University of Calgary  
Werklund School of Education  
Office of Graduate Programs in Education  

EDPS 654 L02  
Neurobiological and Developmental Bases of Learning and Behaviour  
Fall 2016

Instructor: Dr. Erica Makarenko, PsyD, NCSP  
Email: embacken@ucalgary.ca  
Office Hours / Virtual Office Hours: By appointment

Term Dates: September 12, 2016 – December 9, 2016  
Course Delivery: Blended - both synchronous and asynchronous delivery via Adobe Connect

Synchronous Sessions via Adobe Connect:  
• Thursday, September 15th from 6:00 – 8:00 pm MDT  
• Thursday, September 29th from 6:00 – 8:00 pm MDT  
• Thursday, October 13th from 6:00 – 8:00 pm MDT  
• Thursday, November 3rd from 6:00 – 8:00 pm MDT  
• Thursday, November 24th from 6:00 – 8:00 pm MST  
• Thursday, December 1st from 6:00 – 8:00 pm MST

Course Description:
This course examines the field of cognitive neuroscience from an assessment framework. It explores the evolving understanding of neurobehavioral disorders and new testing techniques and practices. This course is designed to provide students with an overview of brain development and brain-behavior relationships. We will also discuss neurophysiological and cognitive aspects of some disorders that are developmental in nature (e.g., learning disabilities, autism).

Learning Objectives:
Upon completion of this course, students are expected to be able to:  
1. Understand basic concepts pertaining to neuropsychology, including terminology, dimensions of behavior, classes of cognitive functions, executive functions and personality/ emotional variables.  
2. Recognize the behavioral geography of the brain: pathology and psychological functions, cellular substrates, structural and functional brain organization.  
3. Prepare to negotiate procedural and interpretation issues in cognitive testing.  
4. Develop clinical skills re: diagnostic issues and neurobehavioral variables.  
5. Analyze empirical literature regarding behavioral presentations of neuropathology (such as traumatic brain injury; vascular, degenerative, metabolic, endocrine and progressive disorders; brain tumors, toxic conditions and infectious processes).

Course Design and Delivery:
This is a fully online course delivered in a diverse format with both synchronous and asynchronous learning components. There will be a total of six (6) live, synchronous sessions during the course that students will be required to participate in. All assigned readings are to be completed prior to the respective class session. Students should plan to devote 5 to 10 hours per week to this course.

Please note that as this is an online course and all students are expected to have the technology to support online learning and it is the students' responsibility to make arrangements if their technology fails. Students who choose to attend Adobe Connect sessions using unfamiliar equipment (e.g., work computers) should test out the technology ahead of time. An inability to access technology because of holidays and vacations are not acceptable excuses for missing class.

• Adobe Connect will be used for online class meetings.
Desire2Learn (D2L) will provide a home base where students can get course information, readings, and resources, as well as participate in discussions and submit assignments. It is an expectation that UCalgary email will be used to communicate between the instructor and students.

The initial session is synchronous and will be held via Adobe Connect on **Thursday, September 15th from 6:00 - 8:00 pm MST**. This session provides an introduction to the course and an in-depth overview of the course outline including course requirements. This initial live session will also review assignments to be completed during the course and discuss group assignments.

The second live session will be held on **Thursday, September 29th from 6:00 - 8:00 pm MST**. This session will consist of an overview of brain development during gestation, a timeline of neural migration & differentiation or cells, and disorders of neural migration that may occur.

The third live session will be held on **Thursday, October 13th from 6:00 - 8:00 pm MST**. This session will review the assignments students have completed thus far, respond to questions students have regarding the readings and posted lectures, and will feature a presentation on the neurobiology of stress and the relationship between early experiences, epigenetics, brain development, and stress-related disorders.

The fourth live session will be held on **Thursday, November 3rd from 6:00 - 8:00 pm MST**. This session will review the Brief Assessment & Intervention Plan students have submitted, respond to questions students have regarding the readings and posted lectures, and will feature a presentation on executive abilities, dysexecutive syndromes, meta-cognitive processes, self-monitoring, insight, and overall emotional regulation.

The fifth live session will be held on **Thursday, November 24th from 6:00 - 8:00 pm MST**. This session will be designed to address questions regarding the scholarly research paper and the evidence-based intervention presentation. Additionally, this session will feature three student presentations on evidence-based interventions.

The sixth and final live session will be held on **Thursday, December 1st from 6:00 - 8:00 pm MST**. This last session will serve as a review in preparation for the final exam followed by the three remaining student presentations on evidence-based interventions.

**Late assignment policy:** All assignments are due by 11:59pm MST of the assigned date. For each day an assignment is late, you will lose 10% of the total mark for that assignment unless an extension has been granted in advance.

**REQUIRED TEXTS:**

There is no single required textbook for this course. There are, however, required readings for each week. Electronic readings are available through the links included in the course outline below and on D2L. The course instructor may assign additional readings during the course as needed. Students are responsible for obtaining all course materials not available in digital format.

