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

## COURSE OUTLINE

<table>
<thead>
<tr>
<th>Course Number:</th>
<th>MDCN 450</th>
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<tbody>
<tr>
<td>Course Name:</td>
<td>Course 5</td>
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| Dates:        | June 8– July 29, 2020  
Detailed Schedule located Online in OSLER |
| Schedules and classroom locations: |  
For pre-clerkship:  
Year 1 & 2 timetable is here  
http://www.ucalgary.ca/mdprogram/current-students/pre-clerkship-years-1-2/timetables  
Detailed scheduled is located online in OSLER  
For clerkship: rotation schedule & location information will be emailed |

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
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<tbody>
<tr>
<td>Course Chair:</td>
<td>Dr. Gary Klein</td>
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<tr>
<td>Course Chair:</td>
<td>Dr. Erika Dempsey</td>
</tr>
<tr>
<td>Evaluation Rep:</td>
<td>Dr. Scott Jarvis</td>
</tr>
<tr>
<td>UME Program Coordinator:</td>
<td>Kelsey O’Donnell</td>
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<tr>
<td>Student Course Rep:</td>
<td>Cindy Chang</td>
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## Course Description
Integrated Clinical Presentations related to the Neuroscience system, Special Senses and Aging. Students will learn how to diagnose, investigate and manage clinical presentations such as muscle weakness, head and spinal injuries, gait disturbance, dizziness, speech and language disturbance, seizures, acute confusion, headache, dementia, falls, dying patient, visual loss, double vision, ear pain, hearing loss, etc.

Course Hours: (188 hours)

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

## Prerequisites
Not applicable in the MD program.
### Supplementary Fees/Costs

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<th>Item</th>
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<tr>
<td>Lab Coat</td>
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<td>Stethoscope</td>
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<td>iClickers</td>
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### Learning Objectives

All learning objectives are located in the Course Core Document/Syllabus which can be located online in the student information system (OSLER) and on our MD Program website

[https://osler.ucalgary.ca/](https://osler.ucalgary.ca/)

Also see Appendix A.

### Course Text(s)/Recommended Reading/Learning Resources

- Clinical Neurology – Aminoff, Greenberg and Simon
- Neurology and Neurosurgery Illustrated – Lindsay and Bone
- Neuroanatomy Made Ridiculously Simple – Goldberg
- Essentials of Clinical Geriatrics – Kane, Ouslander, and Abrass
- Merck Manual of Geriatrics
- Geriatrics at Your Fingertips – free online and downloadable PDA versions will be linked to OSLER

### Evaluation and Course Requirements

Student learning will be assessed through the completion of the following formative & summative mandatory evaluative learning activities.

- **MC = Must Complete**
- **MP = Must Pass**

  - Attendance and participation in mandatory teaching sessions = MC
  - Formative Online MCQ Exam = MC
  - Neuroanatomy Online Exam = MC
  - Mid Term MCQ Online Exam = MC
  - Final Summative MCQ Exam = MC
  - Clinical Core Sessions (10 Hours) = TBC when back in person
  - Reflective Assignment = MC
  - Satisfactory Overall (All Summative & Mid Term Components Combined) = MP

The course grade will be composed of the following:

- Neuroanatomy Online Exam (20%)
- Mid Term MCQ Online Exam (20%)
- Summative/Final MCQ Exam (60%) – to be completed in person

### Calculators for MCQ exam

UME approved calculators allowed
Grading
The University of Calgary Medical Doctor Program is a Pass/Fail program. The grading system that will appear on a student’s legal transcript is as follows:

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<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>CR</td>
<td>Completed Requirements</td>
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<tr>
<td>RM</td>
<td>Remedial Work Required</td>
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<tr>
<td>F</td>
<td>Fail</td>
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<tr>
<td>I</td>
<td>Incomplete</td>
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<tr>
<td>W</td>
<td>Withdrawal</td>
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<tr>
<td>MT</td>
<td>Multi-Term (Used for Part A Courses that fall under 2 different terms in the calendar year.)</td>
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For Pre-Clerkship - A student’s final grade for the course is the sum of the separate components. It is not necessary to pass each mandatory components separately in order to pass the course.

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

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

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

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

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

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

University of Calgary Medical School – Student Code of Conduct
http://www.ucalgary.ca/mdprogram/current-students/student-code-conduct

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

It is the Program Coordinator’s responsibility to reply to any confirmation email from the student, and to inform the student promptly if there are any problems with the file (unable to open attachment, damaged data, etc.). In such cases, it is the responsibility of the student to promptly consult with the Program Coordinator regarding an alternate delivery method (e.g. courier, fax, etc.). It is the student’s responsibility to retain a copy of the original document.
One45 Overview

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

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

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

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

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

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

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

Course Evaluation/Feedback

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

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

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

Clinical Core Overview (Pre-Clerkship Only)


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

Clinical Correlation Rules of Conduct

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

Please refer to the MD program website

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<th>Appeals</th>
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| If the student appeals to the Student Evaluation Committee and disagrees with the decision, the student may further appeal to the Cumming School of Medicine Medical Student Appeals Committee (MSAC). (http://ucalgary.ca/mdprogram/about-us/ume-policies-guidelines-forms-terms-reference) |

<table>
<thead>
<tr>
<th>Academic Accommodation</th>
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<tr>
<td>Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities available at <a href="https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf">https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf</a>.</td>
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| Student Accessibility Services, please contact their office at (403) 220-8237, address: MacEwan Student Centre room 452 or email: access@ucalgary.ca. Students who have not registered with the Student Accessibility Services are not eligible for formal academic accommodation. |

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<tr>
<th>Accommodations on Protected Grounds Other Than Disability</th>
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<tbody>
<tr>
<td>Students who require an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the appropriate Assistant or Associate Dean</td>
</tr>
</tbody>
</table>

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

| For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. |

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<thead>
<tr>
<th>Academic Integrity</th>
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<tr>
<td>The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.</td>
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</table>

| It is expected that all work submitted in assignments should be the student’s own work, written expressly by the student for this particular course. Students are referred to the section on plagiarism in the University Calendar (http://www.ucalgary.ca/pubs/calendar/current/k-5.html) and are reminded that plagiarism is an extremely serious academic offence. |
**Student Misconduct**

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

**Freedom of Information and Protection of Privacy**

The Freedom of Information and Protection of Privacy (FOIP) Act indicates that assignments given by you to your course instructor will remain confidential unless otherwise stated before submission. The assignment cannot be returned to anyone else without your express permission. Similarly, any information about yourself that you share with your course instructor will not be given to anyone else without your permission.

