Principles of Biomedical Sciences

MEDC 115.18

YEAR 1 TERM 1

COURSE SYLLABUS

2020/2021

UNIVERSITY OF SASKATCHEWAN
College of Medicine
MEDICINE.USASK.CA

As we gather here today, we acknowledge we are on Treaty Six Territory and the Homeland of the Métis. We pay our respect to the First Nation and Métis ancestors of this place and reaffirm our relationship with one another. We recognize that in the course of your studies you will spend time learning in other traditional territories and Métis homelands. We wish you safe, productive and respectful encounters in these places.

Principles in Biomedical Sciences – Course Overview

The Covid-19 pandemic has caused significant changes to delivery of medical curriculum. We are planning to include in-person educational experiences, where possible, during the 2020-21 Fall Term. However due to pandemic circumstances, the College of Medicine undergraduate education program may need to:

- *Modify curriculum content delivery outside of usual procedures and at short notice.*
- *Modify Course assessments which may need to be changed to a different format, or to have different weighting from that outlined in the syllabus.*

As information becomes available, we will provide updates to students on any changes relating to content originally outlined in the syllabus.

COURSE DESCRIPTION

The practice of medicine requires grounding in scientific principles, as well as understanding how current medical knowledge is scientifically justified, and how that knowledge evolves. The principles that underlie biological complexity, genetic diversity, human development, micro and gross anatomy, and the influence of nutrition and environment guide our understanding of human health and disease. Curiosity, skepticism, objectivity, and the use of scientific reasoning are fundamental to the practice of medicine. This course will introduce students to the principles of physiology, histology, embryology, anatomy, genetics, oncology, nutrition, pharmacology, microbiology, immunology, and pathology that form the scientific basis of clinical medicine.

Completion of this course will contribute to attaining elements of the overall undergraduate program objectives (Program Learning Objectives).

OVERALL COURSE OBJECTIVES

By the completion of the Principles in Biomedical Sciences course, students will be expected to:

1. Explain the normal form and function of the human body with introductory application to human health and disease.
2. Explain the basics of human nutrition and its role in supporting optimum health and to be able to advise patients on appropriate up-to-date dietary strategies.
3. Apply, at an introductory level, principles of genetics to the diagnosis and management of common genetic disorders and have an approach to basic genetic counseling.
4. Describe the basic principles of pharmacology, how various agents alter homeostasis and the pharmacological basis of therapeutics.
5. Explain the basic principles of general pathology, immunology and microbiology with introductory application to human health and disease.

In addition, each discipline-specific module in the course will also have its own specific objectives.

All learning objectives (course, module, and session) can be accessed on the College of Medicine/Curriculum website under the appropriate year and course. A print version is also available. Please access the link below for the most current objectives.

https://share.usask.ca/medicine/one45/kbase/Curriculum%20Objectives.aspx

COURSE CONTACTS

Course Chair: Dr. Susan Gilmer susan.gilmer@usask.ca (306) 966-4091

Administrative Coordinator: Cheryl Pfeifer cheryl.pfeifer@usask.ca (306) 966-6138

Administrative Assistant: Ariel Laroque ariel.laroque@usask.ca (306) 966-6585

COURSE SCHEDULE

The Principles of Biomedical Sciences Course is organized in 5 modules running concurrently. Session schedules for each of the modules will be posted on one45.

All information relating to this course is available in **one45**. Please check one45 **DAILY** to ensure that you have the most current schedule information**.**

COURSE MODULES

Physiology, Histology, Embryology, and Anatomy (PHE&A)

Genetics

Nutrition

Pharmacology

Microbiology, Immunology, Pathology (MIP)

COURSE DELIVERY

Students will learn through a variety of methods, including:

- Large group sessions including lectures, interactive discussions, online materials, and case-based problem solving.
- Facilitated small group learning sessions.
- Independent self-directed reading and exercises.

COURSE MATERIAL ACCESS

Course materials are available in one45. This syllabus, forms, and other useful documents will be posted there.

- If you have not been assigned a user name (NSID – U of S Network Service ID) and password for PAWS, contact Student Central (306) 966-1212 or contact IT Services Help Desk (306) 966-4817.

Course materials and electronic assignment submission will be done through Course Tools (BBLearn).

RESOURCES

Please see each individual module and/or section on the following pages for required and recommended resources.

COURSE ASSESSMENT OVERVIEW

Course Component	Module Component	Module Weight	Component Requirement	Weighting in Final Principles Module Mark
PHEA Module	Assignments 9 Histology/12 Anatomy Midterm Anatomy/Histology Practical Midterm Final Written Exam Final Practical Lab Exam (including 5% for Necropsy Report)	15% 15% 20% 25% 25%	70% on module	20%
Genetics Module	Take-Home Assignments x 2 (7.5% each) Teratology Paper Midterm Genetics Final Exam	15% 20% 30% 35%	70% on module	20%
Nutrition Module	Written Assignment Midterm Nutrition Final Exam	15% 35% 50%	70% on module	20%
Pharmacology Module	Quiz Midterm Pharmacology Final Exam	15% 35% 50%	70% on module	20%
MIP Module	Assessments: Immunology Quizzes x 5 Pathology In-Class Quizzes Pathology Take-Home Midterm MIP Section Exam	 20% 5% 5% 30% 40%	70% on module	20%
Course Total Mark				100%

In order to provide students more individualized feedback following most exams students will receive individual feedback sheets that will detail the student's progress towards achievement of the course/module objectives.

EXAM PROCTORING

Due to pandemic related circumstances, examinations during this course may be delivered remotely. In that event, proctoring software or other remote invigilation methods will be employed concurrently during the examination to ensure academic integrity of the assessment.

RUBRICS

Where applicable, rubrics for all assignments will be posted on one45 for the relevant session. For those assignments submitted via Blackboard they are also posted in Blackboard. In the event of a discrepancy between the two versions, that posted on Blackboard shall be taken to be correct.

POLICY FOR SUCCESSFUL COMPLETION & REMEDIATION

For successful completion of the Principles of Biomedical Sciences Course (hereafter called "Principles") for the purposes of promotion, students must achieve a minimum grade of 70% in each of the five modules within the Principles course [(1) PHEA (Physiology, Histology, Embryology, Anatomy), (2) Genetics and Oncology, (3) Nutrition, (4) Pharmacology and (5) MIP (Microbiology, Immunology and Pathology) Modules]. Students not promoted on the basis of failure of this course will receive a grade of "F" on their transcripts.

A student's grade for the overall course will be determined at the end of term based on a combination of the weighted graded assessments within each individual module as described in each module section of the syllabus.

The requirements for successful completion of the Principles Course are listed below. Please note that students must meet the overall Term I promotion standards in order to be promoted to Foundations I (see Student Information Guide):

A) Students will be considered to have successfully completed the Principles Course if they have achieved a minimum 70% average grade in each of the five modules.

