



# Foundations in Clinical Medicine II

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MEDC 216.18

YEAR 2 TERM 3

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 **COURSE SYLLABUS**  
2019/2020



UNIVERSITY OF SASKATCHEWAN

College of Medicine

MEDICINE.USASK.CA

## Foundations in Clinical Medicine II – Course Overview

### COURSE DESCRIPTION

The Foundations in Clinical Medicine Courses run over Terms 2, 3, and 4 and incorporate the eleven human body systems modules. The three modules explored in the Foundations of Clinical Medicine II (Term 3) Course include: Kidney & Urinary Tract, Musculoskeletal Medicine and Neurosciences. Major vertical themes will be emphasized. Students will be prepared to enter their clerkship where they will expand and deepen their knowledge and skills in these areas.

### COURSE PREREQUISITES

A student must have successfully completed Foundations of Clinical Medicine I (MEDC 126.18) or be conditionally promoted and engaged in a program of remediation for the MEDC 126.18 course as approved by the Student Academic Management Committee prior to the start of the Foundations of Clinical Medicine II course.

### OVERALL COURSE OBJECTIVES

Building on their knowledge from MEDC 115.18 of normal anatomy, histology and physiology, and their knowledge from MEDC 126.18, students will learn to care for patients with common and/or urgent medical conditions by acquiring and applying knowledge and clinical reasoning skills to:

1. Explain the pathogenesis and pathophysiology of the subject conditions, with reference to the divergence from normal anatomy, histology and/or physiology.
2. Generate reasonable differential diagnoses and management plans.
3. Select and interpret appropriate investigations.
4. Describe evidence-informed principles of surveillance and screening for the normal/healthy population and for at risk populations.

In addition, each discipline-specific module in the course will also have its own specific module objectives and individual session objectives of learning. Detailed individual lecture and session objectives will be posted in one45. Please take care to review in advance.

The University of Saskatchewan Learning Charter is intended to define aspirations about the learning experience that the University aims to provide, and the roles to be played in realizing these aspirations by students, instructors and the institution. A copy of the Learning Charter can be found at: [www.usask.ca/university\\_secretary/LearningCharter.pdf](http://www.usask.ca/university_secretary/LearningCharter.pdf)

### COURSE CONTACTS

Course Chairs: Dr. Jennifer Chlan – [jen.chlan@usask.ca](mailto:jen.chlan@usask.ca) - (306) 966-6557

Dr. Jackie Perrot – [jackie.perrot@usask.ca](mailto:jackie.perrot@usask.ca) - (306) 966-6138

Dr. Kelsey Brose (Co-Chair Assessment) – [kelsey.brose@saskcancer.ca](mailto:kelsey.brose@saskcancer.ca) - (306) 655-1483

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

## COURSE SCHEDULE

The Foundations in Clinical Medicine II Course is organized in 3 modules running sequentially on specific assigned days. 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 the most current schedule information.

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.aspx>

## COURSE DELIVERY

Students will learn through a variety of methods, including:

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

## COURSE MATERIAL ACCESS

Course materials are available on one45. The syllabus, forms, and other useful documents will be posted there. In some modules, BBLearn (Blackboard) will be used for submission of assignments.

## RESOURCES

It is strongly recommended that students use the following resources (or similar general texts) as references for the Foundations course. Relying on class notes alone will not typically be sufficient to meet learning objectives. Individual Modules will have additional specific recommended or required resources.

The texts listed below are all available as free e-books through the Health Sciences library <http://libguides.usask.ca/c.php?g=16462&p=91000>. If assistance is needed finding these texts, contact the Health Sciences librarian.

1. A general medicine text such as Harrison's Principles of Internal Medicine by Kasper et al (ISBN: 1 978-0-07-1802161 for e-book). Edition: 19.
2. A general surgical text such as Sabiston Textbook of Surgery by Townsend C (ISBN 978-1-4377-1560-6). Edition: 19 or Current Diagnosis and Treatment – Surgery by Doherty G (ISBN 978-0-07-179211-0). Edition: 14.
3. A general pediatrics text such as Nelson Essentials of Pediatrics by Marcante, Karen J (ISBN: 978-1-4557-5980-4). Edition: 7 or Rudolph's Pediatrics by Rudolph C. et al. (ISBN: 9780071790376). Edition: 22.