**Emergency Evacuations and Assembly Points**

Assembly points for emergencies have been identified across campus. The primary assembly point for the Health Sciences Centre (HSC) building is HRIC - Atrium. For more information, see the University of Calgary’s Emergency Management website:

http://www.ucalgary.ca/emergencyplan/assemblypoints


In the case of an emergency during exam, immediately stop writing the examination and follow the direction of the invigilator and go to the nearest exit. Students should not gather personal belongings.

**Internet and electronic device information and responsible use:**

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

**Supports for student learning, success, and safety**

- Student Advising and Wellness (SAW): http://www.ucalgary.ca/mdprogram/current-students/student-advising-wellness
- Student Union Wellness Centre: https://www.ucalgary.ca/wellnesscentre/
- Safewalk: http://www.ucalgary.ca/security/safewalk
- Campus security - call (403) 220-5333
- Student Success Centre: https://www.ucalgary.ca/ssc/
- Library Resources: http://library.ucalgary.ca/
- Student Union (https://www.su.ucalgary.ca/about/who-we-are/elected-officials/) or Graduate Student’s Association (https://gsa.ucalgary.ca/about-the-gsa/gsa-executive-board/) representative contact information
- Student Ombudsman: http://www.ucalgary.ca/ombudsrole
Copyright
It is the responsibility of students and professors to ensure that materials they post or distribute to others comply with the Copyright Act and the University’s Fair Dealing Guidance for Students. Further copyright information for students is available on the Copyright Office web page (http://library.ucalgary.ca/copyright). It is the responsibility of each individual to ensure compliance with copyright regulations. Individual questions and concerns should be directed to copyright@ucalgary.ca. Copyright and Fair Dealing for Students: http://library.ucalgary.ca/files/library/guidance_for_students.pdf

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

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

ATSSL Guidelines
APPENDIX A
Learning Objectives by Lecture

Introduction to Localization in the Nervous System
At the end of this lecture students will be able to characterize lesions that affect the nervous system using an organized taxonomy, including identifying:
1. Where is the lesion?
2. What is the lesion?
3. How did it get there
4. Apply a framework for localization and diagnosis that synthesizes these three questions into an organized, integrated neurological diagnosis.

Neuroanatomy I:
Introduction to the CNS, Ventricular System, Meninges
At the end of this lecture and laboratory session, on gross specimens, microscopic specimens, radiographic imaging or diagrams, the student shall be able to:
1. identify the parts of the central nervous system (CNS)
2. identify sections of each part of the CNS (brain and spinal cord, axial, coronal, sagittal)
3. identify the lobes of the cerebral hemispheres
4. identify and state the function of key areas of the cerebral hemispheres as delineated by reproducible patterns of sulci and gyri; describe functional deficits that might arise with lesions of these areas
5. identify the ventricles within the brain and describe the formation, travel and resorption of the cerebrospinal fluid
6. identify the layers of the meninges of the brain, the spaces between the layers and clinical conditions related to both
7. demonstrate the structure and function of the dural sinuses

Neuroanatomy II: Motor Systems
At the end of this lecture and laboratory session, on gross specimens, microscopic specimens, radiographic imaging or diagrams, the student shall be able to:
1. describe the pathway followed by the descending motor systems within the CNS and the function of this system; localize lesions within this system
2. demonstrate the anatomy of the primary motor cortex
3. demonstrate the anatomy of the hemispheric white matter pathways followed by the descending motor systems; identify adjacent structures
4. identify the white matter pathways followed by the descending motor systems through the brainstem
5. identify the white matter pathways followed by the descending motor systems through the spinal cord
6. identify the parts of the cerebellum
7. identify the component anatomy of the basal ganglia
8. describe the function of the cerebellum and basal ganglia and their relationship to the descending motor systems

The Cells and Tissues of the Nervous System
At the end of this session, the student shall be able to:
1. List the main cells of the nervous system
2. Describe the basic structure and function of the different types of neurons
3. List the basic types and functions of glial cells
4. Demonstrate the major cell types
5. Describe the basic structure of neurons
6. Describe the functions of some neurons and the specialized structures that enable these functions
7. Describe the structure and function of various glial cells in the CNS and the PNS
8. Demonstrate, using the reflex arc as an example, the interaction of some of cells of the nervous system
Neuroanatomy III: Sensory Systems
At the end of this lecture and laboratory session, on gross specimens, microscopic specimens, radiographic imaging or diagrams, the student shall be able to:
1. describe the pathways followed by the ascending sensory systems (anterolateral and dorsal column systems) from the periphery to the sensory cortex and the functions of each of these systems; localize lesions within this system
2. demonstrate the pathways followed by the ascending sensory systems as they enter the spinal cord and within the spinal cord
3. demonstrate the pathways followed by the ascending sensory systems within the brainstem
4. demonstrate the pathways followed by the ascending sensory systems within the cerebral hemispheres
5. demonstrate the anatomy of the primary sensory cortex
6. describe the function of the secondary sensory areas

Introduction to Neuropathology
At the end of this lecture the student shall be able to:
1. Describe the basic structure of skeletal muscle and indicate how this structure underlies its function.
2. Describe the basic structure of a peripheral nerve, including its regions and the ultrastructure of axons and their myelin.
3. Recognize the wide range of neuron morphology and describe the functional components of neurons.
4. Describe how different functional and anatomic regions of brain have different structures and connections.
5. Recognize and describe the functions of the various supporting cells and tissues in the brain, including oligodendroglia, astrocytes, ependyma, choroid plexus, vessels, and the brain surfaces.