**Week One (Sept. 6th - 11th): Introduction**

Course Outline

**Week Two (Sept. 12th - 18th): Basic foundations (neurons, neural processes, CNS divisions, brain circuits)**

Review of the brain from top to bottom (McGill Brain) website. This website provides an overview of the organization of the CNS.

http://thebrain.mcgill.ca/flash/d/d_01/d_01_cr/d_01_cr_ana/d_01_cr_ana.html

**Week Three (Sept. 19th - 25th): Brain development during gestation, timeline of neural migration & differentiation, disorders of neural migration**

Readings from Gray's Anatomy:
Week Four (Sept. 26th – Oct. 2nd): Brain development during childhood and adolescence, myelination, pre-programmed cell death (and disorders thereof), plasticity


Week Five (Oct. 3rd – 9th): Neurobiology of stress, the relationship between early experiences, epigenetics, brain development, and stress-related disorders


Week Six (Oct. 10th – 16th): Motor and sensory functions, sensory integration, related disorders


Week Seven (Oct. 17th – 23rd): Attention and working memory, learning and long-term memory, disorders of attention and memory


Week Eight (Oct. 24th – 30th): Receptive and expressive language, cortical representation of language functions, communication disorders


Week Nine (Oct. 31st – Nov. 6th): Executive abilities, dysexecutive syndromes, meta-cognitive processes, self-monitoring, insight, emotional regulation

Week Ten (Nov. 7th – 13th): No classes - Reading Week

Week Eleven (Nov. 14th – 20th): Disorders of childhood and adolescence I: autism and other pervasive developmental conditions


Week Twelve (Nov. 21st – 27th): Disorders of childhood and adolescence II: neurobiology of reading disorders (e.g. dyslexia)


Week Thirteen (Nov. 28th – Dec. 4th): Disorders of childhood and adolescence II: neurobiology of mathematics disorders (e.g. developmental dyscalculia)


Week Fourteen (Dec. 5th – Dec. 9th): Review of all course readings for final exam

Tentative Weekly Course Schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings &amp; Tasks</th>
<th>Tasks &amp; Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Intro to course</td>
<td>- Course outline</td>
<td>- 1st Synchronous Adobe Connect Session Thursday, Sept. 8th, 6:00-8:00 pm MST</td>
</tr>
<tr>
<td>Sept. 12th – 18th</td>
<td>Basic foundations (neurons, neural processes, CNS divisions, brain circuits)</td>
<td>- Required Readings</td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td>Basic foundations (neurons, neural processes, CNS divisions, brain circuits)</td>
<td>- Posted Lecture</td>
<td>- 2nd Synchronous Adobe Connect Session Thursday, Sept. 22nd, 6:00-8:00 pm MST</td>
</tr>
<tr>
<td>Sept. 19th – 25th</td>
<td>Basic foundations (neurons, neural processes, CNS divisions, brain circuits)</td>
<td>- Required Readings</td>
<td></td>
</tr>
<tr>
<td>Week 3</td>
<td>Brain development during gestation, childhood, &amp; adolescence; Neural migration &amp; differentiation, myelination, pre-programmed cell death plasticity</td>
<td>- Required Readings</td>
<td></td>
</tr>
<tr>
<td>Sept. 26th – Oct. 2nd</td>
<td>Brain development during gestation, childhood, &amp; adolescence; Neural migration &amp; differentiation, myelination, pre-programmed cell death plasticity</td>
<td>- Inquiry task due Oct. 6th by 11:59 pm MST</td>
<td></td>
</tr>
<tr>
<td>Week 4</td>
<td>Neurobiology of stress, the relationship between early experiences, epigenetics, brain development, and stress-related disorders</td>
<td>- Required Readings</td>
<td></td>
</tr>
<tr>
<td>Oct. 3rd – 9th</td>
<td>Neurobiology of stress, the relationship between early experiences, epigenetics, brain development, and stress-related disorders</td>
<td>- Posted Lecture</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Review classmate’s inquiries; provide comments</td>
<td></td>
</tr>
</tbody>
</table>
| Week 6  | Oct. 10th – 16th | Motor and sensory functions, sensory integration, related disorders |  |  - Required Readings  
  - Review classmate’s inquiries; provide comments  |  - 3<sup>rd</sup> Synchronous Adobe Connect Session Thursday, Oct. 13<sup>th</sup>, 6:00-8:00 pm MST |
|---------|------------------|------------------------------------------------------------------|---|--------------------------|--------------------------------------------------|
| Week 7  | Oct. 17th – 23rd | Attention and working memory, learning and long-term memory, disorders of attention and memory |  |  - Required Readings  
  - Posted Lecture  |  - Brief Assessment & Intervention Plan task due Oct. 23<sup>rd</sup> by 11:59 pm MST |
| Week 8  | Oct. 24th – 30th | Receptive and expressive language, cortical representation of language functions, communication disorders |  |  - Required Readings  
  - Posted Lecture  |  - Review of peers’ Brief Assessment & Intervention Plan presentations; responses to peers |
| Week 9  | Oct. 31<sup>st</sup> – Nov. 6<sup>th</sup> | Executive abilities, dysexecutive syndromes, meta-cognitive processes, self-monitoring, insight, emotional regulation |  |  - Required Readings  |  - 4<sup>th</sup> Synchronous Adobe Connect Session Thursday, Nov. 3<sup>rd</sup>, 6:00 – 8:00 pm MST |
| Week 10 | Nov. 7<sup>th</sup> – 13<sup>th</sup> | No classes – Reading Week |  |  |  |
| Week 11 | Nov. 14<sup>th</sup> – 20<sup>th</sup> | Disorders of childhood and adolescence I: autism and other pervasive developmental conditions |  |  - Required Readings  
  - Posted Lecture  |  - Scholarly Research Paper due Nov. 20<sup>th</sup> by 11:59 pm MST |
| Week 12 | Nov. 21<sup>st</sup> – 27<sup>th</sup> | Disorders of childhood and adolescence II: neurobiology of reading disorders (e.g. dyslexia) |  |  - Required Readings  
  - Evidence-Based Intervention Presentations  |  - 5<sup>th</sup> Synchronous Adobe Connect Session Thursday, Nov. 24<sup>th</sup>, 6:00-8:00 pm MST  
  - Evidence-based Intervention Presentations (3) & Response Postings |
| Week 13 | Nov. 28<sup>th</sup> – Dec. 4<sup>th</sup> | Disorders of childhood and adolescence II: neurobiology of mathematics disorders (e.g. developmental dyscalculia) |  |  - Required Readings  
  - Evidence-Based Intervention Presentations  |  - 6<sup>th</sup> Synchronous Adobe Connect Session Thursday, Dec. 1<sup>st</sup>, 6:00-8:00 pm MST  
  - Evidence-based Intervention Presentations (3) & Response Postings |
| Week 14 | Dec. 5<sup>th</sup> – 9<sup>th</sup> | Review Readings – Final Exam |  |  Review for Final Exam  |  - Final Exam due Dec. 8<sup>th</sup> by 10:00 pm MST |