B) Students who have not received the required 70% average grade in any of the five modules will be deemed to be experiencing academic difficulty. At the end of the term, the severity of academic difficulty will be determined based on a weighted grade deficit assessment (see Table 1 for grade deficit point allocation rubric). In order to intervene with students in danger of experiencing academic difficulty we will meet with students having a midterm mark of less than 70% in any module in any of the midterm exams. These meetings will be between the student and the course chair and Year One Chair or designates to discuss ways to improve academic performance. If the student has a mark of less than 70% in two or more modules in any midterm exam, they will be required to meet with a larger course sub-committee of at least 3 people (made up of the Course Chairs; relevant Module Director(s); Year Chair, Academic Support Specialist or designates) to discuss ways to improve academic performance. Goal of such meetings is not meant to be punitive, but will be student-centered, and focused on developing a learning plan to overcome the learning deficits indicated by the mark of less than 70% in the module.

C) At the end of term, any eligible student who has a final mark of less than 70% in any module may be offered remediation for the module(s) for which they did not achieve the standard. Students who are eligible for remediation will be required to meet with the Course Director and/or Year Chair and Academic Support Team to identify areas of weakness and develop a structured remediation and learning plan, and complete a supplemental assessment. Remediation will be followed by a supplemental comprehensive examination for that module. The determination of eligibility for remediation will be based on a grade deficit assessment (see Table 1 for grade deficit point allocation rubric). Students will be offered remediation up to and including the point where they have accrued a maximum of four grade deficit points for Principles.

Comprehensive supplemental examinations following remediation will be written in the first week of term II.

D) A student will be considered unsuccessful in the Principles course if they accumulate **five grade deficit points** or have failed **one (1) supplemental exam in a module**, whichever comes first. The Year I Term I Promotions Committee and the Student Academic Management Committee will adjudicate further decisions regarding academic outcomes.

E) Students who have not achieved the required 70% average grade in each of the five modules and who have written a supplemental examination, but who still have not achieved the required standard, will be required to meet with the Course Sub-Committee to determine a course of action, which may include additional opportunity to remediate if they have fewer than five deficit points as defined in Section (C); or may include a decision that the student has been unsuccessful in the course and will NOT be offered further supplemental examinations.

F) Success in supplemental assessment will be accorded a maximum grade equivalent to the minimum requirement for that component of the course (70% for a Module).

G) A mark of 0% will be given for any missed quiz or examination, unless otherwise arranged as per the College of Medicine Attendance Policy and Deferral Policy.

Students who are eligible for supplemental examination will be contacted by the Course or Module Director and should arrange to meet with the Module Director or designate to discuss educational issues and develop a learning plan.

Table I: Grade Deficit Point Allocation

	Overall Grade Achieved in Module before Remediation		
	Average < 70% and ≥ 60%	Average < 60% and ≥ 50%	Average < 50%
PHEA	I	II	III
Genetics	I	II	III
Nutrition	I	II	III
Pharmacology	I	II	III
MIP	I	II	III

I: one grade deficit point; II: two grade deficit points; III: three grade deficit points

EXAM PROCTORING

Due to pandemic related circumstances, examinations during this course may be delivered remotely. In that event, proctoring software or other remote invigilation methods will be employed concurrently during the examination to ensure academic integrity of the assessment.

EXAM REVIEW

Time has been built into the curriculum for post examination reviews. During these sessions Directors or Chairs will clarify key concepts where misunderstanding was apparent. Students will not be provided opportunity to view their examination questions/papers as part of a group or individual review process. In the event of specific module or exam failure, a student may contact the appropriate Module Director, Course Director or Course Chair to arrange an opportunity to identify concepts or content areas where difficulty was experienced during the examinations.

MIDTERM AND FINAL ASSESSMENT DATES

PHE& A Midterm – September 24, 2020

Anatomy Practical Midterm Exam – September 26, 2020

Pharmacology Midterm – October 2, 2020

Genetics Midterm – October 6, 2020

MIP Midterm – October 9, 2020

Nutrition Midterm – October 16, 2020

Practical and Written final exams for the Principles Course will take place on November 27, 30, December 4 and 7. (see module sections of this syllabus)

Principles of Biomedical Sciences – Module Syllabus

This section of the course syllabus will describe the specific objectives, requirements, expectations and assessment procedures for each module within the Principles of Biomedical Sciences Course.

- **MODULE 1**

Physiology, Histology, Embryology, and Anatomy (PHE&A)

MODULE COORDINATOR

Dr. Adel Mohamed

Email Address: adel.mohamed@usask.ca

Phone Number: (306) 966-4085

Office Location: HSB 2D01.8

Office Hours: By appointment

MODULE DESCRIPTION

This module covers basic principles of physiology, histology, embryology, and anatomy relevant to biomedical sciences. Each of these disciplines is presented as a section in this module. It is expected that the material covered in this module will be expanded upon, applied, and distributed into the courses presented throughout the rest of the undergraduate medical education program.

GENERAL MODULE OBJECTIVES

See each individual section on the following pages. (Physiology, Histology, Embryology and Anatomy). Detailed learning objectives for each individual session can be found on one45.

COURSE SCHEDULE

All information relating to this course is available in **one45**. Please check One45 **DAILY** to ensure that you have the most current schedule information.

REQUIRED RESOURCES

See each individual section on the following pages. (Physiology, Histology, Embryology and Anatomy)

COURSE DELIVERY

The course is delivered using didactic sessions, anatomy labs, virtual microscopy, integrative cases, online content, in-class audience response quizzes, and other assignments.

STUDENT ASSESSMENT

Assignments	**15%**
Histology and Anatomy Assignments	15%
Exams	**85%**
Midterm	15%
Anatomy Lab Practical Midterm	20%
Final Exam	25%
Final Practical Lab Exam (including Necropsy Report)	25%

Assignment(s): 9 Histology and 12 Anatomy Assignments

Value: 15% of the PHEA Final Grade

Date: Histology and Anatomy assignments dates are posted in One45

Description: For their Histology assignments, students will label cells and histological structures using virtual slides.

For their Anatomy Imaging assignments, students will identify anatomical structures using online medical images.

For their written Anatomy assignment, students will complete a series of short answer questions based on Anatomy concepts.

Midterm Exam

Value: 15% of the PHEA Final Grade

Date: September 24, 2020

Type: Comprehensive In-Class; all sections (Physiology, Histology, Embryology and Anatomy) will be covered.

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all content up to and including September 17 except that Head and Neck I will not be tested on this exam.

Anatomy Lab Practical Midterm

Value: 20% of the PHEA Final Grade

Date: September 26, 2020

Type: Lab stations. All Anatomy content up to and including Lower Limb III. Histology content will be up to and including September 18.