Neuroanatomy IV: Brainstem and Cranial Nerves
At the end of this lecture and laboratory session, on gross specimens, microscopic specimens, radiographic imaging or diagrams, the student shall be able to:
1. identify the divisions of the brainstem (midbrain, pons, medulla)
2. demonstrate the anatomic features of the divisions of the brainstem
3. identify the individual cranial nerves
4. identify the CNS connections of the individual cranial nerves
5. describe the function of the cranial nerves
6. describe the effect of lesions on the cranial nerves or their CNS connections

Action Potential & NM Transmission
At the end of this lecture, the student shall be able to:
1. Describe how an excitable cell maintains its electrochemical gradient
2. Describe how excitable cells generate action potentials
3. Describe the concept of synaptic neurotransmission
4. Describe how certain neuromuscular disease (e.g. Myasthenia gravis) lead to failure of neuromuscular transmission

Muscle Physiology
At the end of this lecture, the student shall be able to:
1. Describe the structure of muscle tissue
2. Describe the significant differences among skeletal, cardiac and smooth muscle tissue
3. Describe the mechanism of excitation-contraction coupling
4. Describe the modulation of the muscular strength via motor unit recruitment, twitch, summation and optimal length
Neuroanatomy V:
Skull, Spinal Cord, Vertebrae and Autonomic Nervous System
At the end of this lecture and laboratory session, on gross specimens, microscopic specimens, radiographic imaging or diagrams, the student shall be able to:
1. identify the bones of the skull
2. identify the foramina that pierce the skull
3. describe the structures that enter or exit the skull via the foramina; describe the function of these structures and the deficits that may arise from lesions of these structures
4. identify the external and internal features of the spinal cord
5. identify the anterior and posterior surfaces of the spinal cord
6. identify the meninges surrounding the spinal cord
7. identify the parts of a vertebrae
8. describe the relationship among the vertebrae, intervertebral discs and the spinal cord and nerve roots
9. describe the anatomy and function of the divisions of the autonomic nervous system

Weakness Overview
At the end of this session, the student shall be able to:
1. Describe the features that allow one to distinguish between lesions of the upper and lower motor neuron systems
2. Describe the corticospinal tract
3. Describe the motor unit
4. Describe and define weakness and fatigue
5. Describe clinical patterns of weakness caused by problems at specific levels of the nervous system

Neuroanatomy VI:
Vasculature of the Brain and Spinal Cord
At the end of this lecture and laboratory session, on gross specimens, microscopic specimens, radiographic imaging or diagrams, the student shall be able to:
1. identify the arteries supplying the brain
2. describe the territories supplied by the individual arteries
3. describe the clinical effects of lesions in the individual arteries
4. identify the veins and sinuses draining the brain
5. identify the arteries that supply the spinal cord
6. identify the veins that drain the spinal cord

Upper Motor Neuron – Descending Motor Pathways
At the end of this lecture the student shall be able to:
1. Describe the anatomy of the cortical areas involved in motor control
2. Describe the anatomy and function of the descending motor pathways
3. Distinguish between upper and lower motor neuron lesions
4. Understand and describe the clinical implications of a motor pathway lesion

Lower Motor Neuron -- Motor Neuron, Neuromuscular Junction, Muscle
At the end of this session, the student shall be able to:
1. Describe the motor neuron diseases, including amyotrophic lateral sclerosis (ALS)
2. Describe the steps in neuromuscular junction transmission
3. Describe myasthenia gravis
4. Describe the contractile elements involved in muscle contraction
5. Describe the muscular dystrophies
6. Describe the inflammatory myopathies
Speech Disorders
At the end of this session, the student shall be able to:
1. Describe the neuroanatomic localization of lesions causing dysarthria and aphasia
2. Describe a classification the more important aphasias and dysarthrias
3. Demonstrate a simple bedside approach to the localization of speech dysfunction

Basal Ganglia and PD Patient Demonstration
At the end of this session, the student shall be able to:
1. Describe the anatomy and physiology of the direct and indirect basal ganglia pathways.
2. Describe the changes in Parkinson's disease in dopamine, acetylcholine, serotonin and nor-epinephrine.
3. Describe the typical clinical features of Parkinson's disease and Parkinson's plus syndromes
4. Describe the typical progression of Parkinson's disease, including motor and non-motor features
5. Describe the drugs that are commonly used to treat Parkinson's disease

Sensory System Overview
At the end of this session the student shall be able to:
1. Describe and draw the pathway a painful stimulus travels to get from a receptor in the skin (face and leg), to the primary sensory cortex
2. Describe and draw the pathway a vibratory stimulus travels to get from a receptor (in the foot), to the primary sensory cortex
3. Identify the pattern of sensory findings associated with:
   a. polyneuropathy
   b. radiculopathy
   c. focal myelopathy - hemicord, posterior column
   d. lateral medullary syndrome

Peripheral Nervous System
At the end of this session the student shall be able to:
1. Describe, using history and physical exam findings, the features that differentiate:
   a. C6 radiculopathy vs median neuropathy
   b. C7 radiculopathy vs radial neuropathy
   c. L5 radiculopathy vs peroneal neuropathy
2. Identify which roots/nerves supply sensation to the hand, and foot.
   Identify which roots innervate the biceps, brachioradialis, triceps, knee jerk, and ankle jerk reflexes