**Changes to Schedule:**
Please note that changes to the schedule may occur in response to student questions and conversations.

**Learning Tasks and Assessment**
There are 5 required Learning Tasks for this course. The completion of all assigned tasks is required for a passing grade in the course.

<table>
<thead>
<tr>
<th>Learning Tasks</th>
<th>Description of Learning Task</th>
<th>Percent of Final Grade</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Task #1</td>
<td>Inquiry Activity</td>
<td>10%</td>
<td>Oct. 6&lt;sup&gt;th&lt;/sup&gt; by 11:59 pm MST</td>
</tr>
<tr>
<td>Learning Task #2</td>
<td>Brief Assessment &amp; Intervention Plan</td>
<td>15%</td>
<td>Oct. 27&lt;sup&gt;th&lt;/sup&gt; y 11:59 pm MST</td>
</tr>
<tr>
<td>Learning Task #3</td>
<td>Scholarly Research Paper</td>
<td>25%</td>
<td>Nov. 20th by 11:59 pm MST</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------</td>
<td>-----</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Learning Task #4</td>
<td>Evidence-based Intervention Presentation</td>
<td>25%</td>
<td>Nov. 23rd by 11:59 pm MST</td>
</tr>
<tr>
<td>Learning Task #5</td>
<td>Final Exam</td>
<td>25%</td>
<td>Dec. 8th by 10:00 pm MST</td>
</tr>
</tbody>
</table>

**Learning Task 1: Inquiry Activity (10%) Due: Thursday, Oct. 6th by 11:59 pm MST**

Students are expected to engage in close readings of the assigned material, as well as a broader reading of their own choosing to help enrich classroom discussions and learning. For this task, students are to articulate a question based on the assigned previous weekly readings and lectures from weeks 2-4 and read more broadly (i.e., beyond the assigned readings) to answer their question (minimum of 3 additional readings).

Students are required to submit their inquiry task consisting of the following information:
1. Their question for inquiry and how they arrived at the inquiry question;
2. References (minimum 3) for the articles used to answer their inquiry question;
3. A summary of knowledge obtained, and
4. How this information will benefit them in their future practice.

Inquiry summaries will be evaluated based on the quality of the question (e.g., appropriateness, reliance to topic of study, requires scientific approach to answer), appropriateness of referenced article (e.g., peer reviewed, key or seminal articles), thoroughness of summary statement (e.g., sufficient detail, identifies both areas known and areas for further study), and applicability to future practice (e.g., relevance to practice, implications for working with students and families and for developing interventions). This assignment may be helpful for students to begin looking further at topics they may be interested in for their scholarly research paper.

Once the task is completed, students will share their inquiry question and what they discovered through their further inquiry in a Discussion Forum in D2L. The post made in D2L should NOT be your entire inquiry task - rather, please submit a one-paragraph summary of your inquiry question and the main points that you found in your research. In the week following the due date for this task, you will then go into D2L and read/comment/question on your classmates’ inquiry tasks. The idea here is to further your information on a number of topics that your classmates researched independently. Please comment or provide a question on at least two (2) of your classmate’s inquiry tasks.

The inquiry task should follow APA formatting and include a cover page and reference page. The assignment should be between 2 and 3 double-spaced pages (excluding the cover page and reference page).

The evaluation form for this learning task can be found at the end of the course outline in Appendix A.