In addition, the student should be regularly referring to their Principles Course texts to assist with basic sciences content in the Foundations Course:

## **Physiology**

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

## **Histology**

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 (2006) by M.H. Ross and W. Paulina [ISBN 978-0-7817-7200-6]

## **Embryology**

Larsen's Human Embryology by Shoenwolf, Brauer [978-0443-06811-9]

## **Anatomy - One of:**

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

Grant's Atlas of Anatomy [978 0781796125]

Netters Atlas of Human Anatomy [9781455704187]

## **Pharmacology**

One of: Goodman & Gilman's Manual of Pharmacology and Therapeutics (2<sup>nd</sup> Edition). Eds. By Hilal-Dandan & Brunton. **Or** Principles of Pharmacology: The pathophysiologic Basis of Drug Therapy. By David E Golan (3<sup>rd</sup> Edition)

## **Microbiology**

Microbiology and Infectious Diseases – Infectious Diseases: A Clinical Short Course Frederick Southwick Lange [13: 978-0071789257] Edition: 3

## **Immunology**

Immunology - Understanding the Immune System: A Framework for First Year Medical Students (located on MEDiC) (Required)

## **Pathology**

Pathology - Robbins & Cotran Pathologic Basis of Disease, 9e (Robbins Pathology) [Hardcover] Vinay Kumar MBBS MD FRCPath (Author), Abul K. Abbas MBBS (Author), Jon C. Aster MD PhD (Author) Publication Date: July 9, 2014 [ISBN 978-1455726134] Edition: 9

## **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/>

### COURSE ASSESSMENT OVERVIEW

Course Component	Module Components	Module Weight	Component Requirement	Weighting in Final Foundations II Mark
Kidney and Urinary Tract Module	Histology Assignment	5%	70% on Module	33.33%
	Critical Appraisal Article Analysis	7.5%		
	Dialysis Reflection	7.5%		
	Physiology Concept Map	7.5%		
	TBL – Basic Sciences/Tool Box	12.5%		
	TBL - Electrolyte/Acid Base	12.5%		
	TBL – Urology & Nephrology	12.5%		
	End of Module Exam	35%		
MSK Module (Rheum/Ortho)	Applied Epidemiology Exercise	4%	70% on Module	33.33%
	Case Self-Directed Learning			
	Polyarthritis Cases	1%		
	Connective Tissue Cases	1%		
	Midterm I	22%		
	Midterm II	22%		
	End of Module Exam	50%		
Neurosciences Module	Adult Neurology Assignment	10%	70% on Module	33.34%
	Midterm I	20%		
	Midterm II	20%		
	End of Module Exam	50%		
Course Total Mark				100.00%
Final Foundations II Exam*			60% on Exam	

\* The Foundations II Final Examination will include both multiple choice questions and clinical decision-making problems.

## COURSE POLICY FOR SUCCESSFUL COMPLETION & REMEDIATION

For successful course completion for the purposes of promotion, students must achieve a minimum grade of 70% in each of the three modules within the Foundations II course (Kidney and Urinary Tract, MSK, and Neurology Modules). Students must also achieve a minimum grade of 60% in the Foundations Final Examination for Foundations II. Students not promoted as a result of being unsuccessful on the course will receive a grade of “F” on their transcripts.

A student’s grade for each module will be determined at the end of each module and is based on the weighted cumulative average of all graded assessments within each individual module.

The requirements for successful completion of the Foundations II Course are listed below. Please note that students must meet the overall Term 3 promotion standards in order to be promoted to Term 4 (see Student Information Guide).

- A) Students will be considered to have successfully completed the Foundations II Course if they have achieved a minimum 70% average grade in each of the three modules and a minimum 60% grade on the end-of-term Foundations II Final Examination.
- B) Students are required to complete all assignments, quizzes, tests and examinations in each of the Foundations modules, as well as the Foundations II Final Examination. A mark of 0% will be given for any missed quiz, test or examination, unless otherwise arranged as per the College of Medicine Attendance Policy and Deferral Policy. Assignments are adjudicated as per the Assignment Submission Policy.
- C) Students who do not achieve the required 70% average grade in any of the three modules or a 60% grade in the Foundations II Final Examination will be allocated grade deficit points, which are weighted based on the percentage grade below the pass standard for either the modules or Foundations II Final Exam (see Table 1 for grade deficit point allocation rubric). Students accumulating 2 or more deficit points at any point during the course will be deemed to be experiencing academic difficulty. The severity of academic difficulty will be based on the weighted grade deficit assessment. Students in academic difficulty will be required to meet with a course sub-committee of at least 2 people (made up of Course Chairs(s); relevant Module Director(s); Year Chair (or designates)) to discuss ways to improve academic performance. The goal of such a meeting is not meant to be punitive, but will be student-centered, and focused on the success and well-being of the student. With any further accrual of deficit points, the student will be required to again meet with the course sub-committee.
- D) Students who have failed a module or the Foundations II Final Exam may be offered remediation. The determination of eligibility for any remediation will be based on the number of accumulated weighted grade deficit points (see Table 1 for grade deficit point allocation rubric), or the number of failed modules. Students who have accrued **four (4)** or more grade deficit points in Foundations II or accrued deficit points in **three (3)** modules in Foundations II will be considered to have been unsuccessful in the Foundations II Course and will NOT be offered further remediation or supplemental assignments and/ or examinations as per usual course policy. Further decisions regarding academic outcomes will be adjudicated by the Year 2 (Term 3) Promotions Committee and the Student Academic Management Committee.