Surgery for Movement Disorders
At the end of this session, the student shall be able to:
1. Describe the use of thalamotomy as a treatment for essential tremor and rest tremor in Parkinson's disease
2. Describe the use of GPi stimulation as a treatment for dyskinesia in PD
3. Describe the risks and benefits of STN stimulation in PD
4. Describe the benefits of GPi stimulation in the treatment of dystonia, both generalized and focal

Hyperkinetic Movement Disorders
At the end of this session, the student shall be able to:
1. Describe the clinical features of
   a. Myoclonus
   b. Tics
   c. Chorea
   d. Dystonia
2. List the most common diagnoses that will cause each of these movement disorders
Cerebellum Structure, Function and Disorders
At the end of this session, the student shall be able to:
1. Describe the clinical manifestations of cerebellar dysfunction
2. Describe the differences between the midline and lateral hemisphere cerebellar syndromes
3. Define anticipation as it relates to the Autosomal Dominant Spinocerebellar Ataxias
4. Identify an autosomal recessive spinocerebellar ataxia
5. Identify the main causes of a sporadic spinocerebellar ataxia

Confusion
At the end of this session, the student shall be able to:
1. Suspect delirium when there is NEW ONSET / FLUCTUATING confusion
2. Differentiate delirium from dementia or depression
3. Use CAM (confusion assessment method) to screen for delirium
4. Understand an approach to prevention and management of delirium
5. Understand the clinical course of delirium and associated adverse outcomes

Coma
At the end of this session, the student shall be able to:
1. Define the different levels of arousal
2. Describe the main pathophysiological mechanisms of coma
3. Describe the main components of the ascending reticular activating system
4. Identify the main causes of coma
5. Identify the main herniation syndromes
6. Describe the Glasgow Coma Scale
7. Describe the main components of the neurological examination in a comatose patient
8. Outline the initial management and investigation of a comatose patient.
9. Define brain death and know the prerequisites and investigations necessary to make this diagnosis.

Dementia – Clinical, Neuropsychological and Pathological Aspects - Lecture
At the end of the three lecture parts, the student will be able to:
1. Describe a diagnostic approach to Mild Cognitive Impairment (MCI) and Major Neurocognitive Disorder (dementia).
2. Recognize clinical, neuropsychological and pathological aspects of at least three of the most common etiologies of dementia.

Dementia (Part 1) – Mild Cognitive Impairment and Dementia
At the end of this part, the student will be able to:
1. Compare MCI and dementia and list the clinical and neuropsychological differences.
2. Explain why a collateral source of information is usually necessary in the workup of dementia.
3. Name three standardized cognitive tests and recognize situations where you would apply one over another.
4. List at least two limitations of the use of standardized cognitive tests.
5. Recognize situations of cognitive impairment where neuroimaging would be recommended as part of the diagnostic workup.
6. Summarize the role of pathological evaluation in the diagnosis of neurodegenerative disease.

Dementia (Part 2) – Alzheimer’s Disease
At the end of this part, the student will be able to:
1. Define DSM-5 criteria for Major Neurocognitive Disorder due to Alzheimer’s Disease (AD)
2. Name 3 or more biomarkers for AD
3. Discuss some of the potential social and ethical consequences of biomarker based diagnosis of AD
4. Recognize the definitive pathologic features of AD on histology
5. Name the area of the brain where AD presents first on gross pathology
6. Name the single most important risk factor for AD
7. List four or more non-pharmacological elements of management of AD and two drug classes that can be used to treat symptoms.
**Dementia (Part 3) – Non Alzheimer’s Disease Dementias**

At the end of this session, the student will be able to:
1. Recognize the commoner types of dementia (see below) and associate key clinical features, neuropsychological patterns and key pathologic features with each:
   a. Vascular dementia (VaD)
   b. Dementia with Lewy bodies (DLB)
   c. Frontotemporal dementia (FTD)
2. Contrast VaD, DLB and FTD presentations from a typical AD presentation.
3. Define the word prion and contrast it to other transmissible diseases.
4. Recognize the entity of Chronic Traumatic Encephalopathy.

**Delirium – Lecture**

By the end of this lecture, the student will be able to:
1. Describe the morbidity and mortality associated with delirium in older adults and recognize delirium as a medical emergency.
2. Name two validated screening tools for delirium.
3. Diagnose delirium and characterize the subtypes.
4. Identify common predisposing and precipitating factors for delirium.
5. Select appropriate investigations, interventions and management strategies to prevent and treat delirium.

**Dementia/Delirium – Small Group:**

By the end of the small group session, the student will be able to:
1. List the difference between delirium and dementia
2. Demonstrate the use of the Confusion Assessment Method (CAM) and 4 AT for diagnosing delirium
3. List the causes of delirium, including identifying predisposing and precipitating factors
4. Outline an evidence-based approach for management of delirium
5. List the outcomes of delirium

**Multiple Sclerosis and other Demyelinating Disorders**

At the end of this session, the student shall be able to:
1. List the features of myelin
2. Describe the two categories of diseases of myelin, including the features which distinguish them and give three examples of each type of disease.
3. List the typical clinical signs and symptoms of multiple sclerosis (MS)
4. List the features of the population at greatest risk of getting MS
5. Describe the natural history (typical clinical course or evolution) of MS
6. List and identify the major pathologic features of MS
7. Describe the main features of MS pathogenesis
8. List the diagnostic tests that need to be considered in the investigation of MS; describe their role and state their indication
9. List two potential methods of primary prevention of MS
10. List the immune modulating treatments used for MS and the type of MS they are used to treat
11. List general wellness measures that can be recommended for people with MS
12. Describe treatment options for MS relapses and the potential benefits and treatment risks
13. List common treatable MS symptoms and common treatment options
14. List common, difficult to manage, MS symptoms

**Management of Spasticity in Neurologic Disease**

At the end of this session, the student shall be able to:
1. Define spasticity
2. Describe etiology of spasticity
3. List positive and negative symptoms of the upper motor neuron syndrome
4. Describe methods to quantify spasticity
5. Describe benefits and consequences of spasticity, recognizing impact on function
6. Describe variability of spasticity and exacerbating influences
7. Describe management/treatment options of generalized and local spasticity