---

**Learning Task 2: Brief Assessment & Intervention Plan (15%) Due: Thursday, Oct. 27th by 11:59 pm MST**

As with the first task, it is expected that students engage in readings of the assigned material as well as broader readings to further their own understanding and knowledge base. For this second task, students are to articulate a specific area of neuropsychological deficit (i.e., working memory, attention, language, motor functioning, EF, etc.) and describe this condition and its major features concisely. Once the condition is described, students are to develop a brief plan of how to assess for this deficit in a school-aged child and then describe a possible evidence-based intervention for this
disorder. For this assignment, you are not to write a paper but put together a PowerPoint presentation that you will post to D2L.

Students are required to submit this task consisting of the following information:

1. The area of neuropsychological feature/deficit they are examining and why they chose this area;
2. A concise description of this feature/deficit, how it develops and presents in children, major features or characteristics of the deficit, symptoms to look for;
3. A plan for assessment of this deficit (if you thought a student may have the deficit, what would you do? What assessment tools would you use and why? Would you consult with other professionals? Whom or why?);
4. Assuming the child you assessed required intervention for this area of deficit, provide an evidence-based intervention to implement in a school setting for this child, explain why you chose this intervention, and how it could possibly be monitored for effectiveness

As with the first task, once the task is completed, students will share their presentation in a Discussion Forum in D2L. In the week following the due date for this task, you will then go into D2L and read/comment/question on your classmate’s brief assessment & intervention plans. The idea again is to further your information on a number of disorders that your classmates have researched independently. This assignment (and those done by your classmates) will serve as a resource for you in the future. I would strongly recommend saving these presentations for later in your practicum and internship for when you encounter a student with a specific neuropsychological feature or deficit. After reviewing your classmate’s presentations, please comment or provide a question on at least two (2) of your classmate’s inquiry tasks.

Please make sure you cite all your resources on a slide at the end of your presentation. This assignment also may be helpful for students to begin looking further at topics they may be interested in for their scholarly research paper.

The evaluation form for this learning task can be found at the end of the course outline in Appendix B.

---

**LEARNING TASK #3: Scholarly Research Paper (25%) - DUE: Sunday, Nov. 20th by 11:59 MST**

For Learning Task 2, students will submit a research paper reviewing NO MORE THAN 3 neuropsychological features presented in a clinical condition of interest. "Neuropsychological features" are very broadly defined as symptoms of central nervous system dysfunction. Distractibility, memory deficits, disinhibition, neglect, and anomia are all examples of "neuropsychological features". You may choose to write about clinical conditions or issues such as attention problems, language or motor deficits, emotional dysregulation, depression, anxiety disorders, PTSD, autism, learning disabilities, and so on.

This is an academic, scholarly research paper. As such, the paper should be approximately 2,500 words in length (approximately 10 double-spaced pages, not including title page and references) and MUST adhere to APA style and formatting. It is expected that you consult a minimum of 8 to 10 resources other than prescribed resources, including websites, journals, or newspapers. At least 6 of these resources should be from peer-reviewed journals. Please ensure that the resources you choose are both recent and relevant to your topic.

Your research paper should include the following information:

- **Introduction** - Clearly and specifically indicates your clinical condition and why you chose it
- **Clinical Condition** - Describe the chosen condition in detail (symptoms, diagnosis, evolution of the condition over time, related factors or indicators); include applicable research on the clinical condition itself
- **Neuropsychological Features** - Clearly identify and explain at least one but no more than three neuropsychological features associated with or implicated in this condition and how these
impact presentation of the condition; include applicable research into the associated neuropsychological features

- Conclusion - Integration of key
- Organization - Well defined paragraphs with topic sentences; logical order; strong transitions; clear sentence structure

As previously stated, all papers must follow the APA format according to The Publication Manual of the American Psychological Association - Sixth Edition. Also, you are strongly encouraged to utilize both the APA manual and the APA formatting resources in D2L for this assignment. In addition to general APA formatting, please follow the additional guidelines:

- 2500 words (give or take 200 words) - excluding cover page and references
- No abstract or table of contents necessary
- Paper should be double-spaced with 1 inch margins
- Paper should use 12 point font (Times New Roman)

The scoring key including details for this assignment is can be found in Appendix C.

LEARNING TASK #4: Evidence-based Intervention Presentation (25%) - DUE: Thursday, Nov. 23rd by 11:59 pm MST

Students will get into small groups in the first few weeks of the term (group size will be determined once all students are registered for the course). Each group will record a presentation on an evidence-based, school-based intervention in Adobe Connect. For clarity’s sake, this presentation will take a similar format to your Brief Assessment & Intervention Plan but will be much more comprehensive and detailed than your brief plan. The interventions chosen for the presentation must be different from the one chosen for learning task 2. The rest of the class will listen to the recorded presentations during the last few weeks of class and then pose a response, comment, or question in D2L based on the presentations viewed within 3 days hours of viewing the presentations that week. You do not have to provide a response or discussion question for your own presentation.

