



Course Number	SOWK 557.35	Classroom	Online		
Course Name	Neuroscience and Social Work Practice				
Day(s) & Time	Zoom Sessions Wed	Zoom Sessions Wednesdays 7_pm MST May 6 th - June 17			
Instructor	Peter J. Baylis PhD RCSW Office Hours/Location Please email				
E-mail	peter.baylis@ahs.ca	Phone	403 678- 4696		

SYLLABUS STATEMENT

Examines social work practice in specific contexts.

COURSE DESCRIPTION

Information from the field of neuroscience is common rhetoric within academic and professional circles. Such conversations are frequently accompanied by speculation and assumption about the implication of new findings to particular fields of study and practice, e.g., Neuroethics, Neuropsychoanalysis, Neuroeducation, Neurologic Music Therapy, Neuro Art Therapy, Neurolaw.

This course integrates information from the field of affective and social neuroscience as it enhances social work practice across the life span. It synthesizes foundational elements of neurological development within a social work frame that encompasses a bio-psycho-social perspective. The course will examine information relevant to attachment, memory, information processing impacted by trauma, and basic considerations of geneenvironment interactions (epigenetics). Throughout the course ethical considerations and practice implications will be reviewed as it applies to social work.

As new information from the field of neuroscience is constantly emerging and challenging previously held beliefs. Consequently, it is important to maintain an open yet critical perspective with regards to practical implications for social work practice.

The course will blend didactic presentations, with case examples, and problem-based learning to help students critically integrate knowledge and practice. There will be some elements of rote learning with an expectation to critically consider the implications of new learning from the field of affective and social neuroscience as it might impact social work in various domains of practice.

Online presentations will occur on Wednesdays, beginning May 6th with the last presentation offered on June 17th (a total of seven presentations). There is an expectation that students will post responses to questions pertaining to the readings and presentation for the week; this is a graded assignment.

All classes will be recorded.

COURSE LEARNING OUTCOMES

By the end of this course, students will demonstrate an understanding of elementary principles of brain development and functioning related to social work practice. Students will be able to identify relevant neurological considerations related to client issues, and propose interventions informed by a bio-psycho-social perspective, to facilitate changes.

Specific Course-Level Objectives (CLOs):

- 1. Students will be able to identify basic brain anatomy and neuron physiology.
- 2. Students will be able to describe and identify the impact of trauma on basic brain anatomy and physiology.
- 3. Students will be able identify introductory considerations of the impact of substance abuse on brain anatomy and physiology.
- 4. Student will be able to describe the principle of neuro-plasticity and its relevance to social work practice at the community and clinical level.
- 5. Students will be able to identify interpersonal factors associated with positive and negative development that can inform social work practice.
- 6. Students will be able to formulate a written intervention plan that integrates relevant findings from the field of neuroscience as reviewed in class.
- 7. Students will be able to integrate research from the field of neuroscience as it informs principles of autonomy and free will in the practice of social work.
- 8. Social work students will incorporate information from the field of neuroscience when analyzing complex social situations in order to make professional judgments.
- 9. Social work students will integrate information from the field of neuroscience to develop advanced knowledge and skills in practice with individuals, families, groups, and/or communities.

LEARNING RESOURCES

There is no book for this class. All reading material is available through library resources online and the web. Please see Detailed Class Schedule listed below.

RELATIONSHIP TO OTHER COURSES

This course supports learners to gain foundational knowledge related to neuroscience as it applies to the field of social work. It thus offers students another perspective to understand and to critically examine theoretical concepts and practical frameworks offered in other courses.

CLASS SCHEDULE

NOTE: The inquiry-based learning approach honors students' diverse ways of knowing, as well as their abilities to reflect on their lived experience, to generate knowledge, and to research and critically reflect on relevant information. For each seminar, rather than being passive receivers of information, students are encouraged to participate in critical dialogues on relevant topics and issues. They are encouraged to complete the readings before each seminar, and to engage online with the questions related to the topic of the week and fellow students' posts.

