

University of Waterloo
Department of Psychology
Psych 335: Developmental Neuropsychology
ML 349
Fall 2022

Instructor and TA Information

Instructor and email:	Dr. Tara McAuley, tmcauley@uwaterloo.ca (emails are responded to Mon – Fri)
Office Hours:	Virtual or in-person, by appointment
TA and email:	Zora Chen, z439chen@uwaterloo.ca

Course Description

In this newly revamped course, we begin with the final assignment: you, a trainee in neuropsychology, will be required to interpret a child's assessment data to answer presenting referral questions and provide appropriate treatment recommendations. To do so, you will draw upon and integrate knowledge that you acquire in the three major components of our course (structural development of the brain, emergence of functional systems, neuropsychological underpinnings of childhood brain disorders).

Major Learning Outcomes

By the end of this course, students should be able to:

- A. Describe general themes of brain development as well as specific stages in the prenatal and postnatal periods
- B. Identify factors that are important for predicting the impact of early brain insult on future outcomes
- C. Identify brain circuits that support the development of neuropsychological functions
- D. Be familiar with commonly used clinical tools for assessing neuropsychological functions in children and youth
- E. Describe the neural, cognitive, and behavioural sequelae of illustrative brain-based disorders of childhood

Required Readings

A 2022 custom courseware package is available for purchase from the UW bookstore. There is a fee associated with the courseware package because the readings are copyright protected.

Meeting Plan

Let's hope for an uneventful term, in which case we will be meeting in-person for all scheduled classes. At the same time, we will need to prepare for alternative arrangements if mandated to do so by the university or if the instructor becomes ill. In either case, we will pivot to using MS Teams for (ideally) synchronous lectures and problem-based exercises with the potential for using smaller breakout rooms as needed.

If you are ill, please self-isolate and do not come to class. Lecture slides are always posted on LEARN and the instructor is available to meet with you, either virtually or in-person when you return to campus, to answer questions about missed content and/or cover key parts of what was missed. Students who miss problem-based exercises due to illness must notify the instructor beforehand and will be given the option of submitting a one-page make-up assignment.

Course Requirements and Assessment

Assessment	Due Date	Weighting
Quizzes	Must be completed within a 2-hour window on Sept 26, Oct 24, Nov 7, Nov 28, and Dec 12 between 6 am and 11:30 pm.	5 x 10% = 50%
Problem Based Learning	Sept 15 & 20, Sept 29 & Oct 4, Nov 1 & 3	3 x 5% = 15%
Group Presentation	Nov 9 & Dec 1	15%
Written Assignment	Can be submitted any time after classes end but no later than Monday, Dec 12 before 11:30 pm	20%
Discussion Board Intro	Open from Thurs Sept 8 at 6 am to Mon Sept 26 at 11:30 pm	Bonus 1%
Total		101%

Quizzes (5 x 10% = 50%)

Frequent quizzes are intended to help you keep-up with course content and consolidate your learning of more manageable chunks of information compared with mid-terms and/or a final exam. Quizzes will be based on lecture material, problem-based learning exercises, and assigned readings and will assess basic knowledge and application of this knowledge to real-world situations. Quizzes will be ‘open-book’ and must be completed within a 2-hour window on LEARN between 6 am and 11:30 pm on specified dates (see schedule). Sharing of questions with other students is strictly prohibited. There are no make-up dates for missed quizzes other than for verified illness or bereavement. You must notify the instructor before the quiz date, though documentation can be provided later.

Problem Based Learning Exercises (3 x 5% = 15%)

These small-group exercises will give students an opportunity to work through applied scenarios with instructor feedback, prior to the final assignment. Students will receive credit for contributing to their small group deliberations and sharing information about their scenario with the class. A grading rubric will be made available on LEARN.

Final Assignment (Group Presentation: 15%; Written Assignment: 20%)

In lieu of a final exam, a final assignment integrates information across the entirety of the course. The assignment will require students to to interpret a child’s assessment data to answer

presenting referral questions (group component - oral presentation) and provide appropriate treatment recommendations (individual component - written paper). In the final third of our course, students will have the opportunity to use protected class time to meet with their group and/or start working independently on their paper. Assignment instructions and a grading rubric will be made available on LEARN.