The presentation is to be 30 minutes in duration, and to include:

(1) Overview of the neuropsychological construct or feature you are planning the intervention for;
(2) A description of the intervention (e.g. target area, age range, costs, training requirements);
(3) Demonstration of a specific activity in the intervention and plan for implementation (what it looks like, what the schedule for implementation would be; direct vs. consultative involvement for SP, schedule of activities, who would need training, how you will measure effectiveness, etc.);
(4) A review of research basis for this intervention;
(5) A critical review of the intervention (pros, cons, difficulty in measuring effectiveness, timelines for typical results, etc.). Students will post handouts of the PPT slides for the class along with a reference list in D2L

Groups will sign up for the neuropsych feature & related intervention they wish to present in a discussion board forum to avoid more than one group reviewing the same intervention. In addition to submitting your presentation to D2L by the due date, groups are also to create a handout for their classmates highlighting the key information from their presentation and resources for the intervention. You will submit this 2 page (1 sheet of paper, front and back) handout to D2L as well by the due date along with a PDF copy of your presentation slides.

The scoring key including details for Learning Task 4 can be found in Appendix D.

LEARNING TASK #5: Final Exam (25%) - DUE: Thursday, Dec. 8th by 10:00 pm MST
The final examination will be an online exam consisting of 50 items. These items will be a blend of true/false questions, multiple choice, matching, and short answers. Students will complete the exam on Thursday, December 8th. The exam will become available to students at 6:00 pm MST and will be open for completion until 10:00 pm MST. This means you will have 4 hours to complete the exam. While it is not feasible to prohibit cooperation on such exams, students will be expected to complete every question for themselves. Test items without technical adequacy will be given automatic credit for all students.

**Graduate Programs in Education: Grading Scale**

<table>
<thead>
<tr>
<th>Grade</th>
<th>GP Value</th>
<th>Percent</th>
<th>Graduate Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.0</td>
<td>95-100</td>
<td>Outstanding</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
<td>90-94</td>
<td>Excellent - superior performance showing comprehensive understanding of the subject matter</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
<td>85-89</td>
<td>Very good performance</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td>80-84</td>
<td>Good performance</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td>75-79</td>
<td>Satisfactory performance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Note:</strong> The grade point value (3.0) associated with this grade is the minimum acceptable average that a graduate student must maintain throughout the program as computed at the end of each year of the program.</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td>70-74</td>
<td>Minimum pass for students in the Faculty of Graduate Studies</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<td>65-69</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td>60-64</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
<td>55-59</td>
<td>All grades below B- are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
<td>50-54</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
<td>45-49</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
<td>&lt; 45</td>
<td></td>
</tr>
</tbody>
</table>

*Based upon Faculty of Graduate Studies 2016/2017 Calendar, “Distribution of Grades”

It is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades.

-----------------------------

**Werklund School of Education Appeals Policy and Process**


**Universal Student Ratings of Instruction (USRIs)**

Students are strongly encouraged to complete course evaluations for each course taken in their program. Student feedback on their experience in a course is taken very seriously by the Werklund School of Education in timetabling and staffing courses. Student feedback via the Course Evaluation is used to monitor the quality of teaching, the quality of students' learning experiences and the quality of course design in Graduate Programs in Education.

Students are advised to become familiar with the Faculty of Graduate Studies policies and the University of Calgary support services in these areas: intellectual property, academic integrity, plagiarism, research ethics, effective writing, and English language proficiency. Information about these topics is available through the following web addresses:

- Plagiarism + academic misconduct: [http://www.ucalgary.ca/pubs/calendar/grad/current/gs-o.html](http://www.ucalgary.ca/pubs/calendar/grad/current/gs-o.html)
- Intellectual Honesty: [http://www.ucalgary.ca/pubs/calendar/grad/current/gs-m.html](http://www.ucalgary.ca/pubs/calendar/grad/current/gs-m.html)
- Integrity: [http://www.ucalgary.ca/pubs/calendar/grad/current/gs-r.html](http://www.ucalgary.ca/pubs/calendar/grad/current/gs-r.html)
- Research Ethics: [http://www.ucalgary.ca/research/researchers/ethics-compliance](http://www.ucalgary.ca/research/researchers/ethics-compliance)
Grad Skills: http://grad.ucalgary.ca/mygradskills
Intellectual Property: http://grad.ucalgary.ca/current/managing-my-program/academic-integrity/intellectual-property
Student Success: http://www.ucalgary.ca/ssc/

Graduate Studies Calendar, Excerpts on Plagiarism:
O.1.a) Definitions
1. Plagiarism - Plagiarism involves submitting or presenting work as if it were the student’s own work when it is not. Any ideas or materials taken from another source written, electronic, or oral must be fully and formally acknowledged.
(b) Parts of the work are taken from another source without reference to the original author.
(c) The whole work (e.g., an essay) is copied from another source, and/or,
(d) A student submits or presents work in one course which has also been submitted in another course (although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved.

O.1.b) Penalties can include and are not limited to:
1. Failing Grade - A student may be given a failing grade in either an exercise or course in which that student is found guilty of plagiarism, cheating or other academic misconduct. A student may not avoid a failing grade by withdrawing from the course.
2. Disciplinary probation.
3. Suspension.
4. Expulsion.