E) The Module Director retains the right to determine the specific type of remediation needed for each individual student. This remediation may be in the form of additional assignments, assigned readings, meetings with the module director and/ or supplemental examinations as determined by the module director and/ or course chair(s). The remediation timeline will begin once the student has been notified of failure in a module or the Foundations Final. A remediation plan will be arranged between the module director and student, which will be carried out from the beginning of the remediation timeline until the date of the supplemental exam.

F) Supplemental examinations will **only** be scheduled after the final exam period in December. Students required to remediate modules will be informed of the specific supplemental examination dates. Students should anticipate that supplemental exams for all but the final module of the term will be held within 7 days of the last final exam and that supplemental exams for the final module of the term and the Foundations II Final Exam will be held mid-January. Where students have supplementals in more than one module or course then adjustments may be made to the supplemental exam schedule by the Year Chair in coordination with Course Chair/Module Director(s).

Supplemental examinations will **ONLY** be provided on dates other than those specified for each module and for the Foundations Final Exam in exceptional circumstances (such as personal illness, bereavement, etc.), and will be adjudicated by the Course Sub-Committee in consultation with Assistant Dean Academic. Exceptions will not be made for personal travel, and students will be required to adjust personal travel arrangements. Decisions regarding academic outcomes will be adjudicated by the Year 2 (Term 3) Promotions Committee and the Student Academic Management Committee.

G) A maximum of **one (1)** supplemental examination per module will be allowed, up to the point of course failure (see D). As well, students will only be allowed to write **one (1)** supplemental examination for the Foundations II Final Exam, up to the point of course failure (see D). Students who have been unsuccessful in any supplemental examination will be deemed unsuccessful in the Foundations II course. Further decisions regarding academic outcomes will be adjudicated by the Year 2 (Term 3) Promotions Committee and the Student Academic Management Committee.

H) If a student fails an assignment identified as a mandatory pass in a module, supplemental assignments may be written as arranged between the student, module director and/ or course chair(s). Supplemental assignments must be completed by the date set by the Module Director with the latest possible due date being two weeks after the end of the module; however, alternative earlier due dates may be arranged between student and module director.

I) If a failure of a supplemental examination occurs during or after the final examination period, this decision as to whether any additional remediation/supplemental assessment will be allowed will be adjudicated by the Promotions Committee and the Student Academic Management Committee.

J) Success in any supplemental assessment will be accorded a maximum grade equivalent to the minimum requirement for that component of the course (70% for a Module and 60% for the Foundations II Final Exam).

K) Grade deficit points will not appear on the student's transcript, nor are they transferred to any other course in the UGME Program.

Students who are eligible for supplemental examination will be contacted by the 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 or grade achieved in Supplemental Examinations.		
	Average <70% and $\geq$ 60%	Average <60% and $\geq$ 50%	Average <50%
Kidney and Urinary Tract Module	I	II	III
Musculoskeletal Module	I	II	III
Neurology Module	I	II	III
Foundations II Final Exam	N/A	I	II

I: one grade deficit point; II: two grade deficit points; III: three grade deficit points; N/A: not applicable



## Foundations in Clinical Medicine II – Module Syllabus

This section of the course syllabus will describe the specific objectives, requirements and expectations, and assessment procedures for each module within the Foundations in Clinical Medicine II Course.

### ➤ MODULE 1

#### Kidney and Urinary Tract

##### MODULE DIRECTORS

**Nephrology: Dr. Rahul Mainra**

Email Address: rahul.mainra@usask.ca

Phone Number: 306-655-5934

Office Location: St. Paul's Hospital

Office Hours: 08:00-16:00 Hours

**Urology: Dr. Trustin Domes**

Email Address: trustin.domes@usask.ca

Phone Number: 306-966-5678

Office Location: Undergrad Surgical Education B413 HSB

Office Hours: 08:00-16:00 Hours

##### MODULE DESCRIPTION

Through an integrative approach, students will describe the normal structure and function of the kidney and urinary tract and contrast this with the pathogenesis and pathophysiological derangements responsible for renal and urinary tract clinical conditions. Using clinical reasoning skills, students will apply their knowledge to select and interpret appropriate investigations, generate reasonable differential diagnoses and develop management plans to treat renal and urinary tract conditions commonly seen in generalist practice.