Description: Anatomy and Histology stations. Anatomy: Thorax, Upper Limb and Lower Limb. Histology: Blood and Bone Marrow, Epithelium, Connective Tissue.

Practical Final Exam

Value: 25% of the PHEA Final Grade

Date: December 4, 2020

Type: Lab Stations

Description: Anatomy and Histology sections. Head and Neck and Abdomen and Pelvis. This mark will also include the necropsy report.

Final Exam

Value: 25% of the PHEA Final Grade

Date: December 7, 2020

Type: Comprehensive In-Class; all sections (Physiology, Histology, Embryology and Anatomy) will be covered.

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all material with an emphasis on material after September 17 but including Head and Neck I.

COURSE EVALUATIONS QUALITY IMPROVEMENT

The following changes reflect course quality review recommendations and student feedback:

1. Changes have been made to facilitate remote learning due to the COVID 19 Pandemic.

Physiology Section

SECTION LEAD

Dr. Landon Baillie

Email Address: landon.baillie@usask.ca

Phone Number: (306) 966-4088

Office Location: HSB GB31

Office Hours: Please use email to request an appointment

SECTION DESCRIPTION

The section gives an overview about the functions of the normal body and how it handles extreme, but not yet pathological conditions. Thus, the students gain an understanding on the workings of the normal human body and the limits of its functioning. As much as possible the connections to pathological conditions is made, so the students can judge the grey zone between extreme, but still functioning, situations and appearance and genesis of pathological conditions.

SECTION OBJECTIVES

By the completion of this module, students will be expected to:

1. Define basic terms used in Physiology.
2. Explain and apply the concept of homeostasis.
    - Recall numerically important physiological variables and perform simple calculations.
    - Relate the consequences of changes in normal physiology to selected disease states.
3. Describe in general terms the functions of the major body systems.
    - Explain how various cellular mechanisms determine the functions of the major organs.
    - Explain how cells interact with each other and how their activities are coordinated to produce organ functions.
4. Describe how organ systems interact and how their activities are coordinated.
    - Explain the mechanisms underlying neural and endocrine communication.

SECTION SCHEDULE

All information relating to this section is available in **one45**. Please check one45 **DAILY** to ensure that you have the most current schedule information**.**

REQUIRED RESOURCES

There are no required resources. A recommended textbook throughout the first two years physiology is:

WF Boron & EL Boulpaep (2012). Medical Physiology. Updated Second Edition. Saunders Elsevier.

To address deficiencies in the basic science background which some students might experience, online material Physicochemical Basis of Physiological Mechanisms will be posted after the first lecture. This online material can be used by these students whenever they feel a need throughout the upcoming Physiology lectures.

SECTION DELIVERY

Didactic sessions with detailed clinical examples capping all lectures. These clinical cases deal with the physiological or pathophysiological basis of disease as it applies to the lecture's content in more detail. The cases are accompanied by a catalogue of questions, which will be discussed in class. The cases will be used to apply the physiological principles of the lecture in a clinical setting.

STUDENT ASSESSMENT

See Student Assessment section on Physiology, Histology, Embryology and Anatomy page.

Histology Section

SECTION LEAD

Dr. Susan Gilmer

Email Address: susan.gilmer@usask.ca

Phone Number: (306) 966-4091

Office Hours: By appointment only

SECTION DESCRIPTION

To provide an introduction to normal cell and tissue structure in humans, this section of this module is presented in the following formats: Online lectures, online laboratory exercises and assignments using Virtual Microscopy, microscope room for active examination of slides and demonstration material. Release time is granted for Online Training sessions.

SECTION OBJECTIVES

By the completion of this module, students will be expected to:

1. Define the vocabulary used to describe the structure of human cells, tissues, and organs.
2. Describe the appearance and function(s) of common cellular organelles, cytoplasmic components and extracellular matrices and appreciate that differences in organelles in each cell type has a functional meaning.
3. Describe cellular processes fundamental to life such as: cell division, protein synthesis, processing and secretion of proteins, assembly of plasma membrane components, energy production, endocytosis, apoptosis, necrosis.
4. Distinguish between light, fluorescence and electron micrographs and understand in a general way how these are used in the scientific literature.
5. Apply the information gathered in lectures, labs and assignments to integrate and synthesize how the 5 basic tissues contribute to the overall function, organization and complexity of organs and organ systems.
6. Apply knowledge of how cells differentiate to explain how tissues develop, grow and mature over the human lifespan.
7. Demonstrate knowledge of a few selected clinical problems that are manifested in visible changes to cells and tissues.

Lab Objectives

1. Identify cells and tissues using Virtual Microscopy during participation in online laboratories and assignments.
2. Identify normal cells and tissues in histological preparations as a prelude for future clinical experiences in pathology and related areas.
3. Demonstrate mastery of identification at a basic level in laboratory practical.

SECTION SCHEDULE

All information relating to this section is available in **one45**. Please check one45 **DAILY** to ensure that you have the most current schedule information.

REQUIRED RESOURCES

Textbooks: Both are available as Kindle editions.

Wheater's Functional Histology by Barbara Young, Phillip Woodford and Geraldine O'Dowd (2013) [ISBN 978-0-7020-4747-3]

OR

Histology: A Text and Atlas (2016) by M.H. Ross and W. Paulina [ISBN 978-1-4511-8742-7]

SECTION DELIVERY

Lectures will be delivered online and will include histology labs using virtual microscopy and the histology study room.

STUDENT ASSESSMENT

See Student Assessment section on Physiology, Histology, Embryology and Anatomy page.

Embryology Section

SECTION LEAD

Dr. Greg Malin

Email Address: greg.malin@usask.ca

Phone Number: (306) 966-2750

Office Location: HSB 3A20.18

Office Hours: By appointment

SECTION DESCRIPTION

This section provides a brief introduction into the earliest stages of human development. The focus will be on developmental processes starting from fertilization through the first 4 weeks of development and cellular differentiation. This will provide the necessary embryologic background in order to learn specific organ system and tissue development and differentiation in the Foundations of Clinical Medicine courses.

SESSION OBJECTIVES

Detailed learning objectives can be found on one45 for the individual session.

SECTION SCHEDULE

All information relating to this section is available in **one45**. Please check one45 **DAILY** to ensure that you have the most current schedule information**.**

REQUIRED RESOURCES

Larsen's Human Embryology 5th Ed. by Shoenwolf, Bleyl, Brauer, and Francis West [978-0443-06811-9]

SECTION DELIVERY

Didactic sessions

STUDENT ASSESSMENT

See Student Assessment section on Physiology, Histology, Embryology and Anatomy page.

Anatomy Section

SECTION LEAD

Dr. Adel Mohamed

Email Address: adel.mohamed@usask.ca

Phone Number: (306) 966-4085

Office Location: HSB 2D01.8

Office Hours: By appointment

SECTION DESCRIPTION

To provide an introduction to gross human anatomy, this section of this module is presented in the following formats: lectures, interactive large group sessions, active cadaveric dissection, surface anatomy, and medical imaging. Depending on pandemic circumstance a majority of the section time may be spent in active cadaveric laboratory.