Copyright: All material used in the course is for the sole use of the individual and should not be recopied in either print or digital format. For copyright guidelines, including those relating to photocopying and electronic copies, please refer to the Association of Universities and Colleges of Canada (AUCC) fair dealing guidelines: http://library.ucalgary.ca/copyright

Academic Accommodations - It is the students' responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodations and have not registered with Student Accessibility Services, please contact them at 403-220-6019. Students who have not registered with Student Accessibility Services are not eligible for formal academic accommodations. More information about academic accommodations can be found at www.ucalgary.ca/access.

Accommodations on Protected Grounds other than Disability
Students who require an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to their Instructor or the appropriate Associate Dean, Department Head or the department/faculty designated contact person. Students who require an accommodation unrelated to their coursework or the requirements for a graduate degree, 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/.

Campus Security provides a range of services intended to promote and facilitate a safe and secure learning and living environment, e.g. the SafeWalk program for students attending classes on campus. For more information please visit http://www.ucalgary.ca/security/ or telephone 403-220-5333.

The Freedom of Information Protection of Privacy Act (FOIPP) prevents instructors from placing assignments or examinations in a public place for pickup and prevents students from access to exams or assignments other than their own. Therefore, students and instructors may use one of the following options: return/collect assignments during class time or during instructors' office hours, students provide instructors with a self-addressed stamped envelope, or submit assignments, or submit/return assignments as electronic files attached to private e-mail message.

Emergency Evacuation Assembly Points - For both the Education Tower and Education Block, use the Scurfield Hall Atrium (Primary) or Professional Faculties Foodcourt. See: http://www.ucalgary.ca/emergencyplan/assemblypoints
## Appendix A. Criteria For Assessment of Learning Task 1 - Inquiry Task #1

<table>
<thead>
<tr>
<th>Item Evaluation</th>
<th>Sophisticated</th>
<th>Competent</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Question for Inquiry investigation</td>
<td>Question is insightful and deserving of further investigation (e.g., based on readings, open to research (e.g., may have multiple answers), clear focus, reasonable, related to course content).</td>
<td>Question is appropriate, but limited (e.g., too broad in scope, limited focus, does not require scientific approach to answer).</td>
<td>Question not related to readings and/or already addressed within the course readings.</td>
</tr>
<tr>
<td>2. Article Selection</td>
<td>Articles selected for research are peer reviewed and directly related and relevant to questions posed (e.g., considered ‘seminal’ or ‘key’ articles). Resources are from the last 5-7 years</td>
<td>Articles peer reviewed, but only partially related to question posed. Resources are from 7-10 years (marginally outdated research)</td>
<td>Non-peer reviewed articles and/or of limited relevance to the questions posed. Resources are more than 10 years old and are no longer relevant</td>
</tr>
<tr>
<td>3. Summary</td>
<td>Effective summary (e.g., outlines new understandings based on readings, areas still unknown or worthy of further investigation)</td>
<td>Adequate summary (e.g., outlines new understandings based on readings, areas still unknown or worthy of further investigation)</td>
<td>Summary is limited (e.g., provides insufficient detail and/or does not identify areas for further investigation)</td>
</tr>
<tr>
<td>4. Applicability to Future Practice</td>
<td>Clear link to future practice (relevance to practice, implications for working with students and families and for developing interventions clearly articulated &amp; addressed)</td>
<td>Sufficient link to future practice (relevance to practice, implications for working with students and families and for developing interventions are addressed)</td>
<td>Weak links to future practice (relevance to practice, implications for working with students and families and for developing interventions are not addressed)</td>
</tr>
<tr>
<td>4. Critical thought</td>
<td>Skilfully evaluates information gathered; makes connections among ideas.</td>
<td>Adequately demonstrates reasonable relationships among ideas</td>
<td>Insufficient critical examination of the literature and/or lacks complexity of thought</td>
</tr>
<tr>
<td>5. APA style</td>
<td>Clear application of APA formatting &amp; referencing; few spelling and/or grammatical errors</td>
<td>Adequate application of APA formatting &amp; referencing; some spelling and/or grammatical errors</td>
<td>Limited application of APA formatting &amp; referencing; multiple spelling and/or grammatical errors</td>
</tr>
<tr>
<td><strong>Total /100 = %</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Appendix B. Criteria for Assessment of Learning Task 2 – Brief Assessment & Intervention Plan