##### MODULE OBJECTIVES

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

1. Describe the embryological development, normal anatomical structure and physiological function of the kidney and urinary tract organs.
2. Differentiate the normal renal and urinary tract structure and function with the pathogenesis and pathophysiologic mechanisms that lead to the following core presenting patient issues:
  - Elevated Serum Creatinine and/or Urea
  - Electrolyte and Acid/Base Abnormalities
  - Hypertension
  - Hematuria and/or Proteinuria
  - Lower Urinary Tract Symptoms and Obstruction
  - Upper Urinary Tract Symptoms and Obstruction
  - Urinary Tract Infection
  - Urinary Tract Trauma
  - Urothelial, Renal, or Prostate Cancer
  - Voiding Abnormalities (enuresis and incontinence)
  - Acute Kidney Injury and Chronic Kidney Disease
  - Cystic Kidney Disease
  - End-Stage Renal Disease and Options for Renal Replacement Therapy

3. Elicit and synthesize the history, physical examination, laboratory and imaging data to develop a differential diagnosis of the core presenting patient issues (as above).
4. List, interpret and calculate (when applicable) appropriate resource-conscious laboratory and imaging findings which are key in the process of differential diagnosis of common and urgent renal and urinary tract conditions.
5. Formulate a patient-centered management plan for common and urgent renal and urinary tract conditions, including non-pharmacological, pharmacological and surgical treatment options.
6. Critically evaluate the evidence of various medical approaches to the patient with common renal and urinary tract conditions.
7. Discuss preventative health strategies as they apply to conditions of the kidney and urinary tract.
8. Elicit and synthesize the history, physical examination, laboratory and imaging data to develop a differential diagnosis of the following pediatric conditions:
  - Hypertension
  - Hematuria and/or Proteinuria
  - Acute Kidney Injury and Chronic Kidney Disease
  - Enuresis and Incontinence
  - Hydronephrosis
  - Urinary Tract Infection
  - Foreskin Abnormalities
  - Cryptorchidism

**Note:** Students should also refer to overall Foundations II Course objectives within this syllabus. Additionally, for each module, detailed individual lecture and session objectives will be posted in one45. Please take care to review in advance. Lecture recordings for Flipped Classes will be available on Blackboard.

## MODULE SCHEDULE

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

## RECOMMENDED RESOURCES

Campbell-Walsh Urology

Brenner & Rector's: The Kidney / [edited by] Barry M. Brenner

Primer on Kidney Diseases / editor, Arthur Greenberg; assoc. editors, Alfred K. Cheung ... [et al]

Clinical Physiology of Acid-Base and Electrolyte Disorders / Burton David Rose, Theodore W. Post

Acid-Base and Electrolyte Disorders: a companion to Brenner & Rector's The Kidney / Thomas D. DuBose

Oxford Handbook of Urology / John Reynard, Simon Brewster, Suzanne Biers

Problem Based Urology [electronic resource] / [edited by] Paolo Gontero, Roger Kirby, Culley Carson III

Lecture Notes: Urology 6<sup>th</sup> Edition / John Blandy, Amir Kaisary

Fluid, Electrolyte, and Acid-Base Physiology: A Problem-Based Approach / Mitchell L. Halperin, Kamel

### Additional On-Line Resources:

- Acland's Video Atlas of Human Anatomy <http://aclandanatomy.com/>
- American Urological Association Guidelines <http://www.auanet.org/education/aua-guidelines.cfm>
- AnatomyOne <http://www.anatomyone.com/anatomyone-a-new-generation-of-anatomy-thought-leaders/>
- Bates Visual Guide to Physical Examination <http://batesvisualguide.com/>
- Canadian Urological Association Guidelines [http://www.cua.org/guidelines\\_e.asp](http://www.cua.org/guidelines_e.asp)
- Edinburgh Renal Unit Website <http://www.edren.org/pages/edreninfo.php>
- Electrolyte and Acid-Base Workshop <http://www.learnphysiology.org/sim2/>
- National Kidney and Urologic Disease Information Clearinghouse <http://kidney.niddk.nih.gov>
- Nephrology on Demand [https://blog.ecu.edu/sites/nephrologyondemand/?page\\_id=6949](https://blog.ecu.edu/sites/nephrologyondemand/?page_id=6949)
- Precious Bodily Fluids <http://pbfluids.com>
- Renal Physiology in Real Time <http://www.biologymad.com/resources/kidney.swf>
- Surgery 101 Podcasts (Urology Sections) <http://surgery101.libsyn.com/?search=urology>
- UKidney, Internet School of Nephrology <https://ukidney.com>

### MODULE DELIVERY

Students will learn through a variety of methods, including:

