PSYC59 Tentative Syllabus
Winter 2022
Tuesdays 9-11 AM
MW110 + weboption

*Contact information *
psyc59.utsc@gmail.com

** Please note that you must use your official UofT email when sending communications related to the course. Please direct all correspondence to the course email address only so that the instructors and TA can coordinate responses to questions effectively. This helps us provide quick and consistent responses to all students. There is no guarantee that messages sent to another address will receive a response. Please do not send messages via the direct messaging system in Quercus. **

Instructor: Dr. Blair Armstrong

TAs:
Di Mo

Office Hours: 11:10-12:10 Tuesdays. Office hours will be held online. Connection information will be posted to Quercus. Additional hours may be offered during high demand times during the semester and will be advertised on Quercus.

Website: Available on Quercus.

Course Description and Objectives

This course provides an overview of the cognitive and neural processes and representations that underlie language abilities. Core topics include first language acquisition, second language acquisition and bilingualism, speech comprehension, and reading. Insights into these different abilities will be provided from research using behavioural, neuroimaging, computational, and neuropsychological techniques.

Course Textbook
Kemmerer, D. (2014). Cognitive Neuroscience of Language (First Edition). Psychology Press.

Target Learning Outcomes

Upon completion of the course, students will be able to:

(1) *Identify* the core components of the language system from both cognitive and neuroscience perspectives;
(2) *Understand* the basic theoretical and methodological approaches used in current interdisciplinary research into the cognitive neuroscience of language;
(3) *Relate* the core representations and computational principles underlying language abilities to other related (domain-general) cognitive abilities such as vision, hearing, and memory;
(4) *Compare* and *contrast* competing accounts of different aspects of language processing (e.g., Dual Route versus neural network computational models of reading aloud);
(5) *Explain* how learning, representation, and processing principles interact to give rise to language processing abilities (e.g., "fuzzy" letter position coding in English vs. precise letter position coding in Hebrew; development of sensitivity to a native language and insensitivity to other languages during infancy);
(6) *Link* theories of language processing to theories of impaired language processing and its neural underpinnings (e.g., developmental dyslexia, aphasia);
(7) *Communicate* the core principles of the cognitive neuroscience of language to others.

Instructional Approach for this Course

Successful completion of the target learning outcomes will be accomplished through two main veins: lectures and assigned readings. In some parts of the course, the lectures will parallel the readings to reinforce core concepts and issues in the field. In other parts of the course, the lectures and readings will diverge so that the readings provide a general foundation in a given area whereas the lectures provide an opportunity to explore in greater depth particularly important studies in the field, recent debates, and breaking findings. Students are responsible for the material covered both in lecture and in the assigned readings, even if not every aspect of the assigned readings is covered in class. Collectively, this approach will provide both advanced foundational knowledge as well as knowledge of the critical issues under current investigation in the cognitive neuroscience of language. Questions for the quizzes and exams will be drawn from both the lectures and the course textbook and students are responsible for all of this material.

Tentative Schedule & Readings

Note: Recordings of lectures will be posted as soon as possible after the "regular" in-class scheduled meeting time. (this applies to classes held online only as well.)

<mark>Graded work appears in yellow.</mark>

Week of	Topic + Important Notes	Readings	Presentation Format
Week 1: January 11	Introduction; Brain Mapping Methods	Chapter 1, Chapter 2	ONLINE ONLY
Week 2: January 18	Brain Mapping [continued] Speech Perception / Perceiving speech in a second language	Chapter 5	ONLINE ONLY
Week 3: January 25	Speech Perception [continued] Speech Production	Chapter 6	ONLINE ONLY
Week 4: February 1	Reading and Writing	Chapter 8, Introduction and Reading section only (p. 213-236)	ONLINE ONLY
Week 5: February 7	<mark>*Mid-Term Test*</mark> *+ Writing Assignment Consultations*		IN PERSON TEST
Week 6: February 15	Reading and Writing [continued]. How newly learned words are integrated with existing knowledge in first and second languages <mark>*Writing Assignment DUE by midnight February 15*</mark> <mark>*Optional: Final paper topic and preliminary list of references due by February 18th at midnight*</mark>	Chapter 8 (entire chapter)	In-person + weboption
February 22	*READING WEEK*	*READING WEEK*	
Week 7: March 1	Object Nouns / Computational models of semantic organization	Chapter 10	ONLINE ONLY
Week 8: March 8	Abstract Concepts	Chapter 12	*ONLINE ONLY*

Week 9: March 15	Sentence Comprehension / Computational and Empirical Studies of Semantic Ambiguity [Guest presentation by Di Mo] *Optional: Final paper outline due by March 15th at midnight*	Chapter 15	*In-person + weboption*
Week 10: March 22	*Mid-Term Test + YouTube Assignment Consultations* YouTube Assignment Due Sunday March 27 @ midnight.		IN PERSON TEST
Week 11: March 29	YouTube Assignment Presentations and Discussion	No readings this week	In-person + weboption
Week 12: April 5	Aphasia, Neuropsychology, and other language disorders; Overall Review *FINAL PAPERS DUE April 5 @ midnight*	Chapter 3	In-person + weboption

NOTE: The weeks of the mid-term exams are TENTATIVE dates, as the mid-term schedules must still be approved by the registrar. Confirmation of these dates will be announced in class.