Please note important dates for Spring 2020:

- o First Day of Classes: Wednesday, May 6, 2020
- Monday, May 18 Victoria Day no classes
- Last Day of Classes for spring courses: Wednesday, June 17, 2020

Date	Topic	Readings
Week of May 6 th	Introduction to	Hunter, R. G., Gray, J. D., & McEwen, B. S. (2018). The
	neuroscience and SW	neuroscience of resilience. Journal of the Society for
Class 1: Introduction	practice	Social Work and Research, 9(2), 305–339.
	Course overview	https://doi.org/10.1086/697956

May 6 th 7pm MDT Zoom	 Integrating neuroscience and social work practice Neuron Basic brain development Epigenetics 	Montgomery, A. (2013). Toward the integration of neuroscience and clinical social work. <i>Journal of Social Work Practice: Psychotherapeutic Approaches in Health, Welfare and the Community</i> , 27(3), 333-339. The Nervous System (Crash Course) The Nervous System 2-Minute Neuroscience: The Neuron The Neuron McGill University: The Brain from Top to Bottom; The Neuron McGill: The Brain from Top to Bottom -review "Level of explanation"=beginner, intermediate, advanced; and Level of organization"= cellular, molecular Optional Reading Egan, M., Neely-Barnes, S. L., & Combs-Orme, T. (2011). Integrating neuroscience knowledge into social work education: A case-based approach. <i>Journal of Social Work Education</i> , 47(2), 269–282. Flanzer, J., Gorman, E. M., & Spence, R. T. (2001). Fear of neuroscience. <i>Journal of Social Work Practice in the Addictions</i> , 1(3), 103–112. https://doi.org/10.1300/j160v01n03_07 Johnson, H. C. (2001). Neuroscience in social work practice and education. <i>Journal of Social Work Practice</i>
	Basic brain structures, and	practice and education. <i>Journal of Social Work Practice</i> in the Addictions, 1(3), 81–102. Bremner, J. D., Krystal, J. H., Southwick, S. M., &
Week of May 13 th Class 2:	 memory Introduction to function of basic brain structures 	Charney, D. S. (1995). Functional neuroanatomical correlates of the effects of stress on memory. <i>Journal of Traumatic Stress</i> , 8(4), 527–553. https://doi.org/10.1007/BF02102888
May 13 th 7pm MDT Zoom	 Neuroscience of memory Practice considerations 	The Human Memory Types of Memory Review section Types of Memory Joseph LeDoux, The Amygdala and Unconscious Memories The Amygdala

		Optional Reading
		Nadel, L., Hupbach, A., Gomez, R., & Newman-Smith, K. (2012). Memory formation, consolidation and transformation. <i>Neuroscience and Biobehavioral Reviews</i> , 36(7), 1640-1645.
		LaBar, K. S., & Cabeza, R. (2006). Cognitive neuroscience of emotional memory. <i>Nature Reviews Neuroscience</i> , 7(1), 54–64.
		Schwabe, L., Nader, K., & Pruessner, J. C. (2014). Reconsolidation of human memory: Brain mechanisms and clinical relevance. <i>Biological Psychiatry</i> , 76(4), 274–280.
		San Kean, What happens when you remove the hippocampus? Ted-Ed The Hippocampus
		Mayfield Clinic: Anatomy of the Brain Anatomy of the Brain
Week of May 20 th Class 3:	Trauma and Post Traumatic Stress Disorder • Fear response	Brewin, C. R. (2001). A cognitive neuroscience account of posttraumatic stress disorder and its treatment. Behaviour Research and Therapy, 39(4), 373-393.
May 20 th 7pm MDT Zoom	 Impact of stress on brain development, structure and functioning 	van der Kolk, B. A. (2003). The neurobiology of childhood trauma and abuse. <i>Child and Adolescent Psychiatric Clinics of North America</i> , 12(2), 293-317.
	Practice considerations	2-Minute Neuroscience: HPA Axis HPA Axis
		Kelly McGonigal, How to make stress your friend The Value of Stress
		Optional Reading
		Ross, D. A., Arbuckle, M. R., Travis, M. J., Dwyer, J. B., van Schalkwyk, G. I., & Ressler, K. J. (2017). An integrated neuroscience perspective on formulation and treatment planning for posttraumatic stress disorder: An educational review. <i>JAMA Psychiatry</i> .
		Teicher, M. H., Andersen, S. L., Polcari, A., Anderson, C. M., & Navalta, C. P. (2002). Developmental neurobiology