Group presentations will be scheduled for Nov 29 and Dec 1. Papers should be uploaded to the Dropbox on LEARN no later than 11:30 pm on Monday December 12. Late papers will not be accepted unless there are exceptional circumstances (e.g., verified illness, bereavement).

Text matching software (Turnitin®) will be used to verify that use of all materials and sources are documented. Students who do not want to have their assignment screened by Turnitin may submit their assignment directly to the instructor along with hard copies of cited material in which cited information is highlighted (i.e., parts of lecture slides or readings in which you highlight where you have obtained information). PLEASE ENSURE THAT YOU ARE AWARE OF WHAT PLAGIARISM IS AND HOW IT MAY BE AVOIDED IN YOUR WORK (e.g., subjectguides.uwaterloo.ca/plagiarism). Plagiarism is a serious academic offence and assignments that are plagiarized may, at the instructor's discretion, receive a hefty penalty (e.g., a grade of 0) and be referred to the Dean.

Discussion Board Intro (Bonus 1%)

Early in the term, students will have the opportunity to introduce themselves to the class using the discussion board. This helps the instructor and TA get to know students, and students to get to know one another.

Roles and Responsibilities

Students are expected to attend lectures, participate in class, complete assigned readings, and connect with the course instructor if/when something is unclear. Students will receive automatically generated check-in emails if they are inactive on LEARN (e.g., have not logged in to our course site in a given week).

The instructor is available to address questions about any aspect of the course. The instructor will upload pdfs of slides to LEARN prior to lectures, but power point files will not be released to students.

The TA will be involved in assigning students to groups, consulting with student groups on their teamwork and progress toward the final assignment, as well as assisting the instructor with grading of group presentations and the written paper.

Intellectual Property

This course contains the intellectual property of the course instructor as well as others. Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course
- Questions or solution sets from various types of assessments (e.g., quizzes); and

- Work protected by copyright (e.g., any work authored by the instructor or used by the instructor with permission of the copyright owner, course readings, etc.).

Course materials and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

Schedule

Date	Topic	(Pre) Readings	Important Dates
Sept 8	Introduction	N/A	Discussion Board introductions open from Thurs Sept 8 at 6 am to Mon Sept 26 at 11:30 pm
Sept 13	Brain development	Kolb B., Fantie B.D. (2009) Development of the Child’s Brain and Behavior. In: Reynolds C.R., Fletcher-Janzen E. (eds) <i>Handbook of Clinical Child Neuropsychology</i> (pp. 19-46). Springer, Boston, MA. Note: For this topic cover pp. 19-29, skipping the section on neurochemical development and ending with the section on cortical function at birth.	Discussion Board introductions open from Thurs Sept 8 at 6 am to Mon Sept 26 at 11:30 pm
Sept 15 & 20	Neurodevelopmental malformations	N/A - problem based learning session: Students will work in groups to map neurodevelopmental malformations onto stages of brain development.	Discussion Board introductions open from Thurs Sept 8 at 6 am to Mon Sept 26 at 11:30 pm
Sept 22	Early brain insult and recovery	Anderson, A., Northam, E., Hendy, J., & Wrennall, J. (Eds.). (2001). Recovery from early brain insult: Plasticity, early vulnerability, and their neural bases. <i>Developmental neuropsychology: A clinical approach</i> (pp.103-124). Routledge, New York, NY. Kolb B., Fantie B.D. (2009) Development of the Child’s Brain and Behavior. In: Reynolds C.R., Fletcher-Janzen E. (eds) <i>Handbook of Clinical Child Neuropsychology</i> (pp. 19-46). Springer, Boston, MA. Note: For this topic cover pp. 38-41.	Quiz 1 open Mon Sept 26 from 6 am to 11:30 pm. Covers brain development, neurodevelopmental malformations, and early brain insult.