SECTION OBJECTIVES

By the end of this module, students will be able to:

1. Define vocabulary that describes the gross structure of the human body.
2. Participate in and complete a cadaveric dissection of a human body.
3. Use the information gathered in the cadaver lab, in class, and in the assigned assignments to describe human anatomy.
4. Apply anatomical concepts to various clinical situations.
5. Identify normal anatomy through imaging techniques such as planar radiograms, CT and MR.

SECTION SCHEDULE

All information relating to this section is available in one45. Please check one45 **DAILY** to ensure that you have the most current schedule information**.**

REQUIRED RESOURCES

If pandemic rules allow, students will conduct dissections on preserved embalmed human bodies, specimens. In laboratory, students will need to bring the following materials (available from university bookstore).

If dissection is allowed, students will need one or two dissector kits per dissection group (available at various bookstore locations), which contain:

- Scalpel handle
- Forceps, blunt point
- Forceps, fine tip
- Dissecting needles or probes
- Scalpel blades (matching the scalpel handle in the dissector kit)
- Examination Gloves

- Eye protection if needed (e.g. glasses or goggles)
- Protective clothing (e.g. lab coat)
- Anatomy Atlas (one per cadaver, Grant's)

***NOTE Please do not buy the dissector kits at this time due to pandemic circumstances. Communication will be given to students as to when they need to buy this.**

Make sure you keep up with the learning objectives throughout and ask questions if something is unclear.

Required Textbooks:

Essential Clinical Anatomy by Moore KL, Agur MR [987 1145 1187496]

Grant's Atlas of Anatomy [978 0781796125]

Recommended Textbook:

Netters Atlas of Human Anatomy [9781455704187]

Recommended: Undergraduate Diagnostic Imaging Fundamentals E-Book

The Undergraduate Diagnostic Imaging Fundamentals, by Dr. Brent Burbridge (MD, FRCPC) is an e-book resource to augment the presentation for imaging of common clinical conditions. Guiding principles related to minimizing radiation exposure, requesting appropriate imaging, and static images are enhanced and discussed. Additionally, users can access other imaging from the Dicom viewer (ODIN) to further advance their experience with viewing diagnostic imaging pathologies.

https://openpress.usask.ca/undergradimaging/

SECTION DELIVERY

The anatomy dissection course is partly instructor directed but mostly self, independent and experiential learning driven. As pandemic circumstances permit, laboratories may begin with a brief dissection demonstration by anatomy instructors as needed. Each lab will begin promptly with a brief dissection demonstration by anatomy instructors as needed. Students need to prepare for the lab in advance by prior reading of dissection objectives.

The class will be divided into several groups of 7-8 students per cadaver. At each lab session, half of a group will be dissecting while the other half may be assigned to ultrasound and surface anatomy sessions. All students are expected to attend the first 10-15 minutes of dissection demonstration. In addition the students who did not dissect will return to attend the last 20 minutes of the lab to learn what has been dissected through peer teaching.

If you must miss a laboratory session (dissection, ultrasound or surface anatomy), it is required that arrangements be made to make up the study during another time. Laboratory instructors are available for consultation during regularly scheduled office hours (8am-5pm).

STUDENT ASSESSMENT

See Student Assessment section on Physiology, Histology, Embryology and Anatomy page.

Surface Anatomy

LEAD

Dr. Tom Langer

Email Address: tlanger@saskel.net

Phone Number: (306) 966-4705

Office Hours: By appointment only

OBJECTIVES

During the sessions, students will be expected to:

1. Demonstrate knowledge of topographical anatomy of the entire human body.

SECTION DELIVERY

As pandemic circumstance permit, while half of each group is dissecting, the other half will be assigned to Surface Anatomy or Ultrasound sessions. All groups are expected to attend the first 10-15 minutes of dissection demonstration of each lab. The surface anatomy groups will also be expected to return to lab for the last 20 minutes to learn what has been dissected.

If you must miss a session, it is required that arrangements be made to make up the study during another time. Laboratory instructors are available for consultation during regularly scheduled office hours (8am-5pm).

Ultrasound Guided Medical Education: Anatomy

LEAD

Dr. Paul Olszynski

Email Address: paul.olszynski@usask.ca

Office Hours: By appointment only

DESCRIPTION

The growing worldwide use of clinician-performed ultrasound (CPU) heralds a dramatic change in medical education, bedside medicine, and patient care. With steadily improving portability, accessibility and technology, ultrasound continues to be a rapidly growing part of healthcare worldwide. Likewise, the application of CPU in medical education is also increasing, with medical schools throughout Europe and North America integrating ultrasound-based learning throughout their undergraduate curriculum. As a learning tool, ultrasound through real and dynamic imaging, allows students to assess and explore key anatomic and physiologic concepts.

OBJECTIVES

During the sessions, students will be expected to:

1. Demonstrate basic image generation skills.
2. Explain and describe human anatomical structure as seen in 2D ultrasound images.

SECTION DELIVERY

The ultrasound-guided anatomy section is instructor directed (instructors will be supervising and assisting with image generation at each session) but also requires a significant amount of self, independent and experiential learning. Students need to prepare for the lab in advance by watching short tutorial videos (~15 minutes/session) that will introduce learners to the image generation techniques required for the given session.

As pandemic circumstances permit, the class will be divided into several groups of 4-5 students volunteer patient/ultrasound machine. As pandemic circumstance permit, while half of the groups will be undertaking their ultrasound guided anatomy session, the other half will be assigned to other activities (independent study). After an hour, the groups will swap activities. All groups are expected to return to the dissection lab and attend the last 20 minutes to learn what has been dissected.

MODULE 2

Genetics Module

MODULE DIRECTOR

Dr. Patricia Blakley

Email Address: patricia.blakley@usask.ca

Phone Number: (306) 966-8556

Office Location: HSB 3A20

Office Hours: By appointment only

MODULE DESCRIPTION

Genetics is playing an increasingly significant role in the diagnosis and management of patients. As such, it is important that students acquire knowledge of the basic principles and concepts in medical genetics. Students will also gain knowledge of the potential effects of prenatal exposure to teratogens. Through a series of case presentations, the students will begin to develop a gestalt for common genetic syndromes. Through a combination of didactic sessions, clinical case presentations, patient interviews and assignments, it is hoped that the medical students, as future physicians, will be able to apply this knowledge in a clinical setting. This course consists of a total of 14 hours of class time.