- Large group didactic, interactive and case-based problem solving sessions
- Interactive small group learning sessions, including dialysis unit visit and patient encounter
- Independent self-directed reading and exercises
- Team-based learning

### STUDENT ASSESSMENT

<b>Assignments</b>	<b>27.5%</b>	
Histology	5%	
Physiology Concept Map	7.5%	
Critical Appraisal Article Analysis	7.5%	
Dialysis Visit Personal Reflection	7.5%	
<b>In-Class Assessments</b>	<b>37.5%</b>	
Team-Based Learning - Basic Sciences & Tool Box	12.5%	(10% individual and 2.5% team)
Team-Based Learning - Electrolyte/Acid Bases	12.5%	(10% individual and 2.5% team)
Team-Based Learning – Urology & Nephrology	12.5%	(10% individual and 2.5% team)
<b>Exams</b>	<b>35%</b>	
End of Module	35%	

*Assignment 1:* Histology

Value: 5% of Final Grade

Due Date: August 15, 2019

Description: Using lecture notes, study room materials, on-line websites and textbooks as resources, students are asked to label cells and structures in virtual slides of the kidney, ureter, bladder and urethra.

*Assignment 2:* Physiology Concept Map (In-Class Assignment) \*

Value: 7.5% of Final Grade

Due Date: August 19, 2019

Description Organize and link renal physiological principles together in small groups using a concept map. The concept map will include a focus question or theme, topics or concepts and linking arrows and words. The concept map will be assessed using a scoring rubric.

*Assignment 3:* Critical Appraisal Article Analysis

Value: 7.5% of Final Grade

Due Date: September 4, 2019

Length: 750 words maximum

Description: Complementary medicine therapies are commonly used by patients, but it is important to critically review the empirical scientific evidence to support such therapies. A list of articles focusing on complementary medicine therapies pertaining to the kidney and urinary tract will be provided. Students will be expected to read and critically analyze **one** article from the list and submit their written analysis for review. The article (and any additional literature, where applicable) should be cited using the International Committee of Medical Journal Editors (ICMJE) recommendations, see

[http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html) for examples. The analysis will be assessed using a scoring rubric.

*Assignment 4:* Dialysis Visit Personal Reflection Assignment

Value: 7.5% of final grade

Due Date: September 11, 2019

Length: 500 words maximum

Description: The student will have the opportunity to interact with a patient with end-stage renal disease on dialysis. The student will individually reflect on this experience by commenting on what they saw, how it affected them, and what changes in their future assumptions, attitudes, values or beliefs resulted from the interaction. The reflection will be assessed using a scoring rubric.

*In-Class Assessment I: Team-Based Learning Review - Basic Sciences and Tool Box Investigations\**

Value: 12.5% of Final Grade (10% individual and 2.5% team)

Date: August 22, 2019

Length: Individual Readiness Assurance Test (approx. 35 mins), Team-Based Test (approx. 45 mins)

Description: The basic science and tool box investigations content of the course will be reviewed using a team-based approach, where students will first individually take a readiness assurance multiple choice test. After the individual test is completed, students will join pre-assigned groups and will answer a portion of the individual tests as a team using a scratch card specifically designed for team based learning. After the team component is completed, the entire class will review the team exam with the faculty instructor.

*In-Class Assessment II: Team-Based Learning Review - Electrolytes and Acid-Bases\**

Value: 12.5% of Final Grade (10% individual and 2.5% team)

Date: August 26, 2019

Length: Individual Readiness Assurance Test (approx. 45 mins), Team-Based Test (approx. 60 mins)

Description: The electrolytes and acid-base content of the course will be reviewed using a team-based approach, where students will first individually take a readiness assurance multiple choice test. After the individual test is completed, students will join pre-assigned and will answer a portion of the individual tests as a team using a scratch card specifically designed for team based learning. After the team component is completed, the entire class will review the team exam with the faculty instructor.

*In-Class Assessment III: Team-Based Learning Review – Urology and Nephrology\**

Value: 12.5% of Final Grade (10% individual and 2.5% team)

Date: September 13, 2019

Length: Individual Readiness Assurance Test (60 mins), Team-Based Test (90 mins)

Description: The clinical urology/nephrology content of the course will be reviewed using a team-based approach, where students will first individually take a readiness assurance multiple choice test. After the individual test is completed, students will join pre-assigned groups and will answer a portion of the individual tests as a team using a scratch card specifically designed for team based learning. After the team component is completed, the entire class will review the team exam with the faculty instructor.

### *End of Module Exam*

Value: 35% of Final Grade

Date: September 16, 2019

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 from the course.

Please refer to overall course promotion/failure/remediation standards outlined earlier in this syllabus.