Date	Topic	(Pre) Readings	Important Dates
NO CLASS SEPT 27 Sept 29 & Oct 4	Case Studies	N/A - problem based learning session: Students will work in groups to apply the risk/reserve framework to prediction of outcome in illustrative cases.	
Oct 6	"What" and "Where" Visual Functions	Atkinson, J., & Nardini, M. (2008). The neuropsychology of visuospatial and visuomotor development. In J. Reed & J. Warner-Rodgers (Eds.), <i>Child neuropsychology: Concepts, theory, and practice</i> (pp.183-217). Wiley-Blackwell, Walden, MA.	
Oct 11 & 13	FALL BREAK!		
NO CLASS OCT 18 Oct 20	Attention	Sinclair, M., & Taylor, E. (2008). The neuropsychology of attention development. In J. Reed & J. Warner-Rodgers (Eds.), <i>Child neuropsychology: Concepts, theory, and practice</i> (pp.235-263). Wiley-Blackwell, Walden, MA.	Quiz 2 open Mon Oct 24 from 6 am to 11:30 pm. Covers visual functions and attention.
Oct 25	Memory	MacNeill Horton, A., & Soper, H. (2008). The neuropsychology of children's memory. In J. Reed & J. Warner-Rodgers (Eds.), <i>Child neuropsychology: Concepts, theory, and practice</i> (pp.218-234). Wiley-Blackwell, Walden, MA.	
Oct 27	Executive Functions	Perone, S., Almy, B., & Zelazo, P. D. (2018). Toward an understanding of the neural basis of executive function development. In <i>The neurobiology of brain and behavioral development</i> (pp. 291-314). Academic Press.	

Date	Topic	(Pre) Readings	Important Dates
Nov 1 & 3	Testing and Interpretation	N/A - problem based learning session: Students will work in groups to interpret assessment results in illustrative cases.	Quiz 3 open Mon Nov 7 from 6 am to 11:30 pm. Covers memory, executive functions, and testing & interpretation.
Nov 8	Fetal Alcohol Spectrum Disorder	Glass, L., & Mattson, S. N. (2016). Fetal alcohol spectrum disorders: Academic and psychosocial outcomes. In Riccio, C.A., & Sullivan, J.R. (Eds.). <i>Pediatric neurotoxicology: Academic and psychosocial outcomes</i> (pp. 13-49). Springer, Boston, MA.	
Nov 15	Phenylketonuria	Waisbren, A.E., & Anshel, K.M. (2013). Phenylketonuria. In I.S. Baron & C. Rey-Casserly (Eds). <i>Pediatric neuropsychology: Medical advances and lifespan outcomes</i> (pp. 219-236). Oxford University Press, Oxford, UK.	
Nov 22	Traumatic Brain Injury	Kirkwood, M.W., Peterson, R.L., & Yeates, K.O. (2013). Traumatic Brain Injury. In I.S. Baron & C. Rey-Casserly (Eds). <i>Pediatric neuropsychology: Medical advances and lifespan outcomes</i> (pp. 302-320). Oxford University Press, Oxford, UK.	Quiz 4 open Mon Nov 28 from 6 am to 11:30 pm. Covers FASD, PKU, and TBI.
Nov 29 & Dec 1	Student Presentations		
Dec 6	Training Considerations	Hartlage L.C., Long C.J. (2009) Development of Neuropsychology as a Professional Psychological Specialty: History, Training, and Credentialing. In: Reynolds C.R., Fletcher-Janzen E. (eds) <i>Handbook of Clinical Child Neuropsychology</i> (pp. 3-18). Springer, Boston, MA.	Quiz 5 open Mon Dec 12 from 6 am to 11:30 pm. Covers case presentations and training considerations.

Academic Integrity. In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the [Office of Academic Integrity webpage](#) for more information.

Discipline. A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. Check [the Office of Academic Integrity](#) for more information. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](#). For typical penalties check [Guidelines for the Assessment of Penalties](#).

Concerns about a Course Policy or Decision

Informal Stage. We in the Psychology Department take great pride in the high quality of our program and our instructors. Though infrequent, we know that students occasionally find themselves in situations of conflict with their instructors over course policies or grade assessments. If such a conflict arises, the Associate Chair for Undergraduate Affairs (Richard Eibach) is available for consultation and to mediate a resolution between the student and instructor: Email: reibach@uwaterloo.ca; Ph 519-888-4567 ext. 38790.

Grievance. A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4. When in doubt, please be certain to contact Richard Eibach, the Associate Chair for Undergraduate Affairs who will provide further assistance; reibach@uwaterloo.ca.

Appeals. A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72 - Student Appeals](#).

Note for Students with Disabilities. The [AccessAbility Services](#) office, located on the first floor of the Needles Hall extension (NH 1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.

Accommodation for course requirements for Psychology courses. Policies of the Psychology department pertaining to course requirements are available on the [department website](#).