		of childhood stress and trauma. <i>Psychiatric Clinics of North America</i> , 25(2), 397-426.
Week of May 27 th Class 4:	Addiction Addiction Impact of substance abuse on brain	Littrell, J. (2010). Perspectives emerging from neuroscience on how people become addicted and what to do about it. <i>Journal of Social Work Practice in the Addictions</i> , 10(3), 229–256.
May 27 th 7pm MDT Zoom	anatomy and functionPractice and policy considerations	Carl Hart, Let's Quit Abusing Drug Users <u>Let's quit abusing drug users</u>
		Addiction and the Rat Park Experiments Rat Park Experiments
		Everything We Think We Know About Addiction Is Wrong What We Think We Know May Be Wrong
		2-Minute Neuroscience: Reward System The Reward Pathway
		The Science of Addiction Addiction
		Optional Reading
		Bennett, S., & Petrash, P. (2014). The neurobiology of substance use disorders: Information for assessment and clinical treatment. <i>Smith College Studies in Social Work</i> , 84(2-3), 273–291. https://doi.org/10.1080/00377317.2014.923629
		Casey, B. J., & Jones, R. M. (2010). Neurobiology of the adolescent brain and behavior: implications for substance use disorders. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 49(12), 1189-1201.
		Hyman, S. E. (2005). Addiction: a disease of learning and memory. <i>American Journal of Psychiatry</i> , 162(8), 1414-1422.
		Ksir, C., & Hart, C. L. (2016). Cannabis and psychosis: a critical overview of the relationship. <i>Current Psychiatry Reports</i> , 18(2), 12.

Week of June 3 rd	Attachment and Talk	Hostinar, C. E., & Gunnar, M. R. (2013). Future directions
Week of Julie 3	Therapy	in the study of social relationships as regulators of the
Class 5:	Introduction to attachment theory and	HPA axis across development. <i>Journal of Clinical Child</i> and <i>Adolescent Psychology</i> , 42(4), 564–575.
June 3 rd	the "Circle of Security"	
7pm MDT Zoom	 Neurological underpinnings of attachment How patterned social interaction influences brain structure and function Factors in talk therapy 	Schore, J. R., & Schore, A. N. (2008). Modern attachment theory: The central role of affect regulation in development and treatment. Clinical Social Work Journal, 36(1), 9–20. Schwabe, L., Nader, K., & Pruessner, J. C. (2014). Reconsolidation of human memory: Brain mechanisms and clinical relevance. <i>Biological Psychiatry</i> , 76(4), 274–
	that may contribute to change	280.
	Practice considerations	Optional Reading
		Baylis, P. (2006). The neurobiology of affective interventions: A cross-theoretical model. <i>Clinical Social Work Journal</i> , 34(1), 61-81.
		Lipton, B., & Fosha, D. (2011). Attachment as a transformative process in AEDP: Operationalizing the intersection of attachment theory and affective neuroscience. <i>Journal of Psychotherapy Integration</i> , 21(3), 253–279.
		Quillman, T. (2012). Neuroscience and therapist self-disclosure: Deepening right brain to right brain communication between therapist and patient. <i>Clinical Social Work Journal</i> , 40(1), 1–9.
		Schore, A. N. (2014). The right brain is dominant in psychotherapy. Psychotherapy (Chic), 51(3), 388-397.
Week of June 10 th	Constructing emotions,	Barrett, L. F., Mesquita, B., & Gendron, M. (2011).
Class 6:	free will & determinismExploration of how we	Context in emotion perception. <i>Current Directions in Psychological Science</i> , 20(5), 286–290.
Ciass U.	Exploration of how we come to experience	1 3yenological science, 20(3), 200-230.
June 10 th	and create emotions,	Gendron, M., & Barrett, L. F. (2018). Emotion perception
7pm MDT Zoom	and how neuroscience	as conceptual synchrony. <i>Emotion Review</i> , 10(2), 101–
	impacts our thinking about free will and	110.
	determinism in social	Lisa Feldman Barrett
	work practice	Your Brain Creates Emotions

