



Dr. Rebecca Merkley

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Virtual Office Hours: Thursdays
11:30am-12:30pm

DEVELOPMENTAL COGNITIVE NEUROSCIENCE

CGSC4900A – Fall 2020

Class Information

Time: Tuesdays
2:35pm-5:25pm
Meeting On [Zoom](#)

Course website:

<https://carleton.ca/culearn/>

Course Prerequisites: Fourth year standing or permission of the Department

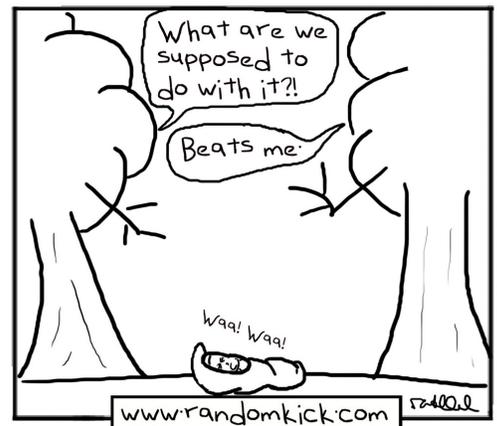
Course Description

In this course, we will explore the ways in which genes and experience interactively contribute to brain and cognitive development and shape who we are. Current controversies in developmental science, such as the impact of screen time on development, will be discussed. Topics include adolescent brain development, the malleability of intelligence over development, and infantile amnesia.



“It’s not that children are little scientists — it’s that scientists are big children. Scientists actually are the few people who as adults get to have this protected time when they can just explore, play, figure out what the world is like.”
— Alison Gopnik

NATURE VS NURTURE



Technical Requirements

A list of technical requirements for online learning is available here:
<https://carleton.ca/its/help-centre/faq-technical-specs-for-new-students/>

Readings

The readings for this course include scientific articles, blog posts, and articles in the popular press. These will all be available via the course website.

Learning Outcomes

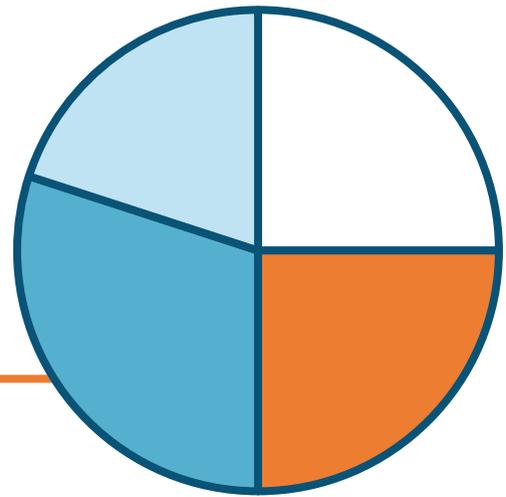
- Understand theories and methods in developmental cognitive neuroscience
- Compare and contrast evidence reported in scholarly research papers
- Develop critical thinking & consider implications of research



Evaluation

Your grades will be based on participation, presentations, and writing. There are no exams.

Detailed descriptions of all activities and assignments are on cuLearn. Deadlines are always Tuesdays at 5pm.



■ Discussion Lead

■ Midterm Project

■ Final Paper

■ Participation

Discussion Lead (25%)

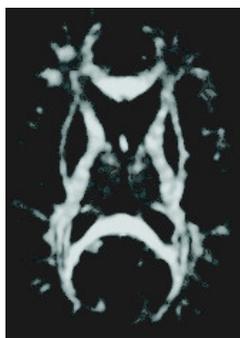
Once during the term you will be required to give a **15-minute** presentation and lead the subsequent discussion. You should review BOTH the literature assigned AND other relevant literature that you have found through independent literature searches. The aim of the presentations is to highlight different perspectives on the discussion questions.