Bowel, Bladder and Sexual Dysfunction in Neurologic Disease
At the end of this session, the student shall be able to:
1. Describe the neurology of normal bladder, bowel and sexual function
2. Describe the impact of neurologic injury on the normal bowel, bladder and sexual dysfunction
3. Classify abnormalities of bowel, bladder and sexual dysfunction
4. Describe options for management
5. Describe typical abnormalities and management principles for bowel, bladder and sexual dysfunction in specific neurologic conditions (CVA etc) as provided in appendices
6. Describe the impact of bladder, bowel and sexual difficulties and the involved management on those with neurologic impairment and disabilities
7. Describe the features that may limit the patient’s ability to manage bowel and bladder function independently
8. Describe complications which can arise from bowel and bladder dysfunction and its management

Epilepsy Part I – Definitions, epidemiology, seizure classification and special issues
At the end of this session, the student shall be able to:
1. Define the terms seizure and epilepsy
2. Discuss the epidemiology of epilepsy
3. Identify common causes of epilepsy and classic seizure triggers
4. Describe the classification of seizures and be able to identify the most common seizure types
5. Demonstrate awareness of issues specific to women and epilepsy (menstrual cycle related seizures, contraception, pregnancy, etc)
6. Demonstrate awareness of the potential for bone loss in patients with epilepsy
7. Demonstrate awareness that psychiatric symptoms are common in epilepsy

Epilepsy Part II – Diagnosis, basic mechanism, treatment, and special issues
At the end of this session, the student shall be able to:
1. List the routine investigations necessary to diagnose seizures
2. Describe the basic pathophysiological mechanisms of seizures
3. Counsel a patient regarding seizure precautions
4. Describe the mechanisms of action of the common anticonvulsants
5. Describe basic treatment strategies for focal and generalized seizures
6. Describe the appropriate investigations and treatment for status epilepticus
Describe the Canadian Medical Association recommended guidelines for driving as relates to people with seizures and epilepsy

Sleep Disorders
At the end of this session, the student shall be able to:
1. Demonstrate a general understanding of sleep promoting and wakefulness promoting regions of the brain
2. List and provide examples of the four major types of sleep disorders
3. Describe investigations for sleep disorders
4. Define the clinical characteristics of narcolepsy and its possible pathogenesis.
5. Define definitions for restless leg syndrome, periodic movements in sleep and REM sleep behavior disorder, as well as other common parasomnias

Headache
At the end of this session, the student shall be able to:
1. Describe how the various headache types are classified
2. Describe how to differentiate a primary headache from a secondary headache, including indications for neuroimaging in the patient with headache
3. Describe the pain sensitive structures which give rise to headache, including the concept of referred pain
4. Describe the pathophysiology of migraine
5. Describe the diagnosis and management of a patient with migraine, tension-type headache, cluster headache, and medication overuse headache
6. Describe the clinical features and management of the more important secondary headache types, including subarachnoid hemorrhage, giant cell arteritis, brain tumor, and headache secondary to increased and decreased intracranial pressure

**Evaluation of Neck and Back Pain**
At the end of this session, the student shall be able to:
1. Describe and distinguish myelopathy and radiculopathy
2. Describe the dermatomal and myotomal distributions in the limbs and the physical findings of radiculopathy.
3. Describe the pathophysiology of degenerative disc disease and spondylosis
4. Provide a differential diagnosis for back and neurogenic limb pain
5. Describe the management options for common presentations of back pain including an approach to the timing and modalities of radiological investigations

**Neurosurgery**
**Tumours of the Brain and Spinal Cord**
At the end of this session, the student shall be able to:
1. Name the common brain and spinal tumors
2. Describe how to classify the common tumors
3. Describe the prognoses for different tumors
4. Describe the features of headache due to brain tumor
5. Describe the other common symptoms of a brain tumor
6. Describe the common symptoms of a spinal region tumor
7. Describe the common treatment options for neurological tumors
8. Describe two differences between child & adult brain tumors
9. Define oncogene and tumor suppressor gene
10. Describe what is meant by molecular diagnosis and targeted therapy
11. Describe two molecular pathways to glioblastoma (GBM)
12. Name a growth signal pathway that is often altered in GBM

**Trauma Overview**
At the end of this session, the student shall be able to:
1. Describe the age groups most commonly hospitalized for head and spinal injury
2. Describe the frequency of head and spinal injury in Alberta
3. Describe how often alcohol is a factor in road accidents
4. Describe the percentage of trauma deaths due to CNS injury and the ranking of injury as a cause of death in Canada
5. Describe methods of preventing CNS injury.

**Head Injury - Clinical**
At the end of this session, the student shall be able to:
1. Give the definitions of concussions, contusions, linear, depressed, closed and open skull fractures, and their pathophysiology
2. Describe the differences between coup- and contre-coup contusions
3. Give examples of primary and secondary brain injury
4. Describe the symptoms and signs of an expanding intracranial hematoma, and methods to reduce intra-cranial pressure
5. Be able to differentiate different types of intracranial hematoma on imaging studies and by clinical presentations

Special senses
Ophthalmology - General Objectives for Medical Students:
To enable recognition of common eye conditions and their etiology as well as recognition of less common but life or sight threatening emergencies presenting as eye findings. The student should be able to take the appropriate action to safeguard the patient’s life, vision and overall function.