MODULE OBJECTIVES

By the completion of this module, students will be expected to:

1. Apply the basic principles of genetics to the understanding, diagnosis and management of genetic diseases.
2. Analyze genetic pedigrees.
3. Recognize the various patterns of inheritance.
4. Apply the Principles of Teratogenesis so as to better understand the risks from teratogen exposure.
5. Develop an approach to the dysmorphic patient.
6. Recognize the genetic causation for common cancers.

Detailed learning objectives for each individual session can be found on One45.

MODULE SCHEDULE

All information relating to this course is available in **one45**. Please check one45 **DAILY** to ensure that you have the most current schedule information**.**

REQUIRED RESOURCES

Schaefer, GB and Thompson, JN (2014) Medical Genetics an Integrated Approach. McGraw Hill Education: New York. Details of the pre-readings from this text for the lectures will be provided on One45.

MODULE DELIVERY

Through a combination of didactic lectures, clinical case presentations and assignments, this exposure to medical genetics should provide the foundation for medical students as future physicians to integrate and apply this knowledge in a clinical setting.

STUDENT ASSESSMENT

Assignments	**35%**
Two (2) Take Home Genetics Assignment (worth 7.5% each)	15%
Teratology Paper	20%
Exams	**65%**
Genetics Section of Midterm	30%
Genetics Section of the Final Exam	35%

Assignment 1: Pedigree Assignment

Value: 7.5% of Final Grade

Date: August 21, 2020

Description: Take home assignment to complete two genetic pedigrees from completed family history forms.

Assignment 2: Patterns of Inheritance Assignment

Value: 7.5% of Final Grade

Date: September 4, 2020

Description: Take home assignment to identify various patterns of inheritance based on pedigree or case description.

Assignment 3: Teratology Paper

Value: 20% of Final Grade

Date: September 25, 2020

Description: Paper on a teratogen of student's choice. Assignment expectations and scoring rubric to be posted on BBLearn.

Midterm Exam

Value: 30% of the Genetics Final Grade

Date: October 6, 2020

Type: Comprehensive In-Class

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all content up to and including September 25.

Final Exam

Value: 35% of the Genetics Final Grade

Date: November 27, 2020

Type: Comprehensive In-Class

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all module content with an emphasis on material after September 26.

COURSE EVALUATIONS QUALITY IMPROVEMENTS

Based on suggestions made by the students more case presentations will be added to the module. This is especially important in the genetic testing and cancer genetics lectures where the students will gain a better understanding of when to test and what type of genetic testing is most appropriate given the clinical scenario. During the latter part of the course, emphasis will be placed on the integration of the information presented in the class as it relates to the diagnosis of specific common genetic syndromes and evaluation of familial risk for such conditions. There will be additional incorporation of case discussions earlier in the term to highlight key genetic principles. There will be greater emphasis on information that the students need to know to be successful in the module and as well as information that is important for future clinical experiences.

General Comments: (e.g. monitoring process, results, reflections)

Student comments and concerns will continue to be addressed and incorporated into the module.

MODULE 3

Nutrition Module

MODULE DIRECTOR

Dr. Louise Gagne

Email Address: lgagne@sasktel.net

Phone Number: (306) 477-5683

Office Hours: By appointment only

MODULE DESCRIPTION

The module covers a broad overview of basic nutrition relevant to medical practice. Topics include: nutrition and chronic disease, macronutrients (protein, carbohydrates and fats), minerals, vitamins, phytochemicals, fiber, whole foods, healthy meal planning, vegan and vegetarian diets, liquids, Mediterranean diet, nutrient-drug and nutrient-nutrient interactions, nutritional supplements, nutrition through the life cycle and nutritional resources.

MODULE OBJECTIVES

By completion of this module, students will be expected to:

1. Describe the key components of a healthy diet.
2. Describe the risks and benefits of some common nutritional supplements.
3. Identify potential food/drug/nutrient interactions.

Detailed learning objectives for each individual session can be found on One45.

MODULE SCHEDULE

All information relating to this course is available in **One45**. Please check One45 **DAILY** to ensure that you have the most current schedule information**.**

MODULE DELIVERY

The module will be taught through didactic lectures, case discussions and assigned reading material for self-study.

STUDENT ASSESSMENT

Assessments	**15%**
Written Assignment	15%
Exams	**85%**
Midterm	35%
Nutrition Section of the Final Exam	50%

Assessment: *Nutrition Assignment*

Value: 15% of the Nutrition Final Grade

Date: November 10, 2020

Description: This assignment will involve a critique and analysis of a specific diet(s).

Midterm Exam

Value: 35% of the Nutrition Final Grade

Date: October 16, 2020

Type: Comprehensive In-Class

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all content up to and including October 9.

Final Exam

Value: 50% of the Nutrition Final Grade

Date: November 30, 2020

Type: Comprehensive In-Class

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all module content with an emphasis on content after October 10.

COURSE EVALUATIONS QUALITY IMPROVEMENT

The following changes reflect course quality review recommendations and student feedback:

1. Changes have been made to facilitate remote learning due to the COVID 19 Pandemic.

MODULE 4

Pharmacology Module

MODULE DIRECTOR

Dr. Stan Bardal

Email Address: stan.bardal@usask.ca

Phone Number: (306) 966-6294

Office Location: GB33 Health Sciences Building

Office Hours: 9:00 am to 5:00 pm

MODULE DESCRIPTION

The module of pharmacology will briefly deal with the historical development of pharmacology and major drug discoveries. The module will provide knowledge about general principles of pharmacology including pharmacodynamics and pharmacokinetics, drug interactions, principles of therapeutics in specific age groups of patients, fundamental principles of toxicology, concepts of drugs modulating the autonomic nervous system and basic principles of chemotherapy.

MODULE OBJECTIVES

By the completion of this module, students will be expected to:

1. Describe the principal mechanisms by which drugs act in the body and differentiate between therapeutic effects and unwanted effects of drugs.
2. Describe the pharmacokinetic factors which affect the amount of drug and its duration of action in the body.
3. Apply the knowledge gained in this course to drugs taught under different systems.

Detailed learning objectives for each individual session can be found on One45.

MODULE SCHEDULE

All information relating to this course is available in **one45**. Please check one45 **DAILY** to ensure that you have the most current schedule information**.**

REQUIRED RESOURCES

Recommended textbooks:

Goodman & Gilman's Manual of Pharmacology and Therapeutics (2nd Edition). Eds. By Hilal-Dandan & Brunton.

Principles of Pharmacology: The pathophysiologic Basis of Drug Therapy. By David E Golan (3rd Edition).

Applied Pharmacology. By Stan Bardal, Jason Waechter, Doug Martin. ISBN [978-1-4377-0310-8]

MODULE DELIVERY

The module will be taught through didactic lectures and by case presentations.

STUDENT ASSESSMENT

Assessments	**15%**
Quiz	15%
Exams	**85%**
Midterm	35%
Pharmacology Section of the Final Exam	50%

Assessment: *Quiz*

Value: 15% of the Pharmacology Final Grade

Date: August 31, 2020

Description: Timed quiz to be done in Blackboard.