		Michael Gazzaniga, Brains Are Automatic, But People Are Free Automatic Brains-Free People Sam Harris, Free Will Is An Illusion Free Will is an Illusion
		Optional Reading
		Nahmias, E. (2012). Free will and responsibility. Wiley Interdiscipline Review: <i>Cognitive Science</i> , 3(4), 439-449.
		Lisa Feldman Barrett
		The Secret History of Emotions
Week of June 17 th	Biomania: critical considerations	Allen, J. G. (2014). Biomania: Benefits, risks, and challenges. <i>Smith College Studies in Social Work</i> , 84(2-3),
Class 7:	Consideration of the limits of	385–403. https://doi.org/10.1080/00377317.2014.923624
June 17 th	neuroscienceneuro-	
7pm MDT Zoom	babble.	Cozolino, L. J., & Santos, E. N. (2014). Why we need
Brief lecture, questions & answers		therapy-and why it works: A neuroscientific perspective. Smith College Studies in Social Work, 84(2-3), 157–177. https://doi.org/10.1080/00377317.2014.923630

ADDITIONAL CLASSROOM CONDUCT AND RELATED INFORMATION

USE OF INTERNET AND ELECTRONIC COMMUNICATION DEVICES IN CLASS

The use of laptop and mobile devices is acceptable when used in a manner appropriate to the course and classroom activities. Students are to refrain from accessing websites that may be distracting for other learners (e.g., personal emails, Facebook, YouTube) during class time.

Guidelines for Zoom Sessions in Online Classes

Students are expected to participate actively in all Zoom sessions. If you are unable to attend a Zoom session, please contact your instructor to arrange an alternative activity for the missed session (e.g., to review a recorded session). Please be prepared, as best as you are able, to join class in a quiet space that will allow you to be fully present and engaged in Zoom sessions. Students will be advised by their instructor when they are expected, if they are able, to turn on their webcam (for group work, presentations, etc.). All students are expected to behave in a professional manner during the session.

Zoom Recordings of Online Classes

The instructor may record online Zoom class sessions for the purposes of supporting student learning in this class – such as making the recording available for review of the session or for students who miss a session. Students will be advised before the instructor initiates a recording of a Zoom session. These recordings will be used to support student learning only and will not be shared or used for any other purpose.

ASSESSMENT CO Assessment	Assessment Description &	Due Date/s	Weight	Aligned Course Learning
Method	Criteria	Duc Dute/3	W CIBIIL	Outcome
victilou .	Number of posts:	as indicated	30%	
Accianment #1	ivallibel of posts.	in assessment	30/0	2,3,4,5,7,9
4551811111eiit #1	. Var will past and original			
10	_	-		
Assignment #1 10 posts	 You will post one original response to the weekly posted question pertaining to the topic of that week. It must be posted by midnight Sunday of that same week. Your first original post will be posted by Sunday May 10th, and every week following. Your final post will be June 7th. There will be no post for lecture 6 or 7. You will post one response/comment to someone else's original post by midnight on Tuesday (the beginning of the next week). Your first response must be posted by Tuesday May 12th. Your last response will be posted by June 9th. So, every week you will post a response to the weekly question pertaining to the topic of the week by Friday at midnight, and a response/comment to someone else's response by Monday at midnight (5 days to post original answer to my 	description column		
	to post original answer to my question, 3 days to post a response to someone else's			
	answer). Grading rubric included on page 10.			

