University of Waterloo
Department of Psychology
Psych 335: Developmental Neuropsychology
Winter 2017
Mondays & Wednesdays 11:30 – 12:50 pm, AL 116

Instructor and T.A. Information

Instructor:	Tara McAuley	Email:	tara.mcauley@uwaterloo.ca
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Note: I will do my best to respond within 24 hours to emails and/or calls received Mon-Fri.

TA:	Madison Stange	Email:	mstange@uwaterloo.ca
Office:	TBA	Office Hours:	TBA

Course Description

Developmental neuropsychology is a field in which brain-behaviour relationships are examined in the context of typical and atypical development. This course will focus on the structural development of the brain, the emergence of functional brain systems, and the neuropsychological underpinnings of childhood brain disorders. Emphasis will be placed on the integration of theoretical perspectives, empirical research, and clinical practice.

Course Goals and Learning Outcomes

Upon completion of this course, students should be able to:

A. Identify historical events that gave rise to the field of clinical neuropsychology in general and developmental neuropsychology in particular
B. Identify stages of brain development, major subdivisions of the brain, and specialized brain circuits that support neuropsychological functions
C. Identify the neural, cognitive, and behavioural sequelae of brain-based disorders of childhood
D. Understand the theoretical basis for different approaches to neuropsychological rehabilitation with a developing population

Required Text and Readings

1. Child neuropsychology: Concepts, theory, and practice (text) – last used in 2016
2. Psych 335 winter 2017 readings (courseware) – mostly new selections for 2017

Course Requirements and Assessment

Your final grade is based on the points you accrue on 3 out of 4 tests, a final paper, and optional bonus credit. A large amount of information is presented in this course, which places heavy demands on rote memorization and higher-level critical thinking. As such, tests are scheduled approximately every 3 weeks to encourage students to stay on top of material and to reduce the amount of material covered on any one test. The break-down of grades is as follows:

Assessment	Date of Evaluation	Weighting
Test 1	Jan 25	25%
Test 2	Feb 15	25%
Test 3	March 13	25%
Test 4	April 3	25%
Final Paper	April 5	25%
Bonus Credit	N/A	5%
Total (based on 3 out of 4 test scores)		105% (100 max)

Tests

Tests are based on assigned readings and lecture material and consist of multiple choice and short answer questions. Questions require knowledge of basic facts and the ability to apply this knowledge to real-world situations. The 3 highest test scores are counted toward the final grade for students who write all 4 tests. Because students who write only 3 tests do not have the option of dropping their lowest test score, it is to the student's advantage to write all 4 tests. THERE ARE NO MAKE-UP DATES FOR MISSED TESTS IN THIS COURSE FOR ANY REASON.

Final Paper

A final paper requires students to integrate knowledge acquired throughout the course. This assignment should be uploaded to the Dropbox on Learn prior to midnight on April 5. Late assignments will only be accepted from students in extenuating circumstances and with appropriate documentation, as described below, else a mark of 0 will be given. Text matching software (Turnitin®) will be used to verify that use of all materials and sources is 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. 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.

Bonus Credit

Students may earn up to 5% bonus credit based on a combination of the following:

1. Syllabus Quiz. Prior to Test 1, students may take a syllabus quiz on Learn for bonus credit. The purpose of this quiz is to encourage students to be familiar with syllabus content. Students who take the quiz will receive a 1% bonus once they have answered all questions correctly.

2. Discussion Board. Students may accrue bonus credit by posting to the Discussion Board on Learn. This may include (a) posting a link to an online source (e.g., website, news item, etc.) with a description of how the source is relevant to course content or (b) commenting on someone else's post/comments to a post – being sure to include something that is relevant to course content. Students will receive 0.5% bonus for (a) to a maximum of 1%, and 0.5% for (b) to a maximum of 1%. Students may earn up to 2% bonus credit via their discussion posts.

3. Research Credit. Students have the option of receiving up to 3% bonus credits via voluntary participation in research. Details are provided in an Appendix at the end of the syllabus.

Roles and Responsibilities

The instructor is available to address questions about any aspect of the course. The TA is available to review tests (typically the week after grades have been posted to Learn) and to assist with the final written assignment.

Class attendance is not mandatory; however, it is strongly recommended that students attend lectures as they contain information that will not be covered in the readings nor detailed on the slides. Slides are intended to serve as a framework for note-taking (not as a substitute for attendance) and will be posted as pdfs to Learn before each class.

Students are encouraged to ask questions when material is unclear – either in class or by e-mail. The instructor will repost questions anonymously to the Discussion Board on Learn for the benefit of all students in the course (if you have a question, it is very likely that your peers do as well).

Intellectual Property

Students should be aware that 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 (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); 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).