Given a presenting eye sign or symptom, the student shall be able to:

1. Take an accurate, focused history
2. Perform an appropriate physical examination
3. Differentiate normal from abnormal eye findings
4. Outline a logical program of investigation and possible management

Visual Anatomy and Physiology - Lecture
At the end of this session, the student shall be able to:
1. Describe ocular anatomy and physiology
   a. Globe
   b. Orbit and extraocular muscles
   c. Lacrimal system
2. Describe visual function testing
   a. Visual acuity
   b. Color vision
   c. Visual field to confrontation
   d. Depth perception
3. Describe refractive errors and presbyopia
4. Describe differing types of low vision (visual field loss, scotomas, acuity loss) and its functional implications for a patient (i.e. driving, reading, employment, mobility)

Vestibular - Anatomy and Physiology - Lecture
At the end of this session, the student shall be able to:
1. Describe the two major functions of the vestibular system
2. Describe the anatomy of the semicircular canals and otolith organs and explain how they sense angular and linear acceleration
3. Describe the horizontal vestibulo-ocular reflex and explain how it is generated
4. Explain the purpose of physiological vestibular nystagmus and how pathological vestibular nystagmus is generated
5. Describe the anatomy of the vestibular nerve, internal auditory canal and cerebellopontine angle
6. Outline the major pathways mediating vestibulospinal reflexes

Chronic Visual Loss - Lecture
At the end of this session, the student shall be able to:
Recognize the signs and symptoms, understand the management and make appropriate referral for the following conditions causing chronic visual loss:
1. Ocular media
   a. Corneal scarring
   b. Cataracts
2. Chronic open angle glaucoma
3. Age-related macular degeneration
4. Diabetic retinopathy
5. Compressive optic neuropathy
The Eye and the Body - Lecture
At the end of this session, the student shall be able to:
Describe the interactions between systemic and ocular diseases and treatments:
1. Diabetes Mellitus
2. Hypertension
3. Dysthyroidism
4. AIDS and syphilis
5. Autoimmune Disease (i.e. AS, Sjogren’s, JRA, RA)
6. Medications
7. Ocular effects of systemic medications
8. Systemic effects of ocular medications

Acute Visual Loss
1. Describe an anatomical approach to acute vision loss
2. Obtain a complete and accurate history related to acute vision loss
3. Identify crucial elements of an ocular examination
4. Identify and correctly diagnose from a history and clinical exam the following diagnoses:
   a) Corneal Abrasion
   b) Corneal Ulcer
   c) Anterior Uveitis
   d) Acute Angle Closure Glaucoma
   e) Optic Neuritis
   f) Retinal Detachment
   g) CRAO/BRAO
   h) CRVO/BRVO
   i) Ophthalmic Artery Occlusion
5. Distinguish and explain the relevant differences between a corneal abrasion and a corneal ulcer
6. Identify patients requiring investigation for temporal arteritis and describe the workup and immediate treatment required
7. Describe the physical exam findings of optic disc edema
8. Correctly describe what is meant by the terms papilledema, optic disc edema, and papillitis
9. Describe the vascular anatomy of the eye and the occipital lobes
10. Briefly discuss the roles of oral and intravenous steroid therapy in patients with a first presentation of optic neuritis

Ophthalmic Emergencies and Trauma
At the end of this session, the student shall be able to:
1. Develop an understanding and approach to common ocular presentations in an urgent setting
2. Obtain a complete and accurate history related to ocular emergencies
3. Identify crucial elements of an ocular examination
4. Identify and be able to start initial treatment for the following presentations:
   a) Chemical injury
   b) Painful atraumatic loss of vision
   c) Painless loss of vision
   d) Ocular trauma
5. Be able to recognize the urgency of treatment and referral of common ocular emergencies

Medications and the Eye - Lecture

Occular Pathology & Tumors – Lecture

Red Eye
At the end of this session, the student shall be able to:
Recognize the signs and symptoms and understand management for the following eye conditions causing red eye(s):
1. Dry eyes / Blepharitis
2. Corneal erosion syndrome
3. Corneal infection – dendrite, ulcer, contact lens related
4. Uveitis
5. Acute glaucoma
6. Post surgical endophthalmitis

**Pediatric Ophthalmology / Strabismus**

At the end of this session, the student shall be able to:

Recognize childhood ocular diseases and their implications in the immature visual system of children:
1. Amblyopia – causes and management
   a. Visual axis obscuration
   b. Refractive errors
   c. Strabismus
2. Retinopathy of prematurity
3. Leukocoria
4. Strabismus
   a. Childhood
   b. Persistence into adulthood
5. Orbital cellulitis
6. Tear duct blockage

**Diplopia and Pupillary Abnormalities**

At the end of this session, the student shall be able to:

1. Describe the anatomy of the third, fourth, and sixth cranial nerves and the eye muscles
2. Identify the weak ocular muscles using the two principles of subjective diplopia analysis
3. Localize the site of the lesion causing diplopia based on the pattern of ocular muscle weakness and other features such as pupillary findings, orbital signs and muscle fatigability
4. List the common causes of sixth, third and fourth cranial nerve palsies
5. Identify the clinical features of thyroid eye disease, ocular myasthenia and internuclear ophthalmoplegia
6. Describe the anatomy of the parasympathetic and sympathetic innervations of the pupil
7. Identify the clinical features of Adie’s syndrome (tonic pupil) and Horner’s syndrome

**Ophthalmology – Clinical Vignettes - Lecture**

**Ophthalmology – Clinical Skills Workshop**

At the end of this session, the student shall be able to:

1. Obtain a history of ocular disease from a patient or their guardian
2. Measure and record visual acuity in adults and preverbal children
   a. Make and use a pinhole lens
3. Use the direct ophthalmoscope to examine the optic nerve, macula and retinal blood vessels
4. Test visual fields to confrontation
5. Examine pupil response (light, accommodation, relative afferent pupillary defect)
6. Understand and perform Amsler Grid testing
7. Examine everted eyelids for disease and foreign matter
8. Understand the normal range of IOP; understand there are various methods of measurement; understand how to measure IOP with the Tonopen
9. Examine external ocular structures with a penlight
10. Obtain the red reflex for media clarity and focus
11. Evaluate ocular alignment via light reflex and cover testing
12. Instill eye drops and use fluorescein dye on the cornea
13. Properly apply and understand indications for a pressure eye patch vs. an eye shield
Hearing Loss, Tinnitus and Ear Pain
At the end of this session, the student shall be able to:
1. Describe the basic embryology of the ear.
2. Describe the anatomy of the ear.
3. Describe the types of audiometric tests available.
4. Provide an interpretation of an audiogram.
5. Classify types of hearing loss and give an approach for hearing loss in both pediatric and adult patients.
6. Describe the appropriate radiographic and laboratory work up of hearing loss and tinnitus.
7. Provide a classification of causes of tinnitus.
8. Classify types of otalgia and give clinical examples of each type.
9. Understand the neural pathways that lead to referred otalgia.
10. Describe treatment options for hearing loss, tinnitus and otalgia.