\*In-class assessments – these sessions are **MANDATORY TO ATTEND** as per the Attendance Policy.

### **COURSE EVALUATION QUALITY IMPROVEMENT**

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

1. Reorganization of the electrolyte and acid-base aspect of the curriculum and putting it back into class time.
2. Engagement of faculty to be present for TBL sessions in both sites to ensure a comparable experience.
3. Provide more exam reviews throughout the module, instead of just the end of module examination.
4. Expanding clinical application of basic science concepts.

## MODULE 2

### Musculoskeletal Medicine

#### MODULE DIRECTORS

**Rheumatology: Dr. Regina Taylor-Gjevre**

Email Address: r.gjevre@usask.ca

Phone Number: 306-844-1145

Office Location: RUH 3647

Office Hours: please contact in advance for a meeting

**Orthopaedics: Dr. Anne Dzus**

Email Address: anne.dzus@usask.ca

Phone Number: 306-844-1114

Office Location: A5504 RUH

Office Hours: please contact in advance for a meeting

#### MODULE DESCRIPTION

This module will include the study of common, urgent and emergent musculoskeletal and connective tissue conditions affecting children and adults. Students will develop a clinical approach for patients with connective tissue diseases and for patients with musculoskeletal diseases/disorders/trauma/malignancies. Major vertical themes will be emphasized.

#### GENERAL MODULE OBJECTIVES

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

1. Learn to care for children and adults with common, urgent and emergent MSK and connective tissue conditions by acquiring knowledge and applying these learning and clinical reasoning skills to:
  - Generate a reasonable differential diagnosis
  - Select and then interpret appropriate medical investigations
  - Propose an appropriate management plan
  - Explain the pathogenesis and pathophysiology at a level suitable for generalist medical graduates
  - Recognize medical and surgical complications of MSK disease and therapies
2. Describe evidence-informed principles of surveillance and screening for the normal/healthy population and for at risk populations

**Note:** Students should also refer to overall Foundations II Course objectives within this syllabus. Additionally, for each module, detailed individual lecture and session objectives will be posted in one45. Please take care to review in advance.

#### MODULE SCHEDULE

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

## REQUIRED RESOURCES

**Primer on the Rheumatic Diseases** ed. J.Klippel (electronic textbook available to all students– on-line at U of S library)

### Additional resource materials recommended to students include:

1. Musculoskeletal Physical Examination Training Videos (Rheumatology AND Orthopaedics)  
McMaster University on-line **McMaster MSK Examination Video Series** training resource.  
<https://fhs.mcmaster.ca/medicine/rheumatology/examine-hip.htm>
2. Health Care Resource Utilization and Stewardship: Choosing Wisely  
<http://www.choosingwiselycanada.org/recommendations/rheumatology/>  
<http://www.choosingwiselycanada.org/recommendations/orthopaedics/>
3. Diagnostic Imaging: Interpretation of MSK/Orthopaedic Radiographs  
<http://www.mf.uni-lj.si/media-library/2015/01/4b317ee16ef18cb8001b1e27460b8964.pdf>  
[https://aotrauma.aofoundation.org/.../1\\_How%20to%20read%20x-rays\\_Handout.pdf](https://aotrauma.aofoundation.org/.../1_How%20to%20read%20x-rays_Handout.pdf)  
<https://undergradimaging.pressbooks.com/> (Undergrad Diagnostic Imaging eBook)  
<http://sites.usask.ca/undergradimaging/> (access links to download the eBook as a pdf or file for an eBook reader)  
<https://medicine.usask.ca/documents/ugme/roadmaps/DiagnosticImaging.pdf> (Diagnostic Imaging Roadmap)
4. Rheumatology Resources
  - A. Canadian Rheumatology Patient and Physician on-line educational resource:  
<http://rheuminfo.com>
  - B. The same group Rheum Info has also developed a more in depth educational resource with on-line modules for various educational levels entitled RheumTalks. Registration to allow access to the modules is without cost.  
<http://rheumtalks.com>
  - C. American College of Rheumatology Educational on-line resource: (includes case based instructional material)  
<http://www.rheumatology.org/education/training/Rheum2Learn.asp>



D. Osteoporosis Canada Educational Clinical Tools and Case Studies

<http://www.osteoporosis.ca/health-care-professionals/clinical-tools-and-resources/>

E. Get a Grip: RA/OA: There are two excellent educational on-line programs using virtual cases for RA and OA at the website below. (Registration is required, but there is no charge).

<https://www.mdcme.ca/grip/>

5. Orthopaedic Resources:

A. Orthopaedics: Wheelless' Textbook of Orthopaedics

<http://www.wheelessonline.com>

B. Ortho Bullets:

<http://www.orthobullets.com/>

Further individual session resources and pre-readings may also be posted within one45.