Assignment #2 Weekly multiple- choice questions	There will be weekly multiple-choice quizzes associated with the reading material for the week. There will four questions per-week, one week will have 5 questions. There will be quizzes for the first 6 lectures. They will occur online (D2L). The quiz will be accessible on Friday or Saturday, to be determined. You will have 2.5 minutes to respond to each question.	Deadline dates for completing each quiz to be posted in D2L	25%	1,2,3,4,5
Assignment #3	Your final paper will be based	June 24 th	45%	1, 2, 5, 6, 8, 9
Final paper	on a case example. You will be provided four options to choose from, posted online 3 weeks before the paper is due (June 3rd). You will also be provided a template to structure your paper. The paper will reflect an assessment of the content provided, a description of neurological considerations, and proposed interventions informed by the neurological considerations. Students will be expected to further describe their chosen case, providing enough content to inform neurological considerations and relevant interventions. This will be further discussed during our online sessions. Late papers accepted but downgraded a full letter grade for each day late. Length: No more than 6 pages Up to 1,500 words (excluding references) Format: Essay; APA style for			

references, 12 font, double spaced.		
Grading rubric on page 11		

ADDITIONAL ASSESSMENT AND EVALUATION INFORMATION

The assignments are designed to facilitate your learning of the application of information from the field of neuroscience to the practice of social work. You should strive to consider how neuroscience information can inform work in the field, while mindful of its limitations. Your posts will be an opportunity to engage in critical thinking about material presented as part of the content of the class, and by your fellow students.

The quizzes will encourage rote learning of information to be integrated into social work practice.

The third assignment asks you to familiarize yourself with neuroscience information particular to a case presentation. You will be asked to explain relevant neurological information as it pertains to the case presented, its impact on disorder, and develop a social work care plan based on said information. The care plan will integrate a neuroscience rationale with more common psychosocial approaches to interventions. The paper should focus more on skills rather than values to inform the intervention. A template will be provided to organize the content of the paper.

Grading Rubric for Assignment #1: Discussion posts

Criteria	Outstanding 4	Proficient 3	Satisfactory 2	Beginning 1
Critical Thinking	Rich in content Full of thought, insight, and analysis	Substantial information Evidence of thought, insight, and analysis	Generally competent; information may be basic in places Some analysis and insight	Rudimentary and superficial Little analysis or insight is evident
Connections	Postings make clear connections between previous readings, class discussions, and real situations	Postings make some connections between readings, class discussions, and real situations	Limited connections between readings, class discussions, and real situations	No connections are made Postings may be off topic
Uniqueness	Postings consistently have: • New approaches to an issue	Postings have some: New approaches to an issue Evidence of research	Postings have limited: New approaches to an issue Evidence of research	Postings add very limited new information to the discussion Postings include "I

	 Evidence of research "I agree" postings relate personal experiences or cite other research 	"I agree" postings relate personal experiences or cite other research	"I agree" postings relate personal experiences or cite other research	agree with" statements, without elaboration
Contribution to the Learning Community	 Attempts to motivate the group Extends other postings Posts concise comments 	Often: • Attempts to motivate the group • Extends other postings • Posts concise comments	Sometimes: Attempts to motivate the group Extends other postings Posts concise comments	Seldom: • Attempts to motivate the group • Extends other postings • Posts concise comments
Language Conventions	Few errors in language conventions	Several errors in language conventions	Many errors that may interfere with comprehension	Numerous errors that interfere with comprehension

