

## NEUROCOGNITIVE AGEING: CGSC4900

<b>Course</b>	CGSC4900 F A A 01 Special Topics in Cognitive Science "Neurocognitive Ageing"
<b>Instructor</b>	John Anderson
<b>Term</b>	Fall 2022
<b>Email Address</b>	Johnanderson3@cunet.carleton.ca
<b>Office Location</b>	Via Zoom, unless otherwise stated
<b>Office Hours</b>	Via appointment

### COURSE DESCRIPTION/INSTRUCTOR'S STATEMENT

The Cognitive Neuroscience of Ageing: In this course, we will explore the functional and structural neuroanatomy of age-related changes in cognition. We will explore normal and abnormal age-related changes and theories of cognitive aging. Finally, we will examine concepts of "reserve" and compensation to explore how older adults cope with daily life in the face of these cognitive and neural changes.

### EVALUATION

<b>Participation</b>	<b>15%</b>
<b>Presentation on reading/leading discussion around the topic of the week</b>	<b>25%</b>
<b>Practice Essay Literature review <u>OR</u> an NSERC Discovery Grant Research Proposal due October 15</b>	<b>25%</b>

<b>Peer grading</b>	<b>10%</b>
<b>Final Essay/NSERC Discovery Grant Research Proposal</b>	<b>25%</b>
<b>Total</b>	<b>100%</b>

**Participation: 15%:** Please show up and actively discuss the readings with the class. This means reading the assigned articles closely.

**Presentation on reading/leading discussion around the week's topic: 25%.** You will give a brief (~15-20 minute) presentation on an article of your choice related to the weekly readings (but not assigned). As part of your presentation, you should contextualize the research, outline the methods and findings, and try to draw links between current and previous research that we've discussed.

**Practice Essay Literature review OR an NSERC Discovery Grant Research Proposal due October 15 – peer-graded 25%.**

You will be asked to write a comprehensive literature review OR a research proposal for an NSERC Discovery Grant (in each case ~15 pages) based on one of the areas we have focused on in the course (e.g., cognitive slowing, dementia, cognitive reserve, etc.). If you choose the literature review, you may either write a systematic review or a meta-analysis – Dr. Anderson can point you towards resources if you choose the latter option.

If you choose the NSERC proposal, you should imagine you are leading a research group and trying to design a series of experiments to investigate a cognitive aging phenomenon. In this case, you will still need to do a literature review, but most of the writing will focus on describing a series of future experiments.

**Peer grading 10%.** Three of your peers will be asked to provide *constructive feedback* on your research essay using a rubric. You will also be asked to do the same for three essays (we'll likely use Google Docs or Peer Scholar to track peer review contributions, and we will follow a rubric). Dr. Anderson will review all the feedback & discuss the essay's direction with each student, and together we will determine the grade. Unhelpful and non-constructive feedback will count against the evaluator.

**Final Essay/NSERC Discovery Grant Research Proposal: 25%.** Your practice review/research proposal revisited! Now's the chance to incorporate any novel findings you've come across, address any feedback you received on the first essay, and make this shine! If you treat this proposal as something you might want to submit for a grant or a publication, this will make this process easier.

Dr. Anderson will evaluate these final essays & examine how well you incorporated feedback from the intermediate version of the paper into the final product. The paper should focus on one of the course's central themes (e.g., cognitive slowing, dementia, cognitive reserve, etc.)

## TEXT

**TBD** – I am considering recommending (but not requiring) the following text *Cognitive Neuroscience of Aging: Linking Cognitive and Cerebral Aging* (2016), edited by Cabeza, Nyberg, and Park. Each week, relevant readings based on this text and other sources will be posted on the course website.