before beginning the assignment.

ATSSL Guidelines
Please refer to the ATSSL Web Lab PPE Requirement: http://www.ucalgary.ca/mdprogram/about-us/ume-policies-guidelines-forms-terms-reference

Use of Artificial Intelligence Tools
Generative Artificial Intelligence (AI), and specifically foundational models that can create writing, computer code, and /or images using minimal human prompting includes not only GPT-4 (and its siblings ChatGPT and Bing), but many writing assistants that are built on this or similar AI technologies. In the MD program, learners may use artificial intelligence tools, including generative AI, as learning aids or to help produce assignments. Learners are ultimately accountable for the work they submit. Use of AI tools must be documented in an appendix for each assignment. The documentation should include what tool(s) were used, how they were used, and how the results from the AI were incorporated into the submitted work. Failure to cite the use of AI generated content in an assignment/assessment will be considered a breach of academic integrity and subject to Academic Misconduct procedures.