Grading Rubric for Assignment #3

Criteria	Outstanding 4	Proficient 3	Satisfactory 2	Beginning 1
Assessment of Content	The assessment is thorough and articulate. It demonstrates the integration of critical thought throughout, indepth and comprehensive understanding of the content learned in class and from the readings.	The assessment is clear and in-depth. There is integration of proficient critical thought as well as a good understanding of the content learned in class and from the readings	The assessment is clear. There is understanding of the content learned in class and from the readings.	Assessment lacks critical thought and does not demonstrate limited understanding and application of the content learned in class and from the readings.
Description of neurological considerations	Fulsome description of the neurological considerations with connections between readings,	Demonstration of some description of the neurological considerations with connections between readings,	Some connections between the neurological considerations and previous readings,	Very few connections between the neurological considerations with limited connections between readings,

	class discussions, and real situations.	class discussions, and real situations.	class discussions, and real situations	class discussions, and real situations
Proposed interventions	Interventions are thoroughly informed by neurological consideration and supported by scholarly literature.	Interventions are proficiently informed by neurological considerations and supported by scholarly literature.	Interventions are somewhat informed by neurological consideration. The scholarly literature moderately explores the interventions and neurological considerations.	There is limited use of relevant scholarly literature. Interventions are not readily informed by neurological considerations.
Quality of writing	Written work is clear, well organized and presented in a consistent format. There are no spelling or glaring grammatical errors. Ideas are linked and the content is easy to follow. Arguments and ideas are well supported by relevant references and scholarly work.	Written work is easily understood and ideas are clearly understood. There are minor spelling and/or grammatical errors. Arguments and ideas are adequately supported by relevant references and scholarly work.	Written work is challenging to understand and difficult to follow. Though ideas are presented they are not well organized within the paper. Limited references used to support arguments and/or ideas presented.	Written work is challenging to understand. Difficult to discern the ideas being presented and there is no logical flow to arguments presented. Content is not referenced.

ATTENDANCE AND PARTICIPATION EXPECTATIONS

Participation during Zoom lectures is expected. If for some reason you miss a lecture, they will be recorded and available online at a later date. Please keep in mind your participation enhances the learning environment for all students enrolled in the class.

GUIDELINES FOR SUBMITTING ASSIGNMENTS

Please submit final papers electronically, in Word format, through the respective dropbox in D2L. Assignments should have a file name as follows: "Full name and assignment number (e.g., Jane Smith Assignment 2). Assignments are due before midnight on their due date. Please note that it is the student's responsibility to keep a copy of each submitted assignment and to ensure that the proper version is submitted.

LATE ASSIGNMENTS

Late papers accepted but downgraded a full letter grade for each day late. If you are experiencing challenges with timelines associated with any of the assignments, please contact me to discuss your circumstances.

EXPECTATIONS FOR WRITING

Please note standard of writing will be a factor in grading students' work. This will be discussed in class and students are encouraged to consider accessing support through resources available on campus.

Writing skills include not only surface correctness (grammar, punctuation, sentence structure, etc.) but also general clarity and organization. Sources used in research papers must be properly documented and

referenced in APA format. If you need writing support, please connect with the Student Success Centre, at: https://www.ucalgary.ca/student-services/student-success/writing-support

ACADEMIC MISCONDUCT

It is expected that all work submitted in assignments is the student's own work, written expressly by the student for this particular course. Students are reminded that academic misconduct, including plagiarism, has serious consequences, as set out in the University Calendar:

http://www.ucalgary.ca/pubs/calendar/current/k.html

GRADING

A student's final grade for the course is the sum of the separate assignments. It is not necessary to pass each assignment separately in order to pass the course.

The University of Calgary **Undergraduate Grading System** and Faculty of Social Work Percentage Conversion will be used.

Grade	Grade	Description	Percentage
	Point		Range
A+	4.0	Outstanding	95 - 100
А	4.0	Excellent – superior performance, showing comprehensive understanding of subject matter	95 – 100
A-	3.7		90 – 94
B+	3.3		85 – 89
В	3.0	Good – clearly above average performance with knowledge of subject matter generally complete	80 – 84
B-	2.7		75 – 79
C+	2.3		70 – 74
С	2.0	Satisfactory – basic understanding of subject matter	65 – 69
C-	1.7		60 – 64
D+	1.3		55 – 59
D	1.0	Minimal Pass – marginal performance	50 – 54
F	0.0	Fail – unsatisfactory performance or failure to meet course requirements	Below 50

COURSE EVALUATION

Student feedback will be sought at the end of the course through the standard University and Faculty of Social Work course evaluation forms. Students are welcome to discuss the process and content of the course at any time with the instructor.