<table>
<thead>
<tr>
<th>Item Evaluation</th>
<th>Sophisticated</th>
<th>Competent</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Description of Neuropsych Feature/Deficit</td>
<td>A clear and concise description of the chosen feature/deficit, how it develops and presents in children, major features or characteristics of the deficit; symptomology is clearly outlined</td>
<td>A fairly clear and concise description of the chosen feature/deficit and how it develops and presents in children; some explanation of major features &amp; characteristics of the deficit; symptomology is somewhat outlined</td>
<td>Unclear or not concise description of the chosen feature/deficit and how it develops and presents in children; little explanation of major features &amp; characteristics of the deficit; symptomology is missing</td>
</tr>
<tr>
<td>2. Plan for Assessment</td>
<td>A clear plan for assessment of this deficit is outlined (includes multi-faceted assessment plan with more than 2 sources of information); Clearly indicated assessment tools to be used and why</td>
<td>A fairly clear plan for assessment of this deficit is outlined (does not include a multi-faceted assessment plan); Mentions assessment tools to be used but not thorough or does not explain why tools were chosen</td>
<td>Unclear plan for assessment of this deficit (does not include a clear assessment plan); Mentions inaccurate assessment tools to be used, is not thorough, or does not explain why tools were chosen</td>
</tr>
<tr>
<td>3. Intervention Plan</td>
<td>A viable evidence-based intervention is selected; can be done in a school; clear explanation of why the intervention was chosen and how it could possibly be monitored for effectiveness</td>
<td>A somewhat viable evidence-based intervention is selected; may be difficult to implement in a school; some explanation of why the intervention was chosen; monitoring for effectiveness is minimally addressed</td>
<td>A non-viable evidence-based intervention is selected; not able to be implemented in a school; no explanation of why the intervention was chosen; monitoring for effectiveness is not addressed or would not be efficient or possible</td>
</tr>
<tr>
<td>4. Critical Thought</td>
<td>Skilfully evaluates information gathered; makes connections among ideas; clear language and ideas</td>
<td>Adequately demonstrates reasonable relationships among ideas; fairly clear language and ideas used throughout</td>
<td>Insufficient critical examination of the literature and/or lacks complexity of thought; unclear throughout</td>
</tr>
<tr>
<td>5. Article &amp; Resource Selection</td>
<td>Articles selected for research are peer reviewed and directly related and relevant to questions posed; Intervention has clear evidence to support it. Resources are from the last 5-7 years</td>
<td>Articles peer reviewed, but only partially related to question posed. Intervention has somewhat clear evidence to support it – may be old evidence Resources are from 7-10 years (marginally outdated research)</td>
<td>Non-peer reviewed articles and/or of limited relevance to the questions posed. Intervention has no clear evidence supporting it. Resources are more than 10 years old and are no longer relevant</td>
</tr>
</tbody>
</table>

Total /100 = %
# Appendix C. Criteria for Assessment of Learning Task 3 - Scholarly Research Paper

<table>
<thead>
<tr>
<th>Area</th>
<th>Sophisticated</th>
<th>Competent</th>
<th>Needs Improvement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong> (10 pts.)</td>
<td>Clearly and specifically indicates your clinical condition and why you chose it; clear outline of the paper</td>
<td>Clearly indicates your clinical condition and why you chose it; some outline of where the paper is going</td>
<td>Does not introduce your clinical condition or why you chose it; no outline for the paper; unclear about purpose for writing/plan</td>
<td>/10</td>
</tr>
<tr>
<td><strong>Clinical Condition</strong> (25 points)</td>
<td>Describes the chosen clinical condition in detail, describes presenting symptoms, diagnostic considerations, prognosis, and related factors. Includes specific references to assigned reading as well as integration of multiple outside sources that pertain to the clinical condition itself</td>
<td>Describes the chosen clinical condition in some detail, describes presenting symptoms, diagnostic considerations, prognosis, and related factors, but is not thorough or comprehensive. Includes references to assigned reading as well as integration of minimal outside sources that pertain to the clinical condition</td>
<td>Describes the chosen clinical condition in limited detail, describes some of the presenting symptoms, diagnostic considerations, prognosis, or related factors but leaves out key information. Includes some references to assigned reading, no use of outside sources that pertain to the clinical condition itself</td>
<td>/25</td>
</tr>
<tr>
<td><strong>Neuropsychological Features</strong> (35 points)</td>
<td>Clear, elaborate details and support using multiple references are included to address neuropsychological features of clinical condition; two or three features are outlined and explained along with associated implications and presentation; Relevant literature is used to explain &amp; support contributing factors of each feature</td>
<td>A number of details and supports using external resources are included to address neuropsychological features of clinical condition; one or two features are outlined and/or explained along with associated implications and presentation; Relevant literature is used to explain &amp; support contributing factors of each feature but research is limited</td>
<td>A few details and supports using internal resources are included to address neuropsychological features of clinical condition; one feature is outlined and/or explained along with some associated implications and presentation; Relevant literature is not used to explain or support contributing factors of the feature; but research is limited, misinterpreted, or not from a credible source</td>
<td>/35</td>
</tr>
<tr>
<td><strong>Conclusions</strong> (10 points)</td>
<td>Strong review of key concepts; discusses impact of material researched; clear conclusions &amp; summary</td>
<td>Integrates some understanding of the theory with minimally choppy areas; summary and conclusions are somewhat limited</td>
<td>Limited integration of the theory with significant areas that are unclear; summary doesn’t include necessary information; gaps in conclusion</td>
<td>/10</td>
</tr>
<tr>
<td><strong>APA Formatting</strong> (10 points)</td>
<td>APA formatting (6th edition) is followed thoroughly and completely; Cover page, references, and citations are correctly formatted</td>
<td>APA formatting (6th edition) is somewhat followed or inconsistent; Cover page, references, and citations are mostly correctly formatted</td>
<td>APA formatting (6th edition) is not followed; Cover page, references, and citations are not correctly formatted throughout paper</td>
<td>/10</td>
</tr>
<tr>
<td><strong>Organization</strong> (5 point)</td>
<td>Well defined paragraphs with topic sentences; logical order; strong transitions; headings used</td>
<td>Paragraphs separated with some topic sentences; logical order; some transitions &amp; headings used</td>
<td>Paragraphs not separated or have no topic sentences; little logical order; few transitions; few headings</td>
<td>/5</td>
</tr>
<tr>
<td><strong>Sentence Structure; Grammar &amp; Mechanics</strong> (5 points)</td>
<td>Varied sentence structure; scholarly style; easy to read; few to no errors in sentences, capitalizations, punctuation, grammar, spelling</td>
<td>Varied sentence structure; fairly scholarly style; few awkward passages; Rare errors in sentences, capitalizations, punctuation, grammar, spelling</td>
<td>Limited variety of sentences; informal style, awkward wording; Many errors significantly detract from clarity</td>
<td>/5</td>
</tr>
</tbody>
</table>