Midterm Project: Ask A Developmental Scientist (25%)

For this assignment, you will be required to conduct a brief interview with a developmental scientist. The aim is to communicate their research to a general audience. You could present it as a blog post or a podcast. Due October 20

Final Paper (30%)

Your final paper (~1500 words) should extend your thinking about one of the discussion topics by critically reviewing evidence from multiple sources. You can choose a topic from the syllabus or create your own. You are strongly encouraged to discuss the topic of your final paper with the instructor. Due December 8



Participation (20%)

You are encouraged to attend the weekly synchronous meetings and participate in class discussions. These will be recorded if you cannot attend. You are expected to direct and reflect on your own learning. Each week you are expected to submit a discussion question about the readings in a forum on cuLearn and complete a brief quiz about the readings.

Course Expectations & Policies

This is a “synchronous” online course, which means that you are expected to participate in the Tuesday meetings (on Zoom). They will be recorded in case you cannot make it. Your mental and physical health are the top priority. You should come to class prepared, having done the readings.

Civility and Privacy: The University is a place of open discussion and free inquiry. It is expected that you will be respectful and considerate of your classmates and our learning environment will be free from discrimination and harassment

Late Assignments: You may use a ‘no questions asked’ 3-day grace period for one assignment (except for Discussion Lead) and turn it in without penalty. If you need other extensions or accommodations, please contact the instructor at least a week ahead of the deadline.



Course Schedule

Week	Date	Lecture Topic	Discussion Question	Readings
1	Sept 15	Welcome & Introduction		
2	Sept 22	Theoretical Perspectives	Are we born with core knowledge of how the world works?	Stahl & Feigenson (2015) Schulz (2015)
3	Sept 29	Research Methods	Are there critical periods in human development?	Werker & Hensch (2015) Fox et al. (2010)
4	Oct 6	Brain Development	Is screen time detrimental to child development?	Johnson (2001) Gopnik et al. (2015)
5	Oct 13	Behavioural Genetics	Is IQ a reliable and valid construct?	Sokolowski & Ansari (2019) Belsky et al. (2019)
6	Oct 20	Executive Function Development	Can training executive functions transfer to other cognitive skills?	Doebel (2020) Takacs & Kassai (2019)
Fall Break				
7	Nov 3	Adolescent Development	Should adolescents be tried as adults?	Casey et al. (2017)
8	Nov 10	Mathematical Development	Are men better suited to STEM careers than women are?	Kersey et al. (2019) Giedd et al. (2012)
9	Nov 17	Developmental Differences	Are specific learning disorders really disorders?	Peters & Ansari (2019) Karmiloff-Smith (2008)
10	Nov 24	Memory Development	Why do we have no memories from infancy?	Josselyn & Frankland (2012) Mullally & Maguire (2014)
11	Dec 1	Language Development	Is there a cognitive advantage to being bilingual?	Bialystok, 2009 Morton & Harper, 2007
12	Dec 8	Social Emotional Development		TBD

This schedule is tentative.

Additional Information

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100

B+ = 77-79

C+ = 67-69

D+ = 57-59

A = 85-89

B = 73-76

C = 63-66

D = 53-56

A - = 80-84

B - = 70-72

C - = 60-62

D - = 50-52

F = Below 50

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

Academic Regulations

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<https://calendar.carleton.ca/undergrad/regulations/academic-regulationsoftheuniversity/>

Accommodations

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613 - 520 - 6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in - class scheduled test or exam requiring accommodation (if applicable). After requesting an accommodation from PMC, meet with me to ensure accommodations arrangements are made. Please consult the PMC website for the deadlines to request accommodations for the formally - scheduled exam (if applicable).

Other Accommodations: Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation (e.g. religious or pregnancy) is known to exist. For more details, see the Student Guide.

Important Information

- Students must always retain a copy of all work that is submitted.
- All final grades are subject to the Dean's approval.
- For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <http://carleton.ca/ccs/students/>

Plagiarism

Plagiarism is presenting, whether intentionally or not, the ideas, expression of ideas, or work of others as one's own. Plagiarism is a serious offence that cannot be resolved directly by the course's instructor. The Associate Dean of the Faculty conducts a rigorous investigation when an instructor suspects a piece of work has been plagiarized. For more details see:

<https://carleton.ca/senate/wp-content/uploads/Academic-Integrity-Policy1.pdf>

For a list of dates and deadlines, including holidays and exam dates, please visit:

<https://carleton.ca/registrar/registration/dates-and-deadlines/>