**Note:** Student pre-reading is required in this module. Students are strongly encouraged to come to class prepared to actively participate in the educational sessions.

### MODULE DELIVERY

Students will learn through a variety of methods, including:

Large group didactic, interactive and case-based problem solving sessions

Interactive small group learning sessions

Independent self-directed reading and exercises

### STUDENT ASSESSMENT

**Assessments** **6%**

Applied Epidemiology Exercise 4%

Case Self-Directed Learning Skills Assessment

Polyarthritis Cases 1%

Connective Tissue Disease Cases 1%

**Exams** **94%**

Midterm I 22%

Midterm II 22%

End of Module 50%

### *Applied Epidemiology Exercise*

Value: 4% of Final Grade

Date: October 18, 2019

Descriptions: An in-class exercise utilizing selected epidemiologic principles to evaluate musculoskeletal disease from a population perspective. Students will participate in the exercise in-class and subsequently submit the completed assignment on BlackBoard.

### *Case Self-Directed Learning Assessments*

Value: 2% of Final Grade (1% for each of two case sessions)

Dates: Polyarthrititis Case Session: September 23, 2019

Connective Tissue Disease Case Session: September 30, 2019

Description: These small group case sessions are group learning exercises which involve reviewing a clinical case and posed questions. Students engage in sequential self-directed learning to include the following components:

1. identify, analyze, and synthesize information relevant to their learning needs;
2. assess the credibility of information sources;
3. share the information with their peers and tutor/facilitator;
4. apply their knowledge to the resolution of the clinical case;
5. receive feedback and are assessed on their skills in self-directed learning.

The assessment will be peer-generated and directly relate to the students participation and performance in the first four components listed. A standardized rubric for the peer generated score will be employed for each of the small group case sessions.

### *Midterm Exam I*

Value: 22% of Final Grade

Date: September 27, 2019

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.

### *Midterm Exam II*

Value: 22% of Final Grade

Date: October 7, 2019

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.

### *End of Module Exam*

Value: 50% of Final Grade

Date: October 21, 2019

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.

If a student must be absent for a quiz or minor assessment, the student must inform the College of Medicine Office prior to the session as per the procedure outlined in the [Attendance Policy](#).

Please refer to overall course promotion/failure/remediation standards outlined earlier in this syllabus.

### **COURSE EVALUATION QUALITY IMPROVEMENT**

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

1. Increased number of individual group facilitators for the rheumatology cases small group sessions.
2. Increased number of sessions delivered from the Regina campus.

## MODULE 3

### Neurosciences

#### MODULE DIRECTOR

##### **Neurology: Dr. Lizbeth Hernandez-Ronquillo**

Email Address: [lih428@mail.usask.ca](mailto:lih428@mail.usask.ca)

Phone Number: (306) 844-1194

Office Location: RUH 2660

Office Hours: Please contact by e-mail to arrange a meeting

#### MODULE CO-DIRECTORS

##### **Neurology: Dr. Jose Tellez-Zenteno**

Email Address: [jose.tellez@usask.ca](mailto:jose.tellez@usask.ca)

Phone Number: (306) 844-1524

Office Location: RUH 1622

Office Hours: contact to arrange meeting

##### **Neurosciences: Dr. Jennifer Chlan**

Email address: [jen.chlan@usask.ca](mailto:jen.chlan@usask.ca)

Phone number: (306) 966-6557

Office Location: GB29 Health Sciences Building (B-Wing)

Office Hours: contact by e-mail to arrange meeting

##### **Neurology: Dr. Brett Graham**

Email Address: [brett.graham@usask.ca](mailto:brett.graham@usask.ca)

Phone Number: (306) 931-2858

Office Location: Neurology Wing, RUH Old Building

Office Hours: contact to arrange a meeting

#### MODULE DESCRIPTION

This module will include the study of the central nervous system including anatomy, pathophysiology, pharmacology diagnosis, prognosis, and treatment of the most frequent neurological conditions in children and adults. Students will develop a clinical approach for patients with common and acute neurological conditions including stroke, epilepsy, dementia, migraine, peripheral nerve diseases, neuromuscular disorders, pain and neuroinfections. In addition, the course provides key information regarding common neurosurgical problems such as tumors, back pain, brain injury, hydrocephaly and treatment of cerebrovascular diseases, and the approach to the most common abnormalities of the central nervous system. Also, the most common ophthalmological conditions will be reviewed.