Grade Break-Down

Item	Value (%)
Mid-term Exam 1	24%
Mid-term Exam 2	28%
Final Paper	24%
Assignment 1: Written Assignment	9%
Assignment 2: YouTube Assignment	15%

Mid-term exams: Mid-term Exam I will cover all material covered in the class and assigned in the readings up to the date of the exam. Mid-term Exam 2 will cover all material covered to date, although the focus

is on the material covered since Mid-term Exam 1.   The exam will consist of a combination of multiple choice questions and short written answer questions.   The second mid-term is worth slightly more because it may draw upon some content covered in the entire class up to that point, and so that students have a lower-stakes opportunity to become familiar with my testing format in mid-term 1.

Ungraded Online Quizzes: Based on student feedback regarding managing too many individual graded items during the pandemic, quizzes will not form part of your grade in the course. That said, *ungraded* quizzes will be made available throughout the course. You will have one week to complete each quiz, except the quiz in the last week of class, which must be completed by the last day of the semester.   The purpose of these quizzes is to give students the opportunity to self-assess their knowledge and familiarize themselves with the multiple choice component of the exams.

Assignments:

Assignment 1: Writing Assignment. This assignment taps into your written communication skills, much as the short answer questions on the exams do. It will also provide students with practice reading the primary scientific literature and writing. The assignment will have a word limit of 500 words, excluding any references, which do not count to your word limit. Papers should be double-spaced in 12-pt font and be submitted either in Microsoft Office word or pdf format and submitted on Quercus.

Your first task is to read the paper referenced below and provide a written response to the following points, which relate to several key learning objectives of the course:

1. <u>Identify</u> the variables manipulated in the experiment and the different levels of each manipulated variable took on in the experiment.
2. <u>Discuss</u> the rationale of studying these variables to understand different ERP components.
3. <u>Summarize</u> the findings.
4. <u>Explain</u> what these specific results can tell us about the relationship among orthography, phonology and lexical semantics.

Paper: Gutierrez-Sigut, E., Vergara-Martínez, M. & Perea, M. Deaf readers benefit from lexical feedback during orthographic processing. *Sci Rep* **9,** 12321 (2019). Accessible at https://www.nature.com/articles/s41598-019-48702-3 (Links to an external site.) [note, you may need to log in to the UofT library to access this file]

Grading rubric:

Correct identification of all variables discussed and their levels	25%
Explanation of rationale for the variables used	20%
Complete summary of key findings	25%
Explanation of the significance of the findings	20%
Clear and organized writing	10%

Assignment 2: YouTube Presentation Assignment.

This assignment can be completed either individually or in groups of up to three students. All students working in a group will receive the same grade.

The second assignment will consist of creating and discussing YouTube Videos which communicate, to a general audience (e.g., other undergraduate students at UTSC), the motivation, methods, results, and implications of a research paper. This assignment allows you to gain more experience reading current empirical work and communicating orally. Videos can be 5:00 minutes max and should be uploaded to YouTube, with the link to the video submitted on Quercus. In completing the assignment, you will advance towards several of the learning objectives of the course:

1. <u>Understanding</u> the basic theoretical and methodological approaches used in current interdisciplinary research into the cognitive neuroscience of language;
2. *Communicating* the core principles of the cognitive neuroscience of language to others, as exemplified by the paper you selected.

Depending on the specific paper you select, I also expect this work will contribute to your understanding of how to relate core representation and computational principles of language with other related (domain-general) abilities, how empirical research is used to compare and contrast different competing accounts of language, how to explain the way in which learning, representation principles give rise to language processing abilities, and/or how to link typical performance with various theories of impaired language processing.

You should select a research paper published in 2018 or later that probes some aspect of the neural basis of language for your video Your paper could consist of a behavioural (experimental), computational, neuroimaging, neurostimulation and/or patient study, but cannot consist of a review or opinion paper that does not present new results. Students are strongly encouraged to submit a copy of their proposed research paper to the course email for feedback well in advance of the submission deadline.