ADDITIONAL SUGGESTED READINGS

Baylis, P. (2006). The neurobiology of affective interventions: A cross-theoretical model. *Clinical Social Work Journal*, 34(1), 61-81.

Barrett, L. F. (2017). *How emotions are made: The secret life of the brain*. Boston, MA, : Houghton Mifflin Harcourt.

- Björkstrand, J., Agren, T., Åhs, F., Frick, A., Larsson, E. M., Hjorth, O., Fredrikson, M. (2016). Disrupting reconsolidation attenuates long-term fear memory in the human amygdala and facilitates approach behavior. *Current Biology*, *26*(19), 2690-2695.
- Callaghan, P. (2004), Exercise: a neglected intervention in mental health care? *Journal of Psychiatric and Mental Health Nursing*, 11, 476–483.
- Casey, B. J., Duhoux, S., & Cohen, M. M. (2010). Adolescence: What do transmission, transition, and translation have to do with it? *Neuron*, *67*(5) 749–760.
- Casey, B. J., & Jones, R. M. (2010). Neurobiology of the adolescent brain and behavior: Implications for substance use disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 49(12), 1189–1201.
- Casey, B. J., Jones, R. M., & Hare, T. A. (2008). The adolescent brain. *Annals of the New York Academy of Sciences*, 1124, 111-126.
- Centonze, D., Siracusano, A., Calabresi, P., & Bernardi, G. (2005). Removing pathogenic memories: A neurobiology of psychotherapy. *Molecular Neurobiology*, *35*(2), 123–132.
- Dishman, R. K., Berthoud, H. R., Booth, F. W., Cotman, C. W., Edgerton, V. R., Fleshner, M. R., Zigmond, M. J. (2006). Neurobiology of exercise. *Obesity*, 14(3), 345-356.
- Dunn, A. L., & Dishman, R. K. (1991). Exercise and the neurobiology of depression. *Exercise Sport Science Review*, 19, 41-98.
- Gerdes, K. E., & Segal, E. (2011). Importance of empathy for social work practice: integrating new science. *Social Work*, *56*(2), 141-148.
- Hartmann, H. P. (2009). Psychoanalytic self psychology and its conceptual development in light of developmental psychology, attachment theory, and neuroscience. *Annals of the New York Academy of Science*, 1159, 86-105.
- Jasanoff, A. (2018). The biological mind: How brain, body, and environment collaborate to make us who we are. New York, NY: Basic Books.
- Lacasse JR, Leo J (2005) Serotonin and depression: A disconnect between the advertisements and the scientific literature. *PLOS Medicine*, 2(12): e392.
- Milton, A. L., & Everitt, B. J. (2012). The persistence of maladaptive memory: addiction, drug memories and anti-relapse treatments. *Neuroscience Biobehavioral Review*, 36(4), 1119-1139.
- Montgomery, A. (2013). Toward the integration of neuroscience and clinical social work. *Journal of Social Work Practice: Psychotherapeutic Approaches in Health, Welfare and the Community, 27*(3), 333-339.
- Ressler, K. J., & Mayberg, H. S. (2007). Targeting abnormal neural circuits in mood and anxiety disorders: from the laboratory to the clinic. *Nature Neuroscience*, 10(9), 1116–24.