Midterm Exam

Value: 35% of the Pharmacology Final Grade

Date: October 2, 2020

Type: Comprehensive In-Class

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all content up to and including September 25.

Final Exam

Value: 50% of the Pharmacology Final Grade

Date: November 30, 2020

Type: Comprehensive In-Class

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all module content with a focus on material after September 26.

COURSE EVALUATIONS QUALITY IMPROVEMENT

The following changes reflect course quality review recommendations and student feedback:

1. Changes have been made to facilitate remote learning due to the COVID 19 Pandemic.

MODULE 5

Microbiology, Immunology and Pathology Module (MIP)

MODULE DIRECTOR

Dr. Camille Hamula

Email Address: camille.hamula@saskhealthauthority.ca

Phone Number: 306-655-1009

Office Hours: By appointment only

MODULE DESCRIPTION

To provide a deeper understanding of disease processes, this section of this module is comprised of the basic principles of microbiology, immunology and pathology.

MODULE OBJECTIVES

Detailed learning objectives for each individual session can be found on One45.

MODULE SCHEDULE

All information relating to this course is available in **One45**. Please check One45 **DAILY** to ensure that you have the most current schedule information**.**

REQUIRED RESOURCES

See each individual section on the following pages. (Microbiology, Immunology and Pathology)

MODULE DELIVERY

See each individual section on the following pages. (Microbiology, Immunology and Pathology)

STUDENT ASSESSMENT

Assessments	**30%**
Immunology Quizzes x 5	20%
Pathology In-Class Quizzes	5%
Pathology Take-Home Assignment	5%
Exams	**70%**
Midterm	30%
MIP Section Final Exam	40%

Assessments: Immunology quizzes (5), Pathology in-class quizzes and a take-home assignment.

Value: 30% of final grade (Immunology Quizzes 20%; two Pathology Quizzes – 5% and take home Pathology assignment – 5%).

Date: Quiz and assignment due dates are posted in one45

Description: Pathology quizzes will timed multiple-choice questions based on pre-reading and lecture material.

Pathology take-home assignment on Neoplasia consists of completing a worksheet.

For the Immunology quizzes, students will be asked to watch short videos related to the lecture material, either before or after the lecture. Then the students will answer a short quiz, based on the information provided in the video they watched. The quizzes consist of multiple choice, short answer and/or matching questions. Immunology quizzes are open-book and there are 5 in total worth 4% each.

Midterm Exam

Value: 30% of the MIP final grade

Date: October 9, 2020

Type: Comprehensive In-Class; all sections (Microbiology/Immunology/Pathology) will be covered.

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all content up to and including October 2.

Final Exam

Value: 40% of the MIP final grade

Date: November 27, 2020

Type: Comprehensive In-Class; all sections (Microbiology/Immunology/Pathology) will be covered.

Description: Question type may include: multiple choice, multiple choice multiple answer, fill in the blank, true-false, short answer, matching, and extended written questions based on all module content with a focus on content after October 2.

COURSE EVALUATIONS QUALITY IMPROVEMENT

The following changes reflect course quality review recommendations and student feedback:

1. Changes have been made to facilitate remote learning due to the COVID 19 Pandemic.

Microbiology Section

SECTION LEAD

Dr. Kathy Malejczyk

Email Address: kathy.malejczyk@saskhealthauthority.ca

Phone Number: (306) 766-4805

Office Hours: By appointment only

SECTION DESCRIPTION

Microbiology is the study of micro-organisms (bacteria, viruses, fungi and parasites). Infectious diseases are diseases caused by living organisms, mostly microscopic but occasionally large enough to be visible to the naked eye (e.g. some parasites) that infect or infest the human body. Infectious diseases play a unique role in human health and disease:

- They may be transmitted from person to person.
- They may be acquired from the environment, food / water or animals.
- There is a complex interaction between host, microbe and environment that determines whether or not infection and disease occurs.
- Infectious diseases often affect the community as well as individual patients.

In contrast to many other conditions you will study in systems, you will find there is an extra layer of complexity in the study of infectious diseases in that one pathogen may cause a variety of different diseases depending on the host, the site of infection etc. and a single disease entity may be caused by a variety of different pathogens, which in turn may result in different treatment requirements.

Within the MIP module, 15 hours are dedicated to a general, introductory foundation for microbiology and infectious diseases. Students are strongly urged to obtain and use the recommended text throughout their systems to supplement the sessions in MIP and assist them in developing a more robust understanding of infectious diseases.

SECTION OBJECTIVES

By the completion of this module, students will be expected to:

1. Recognize local and systemic clinical features of infection, in general.
2. Recognize variation in micro-organisms in general terms, including differences between normal flora ecosystems, propensity to cause human disease and factors influencing virulence.
3. Describe methods of transmission of infectious disease being able to give common examples for each.
4. Describe methods of infection control including personal protection strategies and aseptic technique.
5. Describe the different classes and the spectrum of activity of commonly used antibiotics.
6. Begin to recognize the role/value of antibiotic stewardship in minimizing development of antibiotic resistant organisms

SECTION SCHEDULE

All information relating to this section is available in **one45**. Please check one45 **DAILY** to ensure that you have the most current schedule information**.**

REQUIRED RESOURCES

Review of Medical Microbiology and Immunology (Lange ...Medical Books) Paperback. by Warren Levinson (Author). [978-0071818117]

Clinical Microbiology Made Ridiculously Simple: Mark Gladwin MD, William Trattler MD, C. Scott Mahan MD: [9781935660156]

The Spectrum app is free and can be downloaded both through the App Store and Google Play. There is also a web-version that can easily be accessed at https://spectrum.app/saskatoon/

SECTION DELIVERY

This material is delivered as whole class sessions. Pre-reading as well as post-lecture reading will be required (and is essential) for all sessions. Sessions will be delivered from either Saskatoon or Regina and video conferenced to the other location. Whenever permitted by the instructor, sessions will be recorded for reference and review.

STUDENT ASSESSMENT

See Student Assessment section on the Microbiology, Immunology and Pathology page.

COURSE EVALUATIONS QUALITY IMPROVEMENT

The following changes reflect course quality review recommendations and student feedback:

1. Changes have been made to facilitate remote learning due to the COVID 19 Pandemic.

Immunology Section

SECTION LEAD

Dr. Germaine Arendse

Email Address: gva775@mail.usask.ca

Phone Number: c/o Cheryl Pfeifer at (306) 966-6138

Office Hours: By appointment only

SECTION DESCRIPTION

The overall objective is to develop a minimal framework for how the immune system functions, so students will have the basis, using the information technology available, to integrate the information provided and interpret case studies that are related to the immune system.