Dysphonia
At the end of this session, the student should be able to:
1. Be able to define dysphonia
2. Understand an overview of the muscular and cartilaginous anatomy of the larynx
3. Describe the innervation of the larynx and the implications of deficits in this innervation.
4. Understand the basic physiology of the larynx
5. Understand what a relevant history and physical examination of the larynx is.
6. Be able to give a broad differential diagnosis in patients with dysphonia
7. Know the important diagnostic and treatment points relevant to each common laryngeal pathology.
8. Understand the basic treatment and pathophysiology of paradoxic vocal cord motion (PVFM).

Vertigo – Clinical
At the end of this session, the student shall be able to:
1. Describe the important features of the history taking and examination of the dizzy patient: examination of the cranial nerves (including hearing assessment), balance and examination for nystagmus
2. Describe the more common clinical presentations: vestibular neuritis, benign positional paroxysmal vertigo (BPPV), endolymphatic hydrops, imbalance of the elderly, acoustic schwannoma, ototoxicity and the differential diagnosis of atypical forms of the above
3. Describe aspects of the history which would suggest the need for urgent referral to ENT or Neurology
4. Describe the testing procedures available in the investigation of the dizzy patient including electrophysiological as well as diagnostic imaging.
5. Describe the initial and ongoing management of the common forms of vertigo.

Geriatric medicine
The Biology of Aging/Intro to Geriatrics – Lecture
At the end of this lecture the student will be able to:
1. Define commonly used terminology in the study of aging.
2. Describe some of the changes seen in normal aging in an individual, diversity in aging populations and the disease-aging relationship
3. Explain the role of the geriatrician in the care of an older adult
4. Recognize frailty in patients using evidence-based methods and describe the relationship between frailty and morbidity/mortality.

Aging Pharmacology - Lecture
At the end of the presentation students will be able to:
1. Distinguish pharmacokinetics from pharmacodynamics and explain how these change with ageing.
2. Describe factors common in older adults that must be considered when prescribing medications.
3. Define polypharmacy, prescribing cascade, adverse drug reaction, medication error, nonadherence and appropriate prescribing for an older patient. Explain their importance in the care of older patients.
4. Discuss the cytochrome P450s group of enzymes and their importance in the metabolism of many drugs. Define substrates, inhibitors, and inducers.
5. Identify challenges in pharmacotherapy in older adults, including polypharmacy, prescribing cascades, adherence, adverse drug reactions and drug interactions.

Falls - Lecture
At the end of the session the student will be able to demonstrate:
1. Discuss the significance of falls in relation to morbidity and mortality in older adults.
2. Give examples of risk factors for falls in older adults and identify the strongest risk factor for falls.
3. Outline an evidence-based approach to assessing the risk of falling in an older adult.
4. Outline an approach to the management of falls and fracture prevention in an older adult.

Constipation & Incontinence – Lecture & Small Group
By the end of the session, the students should be able to:
1. Describe an approach to urinary incontinence;
2. List the common causes of transient urinary incontinence;
3. Distinguish between the types of chronic urinary incontinence
4. Explain the management of urge, stress, and functional incontinence (overflow incontinence will not be covered in the case, but management of this is listed in the core document)
5. Identify factors that predispose the elderly to constipation;
6. Describe an approach to management of constipation in the elderly;
7. List the main non-pharmacologic and pharmacologic types of treatment of constipation
8. List a differential diagnosis for fecal incontinence;
9. Describe a management approach to a patient with fecal incontinence

Weight Loss: Aging – Lecture
Weight loss in elderly
At the end of this session, the student shall be able to:
1. Define unintentional and significant weight loss.
2. Demonstrate an approach to assessment and management of unintentional weight loss in older adults.
3. List three or more etiologies on a differential diagnosis for weight loss in older adults.
4. Identify five of the common medications that can contribute to weight loss in older adults.
5. Describe the components of a physical examination of an older adult with unintentional weight loss
6. List three screening tools that are validated for weight loss in older adults.
7. Name two community resources for supporting older adults with weight loss.

Well Elderly - Lecture
At the end of this session, the student shall be able to:
1. Review the criteria for successful screening
2. Review and promote Canadian Task Force Guide to Clinical Preventative Health Care as it pertains to the elderly.
3. Discuss strategies to promote (high quality) longevity

Driving - Lecture
By the end of this session, the student shall be able to:
1. Describe the legal requirements for the assessment of older drivers, and the reporting of potentially unsafe drivers
2. List a mnemonic to assist in the assessment of the older driver
3. Identify the issues pertaining to the assessment of driving in patients with dementia
4. Describe resources available to assist you in the assessment of the older driver

Comprehensive Geriatric Assessment – Lecture
At the end of this lecture, the student shall be able to:
1. Describe the unique challenges of providing health care to medically complex frail older adults
2. List four or more reasons why older adults may have atypical presentation of illness
3. Identify patients for whom a Comprehensive Geriatric Assessment (CGA) may be a cost-effective and beneficial intervention.
4. List the domains addressed by CGA