Electronic Device Policy

Research suggests that students are better able to retain information that is presented in lecture when they hand-write notes and are not tempted by the distractions that are inherent in technology. Though it is preferable for students to attend lectures without phones, laptops, etc., students may use these devices as long as they do not cause a distraction to the instructor or other students. Students are requested to turn cell phones off during lectures and to avoid chatting with their neighbours, the latter of which is very noticeable and highly distracting.

Course Outline

*These identify readings in the courseware package. All other readings are in the text.

Date	Topic	Readings
Jan 4	Course overview and introduction to the field	N/A
Jan 9	Brain basics	*Semrud-Clikeman, M., & Teeter-Ellison, P.A. (2009). Child neuropsychology: Assessment and interventions for neurodevelopmental disorders, 2nd Ed. (pp. 25-46).
Jan 11	Development of brain structure and function	*Anderson, A., Northam, E., Hendy, J., & Wrennall, J. (Eds.). (2001). Developmental neuropsychology: A clinical approach (pp.25 – 68).
Jan 16		
Jan 18	Early brain insult and recovery	*Anderson, A., Northam, E., Hendy, J., & Wrennall, J. (Eds.). (2001). Developmental neuropsychology: A clinical approach (pp.103-124).
Jan 23		
Jan 25	**TEST 1**	
Jan 30	Intelligence	N/A
Feb 1	"What" and "Where" Visual Functions	Atkinson, J., & Nardini, M. (2008). The neuropsychology of visuospatial and visuomotor development. In J. Reed & J. Warner-Rodgers (Eds.), Child neuropsychology: Concepts, theory, and practice (pp.183-217).
Feb 6	Attention	Sinclair, M., & Taylor, E. (2008). The neuropsychology of attention development. In J. Reed & J. Warner-Rodgers (Eds.), Child neuropsychology: Concepts, theory, and practice (pp.235-263).
Feb 8	Executive Functions	Hughes, C. & Graham, A. (2008). Executive functions and development. In J. Reed & J. Warner-Rodgers (Eds.), Child neuropsychology: Concepts, theory, and practice (pp.264-284).
Feb 13	Memory	MacNeill Horton, A., & Soper, H. (2008). The neuropsychology of children's memory. In J. Reed & J. Warner-Rodgers (Eds.), Child neuropsychology: Concepts, theory, and practice (pp.218-234).
Feb 15	**TEST 2**	
Feb 20	**READING WEEK**	
Feb 22	**READING WEEK**	
Feb 27	Language	Dick, F., Leech, R., & Richardson, F. (2008). The neuropsychology of language development. In J. Reed & J. Warner-Rodgers (Eds.), Child neuropsychology: Concepts, theory, and practice (pp.139-182).
Mar 1	Social Cognition	Baron-Cohen, S. & Chakrabarti, B. (2008). Social neuroscience. In J. Reed & J. Warner-Rodgers (Eds.), Child neuropsychology: Concepts, theory, and practice (pp. 316-339).
Mar 6	Feotal Alcohol Exposure	*Mattson, S.N, & Vaurio, L. (2010). Fetal alcohol spectrum disorders. In K.O. Yeates, M.D. Ris, H.G. Taylor, & B.F. Pennington. (Eds.). Pediatric neuropsychology: Research, theory, and practice (pp.265-293).

Date	Topic	Readings
Mar 8	Phenylketonuria	*Waisbren, A.E., & Anshtel, K.M. (2013). Phenylketonuria. In I.S. Baron & C. Rey-Casserly (Eds). Pediatric neuropsychology: Medical advances and lifespan outcomes (pp. 219-236).
Mar 13	**TEST 3**	
Mar 15	Autism	*Joseph, L., Black, D., & Thurm, A. (2013). Autism Spectrum Disorders. In I.S. Baron & C. Rey-Casserly (Eds). Pediatric neuropsychology: Medical advances and lifespan outcomes (pp. 27-52).
Mar 20	Traumatic Brain Injury	*Kirkwood, M.W., Peterson, R.L., & Yeates, K.O. (2013). Traumatic Brain Injury. In I.S. Baron & C. Rey-Casserly (Eds). Pediatric neuropsychology: Medical advances and lifespan outcomes (pp. 302-320).
Mar 22	Neuropsychological Interventions	*Semrud-Clikeman, M., & Teeter-Ellison, P.A. (2009). Child neuropsychology: Assessment and interventions for neurodevelopmental disorders, 2nd Ed. (pp 413 -433).
Mar 27	Neuropsychological Practice with Case Studies	Warner-Rogers, J., & Reed, J. (2008). A clinician's guide to child neuropsychological assessment and formulation. In J. Reed & J. Warner-Rodgers (Eds.), Child neuropsychology: Concepts, theory, and practice (pp. 432-449).
Mar 29	Training Considerations	N/A
Apr 3	**TEST 4**	

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 UWaterloo Academic Integrity webpage and the Arts 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. 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