SECTION OBJECTIVES

By the completion of this module, students will be expected to

1. Describe the components and functions of the innate immune system and how it is integrated with the adaptive immune system.
2. Describe the five characteristics of the immune system: universality, specificity, self-nonself discrimination, positive memory and immune class regulation.
3. Discuss the role of the immune system in allergy, autoimmunity, transplantation and cancer.
4. Describe how the immune system can be harnessed for vaccination and allergy/cancer immunotherapy.
5. Describe how antibodies are produced, as well as their structure and function.
6. Provide examples of genetic diseases affecting the immune system.

SECTION SCHEDULE

All information relating to this section is available in **one45**. Please check one45 **DAILY** to ensure that you have the most current schedule information**.**

RECOMMENDED RESOURCES

Review of Medical Microbiology and Immunology (Lange Medical Books) Paperback. by Warren Levinson (Author). 978-0071818117

Immunology Made Ridiculously Simple: Massoud Mahmoudi: 978-0-940780-89-7

CANImmunize app available for free download through the App Store or Google Play Store.

SECTION DELIVERY

This module will be team taught and will utilize a variety of teaching strategies to include lecture, small group work and virtual microscopy. Student pre-reading is required in this module. Students are strongly encouraged to come to class prepared to participate in the learning activities.

STUDENT ASSESSMENT

See Student Assessment section on the Microbiology, Immunology and Pathology page.

COURSE EVALUATIONS QUALITY IMPROVEMENT

The following changes reflect course quality review recommendations and student feedback:

1. Changes have been made to facilitate remote learning due to the COVID 19 Pandemic.

Pathology Section

SECTION LEAD

Dr. Jay Kalra

Email Address: jay.kalra@usask.ca

Phone Number: (306) 655-2152 (Admin Assistant: Debbie Chamberlain – (306) 655-0238)

Office Location: 3756A RUH

Office Hours: By appointment only

SECTION DESCRIPTION

This section involves the study of the pathogenetic mechanisms and pathology involved in clinical disease processes as applied to patient management. As such, it will provide an overview of the general pathological conditions and principles common to underlying systemic afflictions of the body as applicable to the real life practices of medicine. The role of the laboratory in the day-to-day clinical management of patients in relation to systemic and oral pathologies will be explored. Students will be engaged actively in a variety of instructional experiences that will help interweave the threads of understanding which link the pathology of diseases through multiple disciplines.

SECTION OBJECTIVES

By completion of this module, the students will be expected to:

1. Describe the basic principles of Pathology and laboratory medicine, including principles and effects of various physiological and analytic causes of variability in lab tests, quality care and patient safety, with special focus on medical error and disclosure policies.
2. Define autopsy, necropsy and the role of coroner.
3. Discuss the vascular, cellular events, mediators of acute and chronic inflammation, wound healing, repair, regeneration, hemorrhage, thrombosis and atherosclerosis with clinical correlates.
4. Describe types of amyloidosis with clinico-pathological correlates.
5. Discuss the basis of clinical presentation of tumors, the basic science of neoplasms including the genetic chemical basis of neoplasm
6. Differentiate between benign and malignant tumors.
7. Identify the cancer management modalities and their intent when used.

REQUIRED RESOURCES

Robbins Basic Pathology, 9e (Robbins Pathology) [Hardcover] Vinay Kumar MBBS MD FRCPath (Author), Abul K. Abbas MBBS (Author), Jon C. Aster MD PhD (Author) [ISBN 978-1-4377-1781-5] Edition: 9

Recommended: Undergraduate Diagnostic Imaging Fundamentals E-Book

The Undergraduate Diagnostic Imaging Fundamentals, by Dr. Brent Burbridge (MD, FRCPC) is an e-book resource to augment the presentation for imaging of common clinical conditions. Guiding principles related to minimizing radiation exposure, requesting appropriate imaging, and static images are enhanced and discussed. Additionally, users can access other imaging from the Dicom viewer (ODIN) to further advance their experience with viewing diagnostic imaging pathologies.

https://openpress.usask.ca/undergradimaging/

SECTION DELIVERY

See section delivery on the Microbiology, Immunology and Pathology page.

STUDENT ASSESSMENT

See Student Assessment section on the Microbiology, Immunology and Pathology page.

COURSE EVALUATIONS QUALITY IMPROVEMENT

The following changes reflect course quality review recommendations and student feedback:

1. Changes have been made to facilitate remote learning due to the COVID 19 Pandemic.

IMPORTANT AND RELEVANT STUDENT INFORMATION

The following information is extremely important for your success in medical school. Please refer to the UGME Policies page and the Student Information Guide for the following policies:

UGME CONTACT INFORMATION

EMAIL COMMUNICATIONS

ETHICS AND PROFESSIONALISM

PROGRAM EVALUATION

GUIDELINES FOR PROVIDING FEEDBACK

EMERGENCY PROCEDURES

MD PROGRAM ATTENDANCE POLICY

ASSESSMENT POLICY

PROMOTION STANDARDS

CONFLICT OF INTEREST

NON-INVOLVEMENT OF HEALTH CARE PROVIDERS IN STUDENT ASSESSMENT

APPEALS PROCEDURES

STUDENT DISCRIMINATION, HARASSMENT, AND MISTREATMENT PROCEDURE

ACCOMMODATION OF STUDENTS WITH DISABILITIES

OFFICE OF STUDENT AFFAIRS

Where a specific College of Medicine policy or procedure does not exist, the College refers to the U of S Academic Courses Policy at http://policies.usask.ca/policies/academic-affairs/academic-courses.php

UNDERGRADUATE MEDICAL EDUCATION ASSIGNMENT SUBMISSION POLICY

Any assignment submitted after 23:59 SK time on the specified date is deemed late (unless otherwise specified).

All due dates or timelines for assignment submission are published in the student course syllabus[1].

A late assignment may still be submitted up to three consecutive calendar days (72 hours) from the original deadline for that assessment. The assignment must be submitted to the appropriate year Administrative Coordinator in Saskatoon, or the Educational Consultant in Regina for years 1-2. Years 3-4 must submit to the Rotation Coordinator. The student, if submitting a late assignment that is deemed to be at or above the pass mark for that assignment will receive the pass mark for the assignment. If it is assessed as below the pass mark, the student will receive the actual grade assigned for the assignment.

Any late assignments not submitted by 23:59 on the third day will receive a mark of 0%. After this period, all mandatory assignments must still be submitted, or the student will be deemed to be missing a course

[1] Blackboard routinely updates their systems on certain Wednesday evenings. In the event that Blackboard is down for scheduled maintenance or due to technical difficulties, assignments are to be submitted by 0900 the following morning.

component, which will result in an incomplete course. Subsequent academic consequences will be determined at the promotions committee meetings.

In addition to the consequences specified herein, students submitting mandatory assignments late should anticipate a meeting to discuss professionalism, which may result in associated documentation.