Assessment of Older Adults/Frailty – Small Group
At the end of this session, the student will be able to:
1. Apply the Clinical Frailty Scale to patients to assess frailty.
2. Describe a Comprehensive Geriatric Assessment (CGA) and the role of the multidisciplinary team.
3. Apply the frame work of a CGA on patients to come up with a problem list and management plan.
4. List core community resources (including housing), gaps in support and how a ‘frail-friendly’ health system might remedy these gaps

Aging Pharmacology – Small Group
At the end of this small group session, the student will be able to:
1. Identify and apply a common method of estimating creatinine clearance in older adults. Use this to demonstrate age-related differences in kidney function. Identify commonly used medications that can negatively affect kidney function in elderly.
2. Use online resources to identify drug classes, indications, doses, adverse effects and interactions.
3. Identify, in case scenarios, examples of over-use, under-use and misuse of medications.
4. Identify, in case scenarios, likely prescribing cascades.
5. Practice, with case scenarios, rational medication review and deprescribing

Practical Management of Dementia – Small Group:
At the end of the session, the student shall be able to:
1. Outline the nonpharmacological management of older adults (OA) with dementia living in the community
2. Describe the role of various allied health professionals and community organizations in the care of OA with dementia in the community
3. List the types of Elder Abuse and potential management strategies
4. Outline an approach to Capacity Assessment in OA with dementia
5. Describe the classification of care facilities in Alberta and how to access them
6. Describe potential factors facing OA who identify as LGBQT2+ living in care facilities

The Older Patient in Hospital – Small Group
At the end of the session, the student shall be able to:
1. List ways in which disease can present differently in the older adult and consider the reasons behind these differences.
2. Describe an approach to the assessment of non-specific symptoms in elderly patients.
3. Identify the features which lead to a person being considered frail.
4. Describe the risks of hospitalization and prolonged bedrest to older patients
5. Describe an approach to preventing and managing delirium in the hospital
6. Describe the unique issues involved in caring for an older hospitalized patients, including rehabilitation needs, falls prevention, addressing sensory deficits and discharge planning
Palliative Care

By the end of the lecture, the student will be able to:
1. To understand the basic concepts of symptom management in palliative care patients.
2. To learn the important features of the use of opioids for symptom management, including their risks and side effects.

Advanced Care Planning - Lecture

1. To learn about Communication, Goals of Care and Advance Care Planning in palliative patients.

Palliative Care – Small Group

1. Distinguish between different types of pain based on classic descriptions and list common management strategies for each.
2. Describe the concept of “total pain” and discuss how this influences assessment and management.
3. Initiate, titrate and rotate opioids (with appropriate supervision) in the setting of palliative pain.
4. List common adverse effects of opioids and propose management strategies for same.
5. Recognize symptoms of opioid neurotoxicity.
6. Recognize spinal cord compression as a medical emergency and outline an approach to assessment and management.
7. Apply an approach to management of delirium in patients with advanced cancer.
8. Describe the use of opioids for management of dyspnea.

Pain

What is Pain? - Lecture

By the end of the lecture, the student will be able to:
1. Define nociception, pain and suffering
2. Discuss the factors which influence a patient’s pain experience
3. Explain pain to a patient, with reference to pathophysiology as well as cognitive contributors

Essentials of Pain Assessment - Lecture

By the end of the lecture, the student will be able to:
1. Perform a focused history and physical exam of a patient with pain
2. Considering what you learned from history and physical, arrive at a pain formulation/diagnosis
3. Use appropriate special tests or scales to better define pain or predict response to treatment

Evidence Based Treatments for Pain - Lecture

By the end of the lecture, the student will be able to:
1. Develop a multidisciplinary treatment plan for a patient with acute or chronic pain
2. Explain to a patient the role of medications in a treatment plan
3. Explain to a patient in concrete terms what so-called “conservative treatments” mean (and the evidence to support them)

Medical management of Pain - Lecture

By the end of the lecture, the student will be able to:
1. Outline major classes of analgesics, and their evidence for risk and benefit
2. Identify conditions where clinical practice guidelines exist to provide a framework for prescribing (including CRPS because it’s an LMCC objective)
3. Identify where there is (or is not) a role for opioids

First Do No Harm: mitigating harm from pain treatments - Lecture

By the end of the lecture, the student will be able to:
1. Discuss the societal impact of opioid prescribing and clinicians’ role in protecting patients
2. Develop a plan for addressing less evidence-based treatments that patients encounter outside your office (cannabis, LSD, psilocybin, ketamine comas)
3. Monitor a patient for complications and develop an approach for what to do when things don’t go as expected
4. Understand how the context of the patient visit and biases of the provider and patient create pressure to offer inappropriate treatment

Pain Cases I (Acute) – Small Group
1. Assess acute back pain and consider the need for investigation
2. Develop a treatment plan for low back pain with nerve root features
3. Be comfortable applying an approach to pain management of an acute trauma
4. List the key components in a post operative pain management plan
5. Plan a taper and discontinuation of opioids started in the acute scenario

Pain Cases II (Chronic) – Small Group
1. Make a diagnosis of neuropathic pain based on history and physical exam findings
2. Frame the basic components of a treatment plan for neuropathic pain
3. Make a diagnosis of trigeminal neuralgia based on history and physical exam findings
4. Describe management strategies for trigeminal neuralgia and compare where they differ to other causes of neuropathic pain
5. Recognize that chronic back pain does not require imaging simply because it is chronic
6. Be ready to review a chronic back pain diagnosis frequently to consider the possibility of red flags that were not evident on initial presentation
7. Direct a patient appropriately to resources to address yellow flags impacting disability
8. Resist an urge to initiate opioids out of desperation
9. Explain to the patient why he still has pain after his successful surgery
10. Frame a basic treatment strategy that relies on non-opioid therapies
11. Appropriately position opioids as a third or fourth line option for chronic neuropathic pain and describe the steps in an opioid trial