- Rutten, B. P., Hammels, C., Geschwind, N., Menne-Lothmann, C., Pishva, E., Schruers, K., Wichers, M. (2013). Resilience in mental health: linking psychological and neurobiological perspectives. *Acta Psychiatrica Scandanavica*, 128(1), 3-20.
- Schore, A., & McIntosh, J. (2011). Family law and the neuroscience of attachment, Part I. *Family Court Review*, 49(3), 501–512.
- Shapiro, J. & Applegate, J. (2000). Cognitive neuroscience, neurobiology and affect regulation: Implications for clinical social work practice. *Clinical Social Work Journal*, 28(1), 9-21.
- Sikorski, A., McHenry, B., & McHenry, J. (2013). Counselor's introduction to neuroscience. Florence, KY, USA: Routledge. Ebrary. Chapters 2 & 3.
- Sorg, B. A. (2012). Reconsolidation of drug memories. *Neuroscience and Biobehavioral Reviews*. *36*(5), 1400-1417.
- Sotres-Bayon, F., Bush, D. E. a., & LeDoux, J. E. (2004). Emotional perseveration: An update on prefrontal-amygala interactions in fear extinction. *Learning & Memory*, *11*, 525–535.
- Van Dam, N. T., Rando, K., Potenza, M. N., Tuit, K., & Sinha, R. (2014). Childhood maltreatment, altered limbic neurobiology, and substance use relapse severity via trauma-specific reductions in limbic gray matter volume. *JAMA Psychiatry*, 71(8), 917-925.
- Yehuda, R., & LeDoux, J. (2007). Response variation following rrauma: A translational neuroscience approach to understanding PTSD. *Neuron*, *56*(1), 19–32.

Recommended Online Resources

PBS Secret Life of the Brain

McGill University - The Brain

Human Memory

Podcasts

Brain Science

Naked Neuroscience

Quirks and Quarks, CBC (not all episodes are relevant to the topic)

UNIVERSITY OF CALGARY POLICIES AND SUPPORTS

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 http://www.ucalgary.ca/pubs/calendar/current/k-2.html

Students and staff are also expected to demonstrate professional behaviour in class that promotes and maintains a positive and productive learning environment. Consistent with the aims of the Social Work Program and the University of Calgary, all students and staff are expected to respect, appreciate, and encourage expression of diverse world views and perspectives; to offer their fellow community members unconditional respect and constructive feedback; and to contribute to building learning communities that promote individual and collective professional and personal growth. While critical thought and debate is valued in response to concepts and opinions shared in class, feedback must always be focused on the ideas or opinions shared and not on the person who has stated them.

Students and staff are expected to model behaviour in class that is consistent with our professional values and ethics, as outlined in the Canadian Association for Social Workers, Code of Ethics (2005) and the Alberta College of Social Work Standards of Practice (2019). Both can be found online at: https://acsw.ab.ca/site/practice-resources?nav=sidebar

ACADEMIC ACCOMMODATION

It is the student's responsibility to request academic accommodations according to the University policies and procedures. Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services (SAS). SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf

RESEARCH ETHICS

"If a student is interested in undertaking an assignment that will involve collecting information from members of the public, they should speak with the course instructor and consult the CFREB Ethics Website (http://www.ucalgary.ca/research/researchers/ethics-compliance/cfreb) before beginning the assignment.

ACADEMIC MISCONDUCT

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at http://www.ucalgary.ca/pubs/calendar/current/k.html

INSTRUCTOR INTELLECTUAL PROPERTY

Course materials created by professor(s) (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is

prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

COPYRIGHT LEGISLATION

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

SEXUAL VIOLENCE POLICY

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's sexual violence policy guides us in how we respond to incidents of sexual violence, including supports available to those who have experienced or witnessed sexual violence, or those who are alleged to have committed sexual violence. It provides clear response procedures and timelines, defines complex concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf

OTHER IMPORTANT INFORMATION

Please visit the Registrar's website at: https://www.ucalgary.ca/registrar/registration/course-outlines for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success
- Student Ombuds Office
- Student Union (SU) Information
- Graduate Students' Association (GSA) Information
- Emergency Evacuation/Assembly Points
- Safewalk