All requests for a deferral of an assignment due date must be received a minimum of 72 hours prior to the deadline. All such requests must be sent to the Course Director or Rotation Coordinator and copied to the relevant Administrative Coordinator. The course director, in consultation with the year chair and appropriate course/module/rotation director will make a final decision and notify the student of the outcome. Exceptional, unforeseen circumstances will be considered on an individual basis as above.

CITATION FORMAT

Unless otherwise specified by the course or module director, the expected citation format is that of the International Committee of Medical Journal Editors (ICMJE). Examples of this citation format are available at www.nlm.nih.gov/bsd/uniform_requirements.html

RECORDING OF THE LECTURES

Most lectures will be recorded and posted to the course Blackboard site under Course Materials. However, each lecturer reserves the right to choose whether or not their lectures will be recorded. Lecture recordings are not intended to be a replacement for attending the session but rather to enhance understanding of the concepts.

Please remember that course recordings belong to your instructor, the University, and/or others (like a guest lecturer) depending on the circumstance of each session, and are protected by copyright. Do not download, copy, or share recordings without the explicit permission of the instructor.

For questions about recording and use of sessions in which you have participated, including any concerns related to your privacy, please contact the UME administrative coordinator for this course. More information on class recordings can be found in the Academic Courses Policy https://policies.usask.ca/policies/academic-affairs/academic-courses.php#5ClassRecordings.

REQUIRED VIDEO USE:

At times in this course you may be required to have your video on during video conferencing sessions, in order to support observation of skills, to support group learning activities, or for exam invigilation. It will be necessary for you to use of a webcam built into or connected to your computer.

For questions about use of video in your sessions, including those related to your privacy, contact your instructor.

COPYRIGHT

Course materials are provided to you based on your registration in a class, and anything created by your professors and instructors is their intellectual property, unless materials are designated as open education resources. This includes exams, PowerPoint/PDF slides and other course notes. Additionally, other copyright-

protected materials created by textbook publishers and authors may be provided to you based on license terms and educational exceptions in the Canadian Copyright Act

(see http://laws-lois.justice.gc.ca/eng/acts/C-42/index.html)

Before you copy or distribute others' copyright-protected materials, please ensure that your use of the materials is covered under the University's Fair Dealing Copyright Guidelines available at https://library.usask.ca/copyright/general-information/fair-dealing-guidelines.php. For example, posting others' copyright-protected materials on the open web is not covered under the University's Fair Dealing Copyright Guidelines, and doing so requires permission from the copyright holder.

For more information about copyright, please visit https://library.usask.ca/copyright/index.php where there is information for students available at https://library.usask.ca/copyright/students/rights.php, or contact the University's Copyright Coordinator at mailto:copyright.coordinator@usask.ca or (306) 966-8817.

INTEGRITY DEFINED (FROM THE OFFICE OF THE UNIVERSITY SECRETARY)

The University of Saskatchewan 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. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals section of the University Secretary Website and avoid any behavior that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students should read and be familiar with the Regulations on Academic Student Misconduct (www.usask.ca/secretariat/student-conduct-appeals/StudentAcademicMisconduct.pdf) as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals (www.usask.ca/secretariat/student-conduct-appeals/StudentNon-AcademicMisconduct.pdf)

For more information on what academic integrity means for students see the Student Conduct & Appeals section of the University Secretary Website at:

www.usask.ca/secretariat/student-conduct-appeals/forms/IntegrityDefined.pdf

INTEGRITY IN A REMOTE LEARNING CONTEXT

Although the face of teaching and learning has changed due to covid-19, the rules and principles governing academic integrity remain the same. If you ever have questions about what may or may not be permitted, ask your instructor. Students have found it especially important to clarify rules related to exams administered remotely and to follow these carefully and completely.

The University of Saskatchewan 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. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals section of the University Secretary Website and avoid any behavior that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or

participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students should read and be familiar with the Regulations on Academic Student Misconduct (https://secretariat.usask.ca/student-conduct-appeals/academic-misconduct.php) as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals (https://secretariat.usask.ca/student-conduct-appeals/academic-misconduct.php#IXXIIAPPEALS). Students should also be familiar with the Procedures for Concerns with Medical Student Professional Behaviour which speak to the professional standards of the College of Medicine UME program and the interface with academic activities.

For more information on what academic integrity means for students see the Academic Integrity section of the University Library Website at: https://library.usask.ca/academic-integrity#AboutAcademicIntegrity

You are encouraged to complete the Academic Integrity Tutorial to understand the fundamental values of academic integrity and how to be a responsible scholar and member of the USask community - https://library.usask.ca/academic-integrity.php#AcademicIntegrityTutorial[RA1]

EXAMINATIONS WITH ACCESS AND EQUITY SERVICES (AES)

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Access and Equity Services (AES) if they have not already done so. Students who suspect they may have disabilities should contact the Student Affairs Coordinator at the Office of Student Affairs (OSA) for advice and referrals. In order to access AES programs and supports, students must follow AES policy and procedures. For more information, check www.students.usask.ca/aes, or contact AES at (306) 966-7273 or aes@usask.ca.

Students registered with AES may request alternative arrangements for mid-term and final examinations.

Students must arrange such accommodations through the Office of Student Affairs (OSA) by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by AES.

STUDENT SUPPORTS

COLLEGE OF MEDICINE, OFFICE OF STUDENT AFFAIRS

Student Affairs offers confidential support and advocacy at arm's length from the academic offices.

For more information please contact:

COM Student Affairs Coordinator (Saskatoon), Edith Conacher at edith.conacher@usask.ca or (306) 966-4751

COM and the School of Rehabilitation Science Coordinator (Saskatoon), Bev Digout at bev.digout@usask.ca or (306) 966-8224

Administrative Assistant, Chelsea Malkowich (Saskatoon) at chelsea.malkowich@usask.ca or (306) 966-7331

STUDENT LEARNING SERVICES

Student Learning Services (SLS) offers assistance to U of S undergrad and graduate students. For information on specific services, please see the SLS web site http://library.usask.ca/studentlearning/.

STUDENT AND ENROLMENT SERVICES DIVISION

The Student and Enrolment Services Division (SESD) focuses on providing developmental and support services and programs to students and the university community. For more information, see the students' web site http://students.usask.ca.

FINANCIAL SUPPORT

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact Student Central

(https://students.usask.ca/student-central.php).

ABORIGINAL STUDENTS' CENTRE

The Aboriginal Students' Centre (ASC) is dedicated to supporting Aboriginal student academic and personal success. The centre offers personal, social, cultural and some academic supports to Métis, First Nations, and Inuit students. The centre is also dedicated to intercultural education, bringing Aboriginal and non-Aboriginal students together to learn from, with and about one another in a respectful, inclusive and safe environment. Students are encouraged to visit the ASC's Facebook page

(https://www.facebook.com/aboriginalstudentscentre/) to learn more.