Accommodation for Students with Disabilities
The AccessAbility Services office, located on the first floor of the Needles Hall extension (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
- Students requesting accommodation for course requirements (e.g., final assignment) due to illness should do the following:
  - seek medical treatment as soon as possible and obtain a completed uWaterloo Verification of Illness Form
  - submit that form to the instructor within 48 hours.
  - (if possible) inform the instructor by the due date for the course requirement that you will be unable to meet the deadline and that documentation will be forthcoming.
- In the case of a missed assignment deadline, the instructor will either:
  - waive the course component and re-weight remaining term work as he/she deems fit according to circumstances and the goals of the course, or
  - provide an extension.
- In the case of bereavement, the instructor will provide similar accommodations to those for illness. Appropriate documentation to support the request will be required.
- Students who are experiencing extenuating circumstances should also inform their academic advisors regarding their personal difficulties.
- Elective arrangements such as travel plans are not acceptable grounds for granting accommodations to course requirements per the uWaterloo Examination Regulations and Related Matters.

Official version of the course outline
If there is a discrepancy between the hard copy outline (i.e., if students were provided with a hard copy at the first class) and the outline posted on LEARN, the outline on LEARN will be deemed the official version. Outlines on LEARN may change as instructors develop a course, but they become final as of the first class meeting for the term.

Cross-listed course
Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSYCH cross-list will count in the Philosophy major average, even if the course was taken under the Psychology rubric.

Appendix
Sona and Research Experience Marks - Information and Guidelines

Experiential learning is considered an integral part of the undergraduate program in Psychology. Research participation is one example of this, article review is another. A number of undergraduate courses have been expanded to include opportunities for Psychology students to earn grades while gaining research experience.

Since experiential learning is highly valued in the Department of Psychology, students may earn a **"bonus" grade of up to 3%** through research experience. The two options for earning research experience grades (participation in research and article review) are described below. Students may complete any combination of these options to earn research experience grades.

Option 1: Participation in Psychology Research

Research participation is coordinated by the Research Experiences Group (REG). Psychology students may volunteer as research participants in lab and/or online (web-based) studies conducted by students and faculty in the Department of Psychology. Participation enables students to learn first-hand about psychology research and related concepts. Many students report that participation in research is both an educational and interesting experience. Please be assured that all Psychology studies have been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee.

How to earn extra marks for your Psychology course(s) this term by participating in studies …

- You will earn "credits" which will be converted to "marks" (1 credit = 1%)
- You can schedule your LAB and/or ONLINE studies using the "Sona" website.

Educational focus of participation in research

To maximize the educational benefits of participating in research, students will receive feedback following their participation in each study detailing the following elements:

- Purpose or objectives of the study
- Dependent and independent variables
- Expected results
- References for at least two related research articles
- Provisions to ensure confidentiality of data
- Contact information of the researcher should the student have further questions about the study
- Contact information for the Chief Ethics Officer of the Office of Research Ethics should the student wish to learn more about the general ethical issues surrounding research with human participants, or specific questions or concerns about the study in which s/he participated.

Participation in LAB studies has increment values of 0.5 participation credits (grade percentage points) for each 30-minutes of participation. Participation in ONLINE studies has increment values of .25 credits for each 15-minutes of participation. Researchers will record student's participation, and at the end of the term the REG Coordinator will provide the course instructor with a credit report of the total credits earned by each student.

How to participate?
Study scheduling, participation and grade assignment is managed using the SONA online system. All students enrolled in this course have been set up with a SONA account. You must get started early in the term.

Participating/SONA information: How to log in to Sona and sign up for studies
*** *Please do not ask the Course Instructor or REG Coordinator for information unless you have first thoroughly read the information provided on this website.****
More information about the REG program is available at: REG Participants' Homepage

Option 2: Article Review as an alternative to participation in research
Students are not required to participate in research, and not all students wish to do so. As an alternative, students may opt to gain research experience by writing short reviews (1½ to 2 pages) of research articles relevant to the course. *You must consult the course instructor regarding a suitable source of articles for this course and to get approval for the article you have chosen before writing the review.* Each review article counts as one percentage point. To receive credit, you must follow specific guidelines. The article review must:

- **Be submitted before the** last day of lectures**. Late submissions will NOT be accepted under ANY circumstances.**
- Be typed
- Fully identify the title, author(s), source and date of the article. A copy of the article must be attached.
- Identify the psychological concepts in the article and indicate the pages in the textbook that are applicable. Critically evaluate the application or treatment of those concepts in the article. If inappropriate or incorrect, identify the error and its implications for the validity of the article. You may find, for example, misleading headings, faulty research procedures, alternative explanations that are ignored, failures to distinguish factual findings from opinions, faulty statements of cause-effect relations, errors in reasoning, etc. Provide examples whenever possible.
- Clearly evaluate the application or treatment of those concepts in the article.
- Keep a copy of your review in the unlikely event we misplace the original.