**Total / 100 = %**
<table>
<thead>
<tr>
<th>Item Evaluation</th>
<th>Sophisticated</th>
<th>Competent</th>
<th>Needs Improvement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview of the Neuropsychological Construct or Disorder (15 points)</td>
<td>Clear overview of the neuropsychological construct or feature; Covers the disorder in a substantial manner</td>
<td>Adequate overview of the neuropsychological construct or feature; Covers the disorder in a sufficient manner</td>
<td>Limited overview of neuropsychological construct or feature; Covers the disorder in an insufficient manner</td>
<td>/15</td>
</tr>
<tr>
<td>Description of the Intervention (15 points)</td>
<td>Clear and detailed description of the intervention, its target area, age range, costs, training requirements, and other relevant details</td>
<td>Fairly clear description of the intervention, its target area, age range, costs, training requirements, and other information; some relevant details missing</td>
<td>Limited description of the intervention, some info included on target area, age range, costs, training requirements, or other information; relevant details missing</td>
<td>/15</td>
</tr>
<tr>
<td>Demonstration of Intervention Activity (10 points)</td>
<td>Well detailed demonstration of a specific activity in the intervention; clear explanation of the activity and how it relates to the overall intervention plan</td>
<td>Fairly well explained demonstration of a specific activity in the intervention; some explanation of the activity and how it relates to the overall intervention plan</td>
<td>Poorly explained demonstration of a specific activity in the intervention or no demonstration; little explanation of the activity or how it relates to the overall intervention</td>
<td>/10</td>
</tr>
<tr>
<td>Intervention Schedule &amp; Application (15 points)</td>
<td>Clearly outlined plan for implementation, what the schedule for implementation would be; direct vs. consulting involvement for SP, how intervention will be measured &amp; evaluated</td>
<td>Fairly clear plan for implementation and what the schedule for implementation would be; some explanation of direct vs. consulting involvement for SP &amp; how intervention will be measured/evaluated</td>
<td>Poorly outlined plan for implementation and what the schedule for implementation would be; little explanation of direct vs consulting involvement for SP or how intervention will be measured/evaluated</td>
<td>/15</td>
</tr>
<tr>
<td>Review of Research Basis (15 points)</td>
<td>Adequate review of relevant research on intervention, some critical evaluation is included; clear indication of why you chose this intervention</td>
<td>Limited review of relevant research on intervention, with limited evidence of critical reflection; some indication of why you chose this intervention</td>
<td>Poor review of relevant research on intervention, limited to no evidence of critical reflection on the research; no indication why intervention was chosen</td>
<td>/15</td>
</tr>
<tr>
<td>Critical Review of Intervention (15 points)</td>
<td>Sophisticated overview of pros, cons, difficulty in measuring the overall effectiveness of intervention, timelines for typical results, etc.</td>
<td>Adequate overview of pros, cons, difficulty in measuring the overall effectiveness of intervention, timelines for typical results, etc.</td>
<td>Limited overview of pros, cons, difficulty in measuring the overall effectiveness of intervention, timelines for typical results, etc.</td>
<td>/15</td>
</tr>
<tr>
<td>Organization (e.g., intro, outline, conclusion, sequential) (5 points)</td>
<td>Presents information in logical, interesting sequence which audience can follow; has an agenda or outline slide outlining presentation</td>
<td>Presents information in logical sequence which audience can generally follow with minor organizational problems; unclear agenda or outline slide</td>
<td>Audience cannot understand presentation because there is little to no sequence of information; agenda or outline is not indicated</td>
<td>/5</td>
</tr>
<tr>
<td>References (5 points)</td>
<td>References that are useful to the reader and are from acceptable sources</td>
<td>References that contain minimal information and/or are from unreliable sources</td>
<td>References that contain minimal information and/or are from unreliable sources</td>
<td>/5</td>
</tr>
<tr>
<td>PPT slide handout (3 points)</td>
<td>Handout provided that is clear and useful</td>
<td>No handout provided for classmates</td>
<td>No handout provided for classmates</td>
<td>/3</td>
</tr>
<tr>
<td>Timing (2 points)</td>
<td>Covered materials within time limit (within 3 mins)</td>
<td>Went over time/not long enough (&gt;3 min)</td>
<td>Went over time/not long enough (&gt;3 min)</td>
<td>/2</td>
</tr>
</tbody>
</table>

Total / 100 = 