## GENERAL MODULE OBJECTIVES

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

1. Identify the basic localization and lateralization of common neurologic/neurosurgery/pain conditions.
2. Underline principles of health promotion and public health for the prevention of common neurological/neurosurgery/pain/ophthalmology conditions.
3. Describe evidence-informed principles of screening at risk population and identify frequent risk factors/epidemiology in common neurological/neurosurgery/pain/ophthalmology conditions.
4. Construct a differential diagnosis in a patient presenting with acute and common neurological/neurosurgery/pain/ophthalmology conditions across the lifecycle.
5. Select and interpret appropriate evidence-based investigations and be able to interpret them.
6. Outline the initial and ongoing management plan for patients with acute and common neurological/neurosurgery/pain/ophthalmology conditions.
7. Explain the pathogenesis and pathophysiology of acute, common or urgent neurological/neurosurgery/pain/ophthalmology conditions.

**Note:** Students should also refer to overall Foundations II Course objectives within this syllabus. Additionally, for each module, detailed individual lecture and session objectives will be posted in One45. Please take care to review in advance.

## MODULE SCHEDULE

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

## REQUIRED RESOURCES

(On reserve at the Leslie and Irene Dubé Health Sciences Library)

Neuroanatomy Section:

**This textbook is required** to work through for the cases covered in this section and will be necessary for the first week of class:

- \* Blumenfeld, H. (2010) Neuroanatomy through Clinical Cases, 2<sup>nd</sup> edition. Sinauer Associates, Inc. Sunderland, MA QM451 .B64 2010 (also available for purchase online)

## RECOMMENDED RESOURCES

Neurology/Neurosurgery Section:

Merritt's Neurology – by Lewis P. Rowland (Author, Editor), Timothy A. Pedley MD (Editor)

Adams and Victor's Principles of Neurology 10<sup>th</sup> Edition Hardcover – by Allan Ropper (Author), Martin Samuels (Author)

## MODULE DELIVERY

Students will learn through a variety of methods, including:

- Large group didactic, interactive and case-based problem solving sessions
- Interactive small group learning sessions
- Independent self-directed reading and exercises

## STUDENT ASSESSMENT

**Assignments** **10%**

Adult Neurology 10%

**Exams** **90%**

Midterm I 20%

Midterm II 20%

End of Module 50%

*Assignment:* Adult Neurology

*Value:* 10% of Final Grade

*Date:* Released October 28 and due November 8 at 11:59 pm

*Length:* Two neurological cases

*Description:* The assignment will consist of two neurological cases. Students will be able to describe the localization and lateralization of lesion, propose the main diagnosis and differential diagnosis, adequate management of the cases and describe the prognosis of the neurological condition.

### *Midterm I*

*Value:* 20% of Final Grade

*Date:* October 29, 2019

*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.

### *Midterm II*

*Value:* 20% of Final Grade

*Date:* November 14, 2019

*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.

### *End of Module Exam*

Value: 50% of Final Grade

Date: November 25, 2019

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 content from lectures and assignments.

Please refer to overall course promotion/failure/remediation standards outlined earlier in this syllabus.

### **COURSE EVALUATION QUALITY IMPROVEMENT**

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

1. Three sessions were added (Neuro Imaging, Concussion, and Single Seizure).
2. Elimination of overlapping sessions (Epilepsy Drugs and Epidemiology).
3. Additional time was allocated for neurosurgery small groups.

## IMPORTANT AND RELEVANT STUDENT INFORMATION

The following information is extremely important for student 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<sup>1</sup>.

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

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<sup>1</sup> 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.

### EXAM REVIEW PROCESS

The College understands the pedagogical value of a post exam review and feels that these are best handled by the Course Director(s)/Instructor(s) who can clarify concepts rather than students just viewing the “right” answer. Time has been built into the curriculum for the post exam reviews. **Please Note:** Students will not be allowed to see their individual exam during these sessions nor are they eligible to view their exam unless they were unsuccessful in achieving the minimum mark of 70% or in considering appealing their mark. In the event of a specific module or exam failure, a student may request to review their assessment by contacting the appropriate Module Director, Course Director or Course Chair.

### 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](http://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 to enhance understanding of the concepts.

### COPYRIGHT

Course materials are provided to students based on registration in a class, and anything created by 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 students 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 copying or distributing others’ copyright-protected materials, please ensure that 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](http://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](http://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](http://www.usask.ca/secretariat/student-conduct-appeals/forms/IntegrityDefined.pdf)

## **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, [www.students.usask.ca/aes](http://www.students.usask.ca/aes), or contact AES at 966-7273 or [aes@usask.ca](mailto: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, in Saskatoon please contact:

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

COM Student Affairs Coordinator (Regina Campus), Lisa Persaud at [lisa.Persaud@saskhealthauthority.ca](mailto:lisa.Persaud@saskhealthauthority.ca) or 306-766-0620

## **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.

*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.*