Videos can be 5:00 minutes max and will be uploaded to YouTube. Students should run a test upload of a draft presentation well in advance in order to ensure that they do not encounter any technical difficulties. You should then submit a link to your YouTube video. *Note that you need to make the link viewable to anyone with the link for the instructor and TA to access your video. *

Depending on final enrolment, either all or a representative subset of the videos will be presented and discussed in a later class. The selection process will be designed to ensure a broad coverage of topics. Students will then complete a peer review of several of the YouTube presentations submitted by other students. The exact number of peer reviews to complete will be announced once the YouTube videos have been submitted. The peer reviews will be submitted via Quercus.

Grading rubric:

Did the presentation communicate the motivation, methods, results, and implications of the paper	50%
Clarity and organization of presentation	20%
Peer review of other YouTube presentations	30%

Final paper:

The final assignment will involve writing a paper that reviews two contrasting theoretical perspectives and their supporting empirical evidence. As a few examples of possible topics, the paper could focus on:

Do humans have a "rules and exceptions" word learning system?

Are children born with an innate and specialized language learning system?

Do humans have a domain-specific ability to process visual words, or is this ability governed by domain-general visual processes?

Do humans have a special innate ability to segment words, or can this behaviour be explained by domain-general statistical learning processes?

Is lexical semantic memory explicitly organized into categories such as "living things" versus "nonliving things"? How do you explain findings of category-specific semantic deficits depending on your answer?

Are all types of semantically ambiguous words processed similarly? If not, how and why do different types of words exhibit different behavioural and neural signatures?

These example topics will all receive some general coverage in class, although students will have the option of choosing another topic of interest that falls within the Cognitive Neuroscience of Language.

The paper must reference at least 10 published papers in the last 5 years. Each of these papers must include some empirical work (i.e., they cannot be pure review papers, opinion papers, or computational modelling papers, but should include some behavioural, neuroimaging, neurostimulation, or patient data). You are free to cite and discuss any papers that you find relevant to your paper in addition to those 10 empirical papers. Most papers will consist of approximately 10 pages of double-spaced main text, excluding title page, abstract, and references. The entire paper should be no more than 16 pages in length in total.

Your entire paper should be written in APA form (for a brief overview, see (https://www.easybib.com/guides/citation-guides/apa-format/). For detailed information, please consult the APA 6e Manual).

The development of your final paper can be scaffolded as follows:
Optional: Final paper topic and preliminary list of references due by February 18th at midnight
Optional: 1-2 page outline of final paper due by March 15 at midnight
Required: Final paper due April 5.

The purpose of the optional scaffolding components of your final paper will be to receive additional feedback as you progress on each phase of producing your final paper and to encourage spreading the work across the semester. Because of the pedagogical motivations of submitting these components well in advance so as to provide the opportunity for feedback, it will not be possible to accept late submissions. However, note that you are not penalized for not submitting an optional component.

If you complete BOTH optional components, your final paper grade will be broken down as follows:

Final paper topic + list of references	1% of final grade
Outline of final paper	1% of final grade
Final paper evaluation	18% of final grade
TOTAL:	20% of final grade

If you only complete ONE of the optional components

Final paper topic + list of references OR Outline of final paper	1% of final grade
Final paper evaluation	19% of final grade
TOTAL:	20% of final grade

If you do not complete either of the optional components

Final paper evaluation	20% of final grade

Grading rubric for final paper:

Adherence to APA format	10%
Inclusion of at least 10 relevant empirical papers in the discussion (papers must be discussed, not just cited without discussion)	10%
Identification, comparison, and critical analysis of two different theoretical perspectives	40%
Identification and justification for specific outstanding issues or limitations of different studies or theoretical perspectives that need additional work	10%
Overall clarity, organization, and quality of writing	30%

The final paper should be submitted electronically through Quercus as either a pdf or Word Doc.   This copy should be double spaced. We will be using the University's plagiarism detection tool for your submission. This tool assists in detecting textual similarities between compared. You can find more information about this tool later in the syllabus.

Contesting a Grade

Students must submit requests for re-grading in writing to the course email address as soon as possible, and no later than one week after the grade is made available to the student. Only requests with adequate written justification that a grading error has taken place will be considered. In the event that a re-grade is granted, the ENTIRE work in question (test, assignment, etc.) will be re-graded. This may result in your grade increasing, decreasing, or staying the same.

Grading policy for Missed Term Work

The instructor of the course recognizes the desire for flexibility from students. As a result of this desire, as well as the aim of provide prompt feedback to students who have completed a given test, assignment, etc., and because in the case of the YouTube assignment students will peer-review the submissions of other students, the following policy is in place for this course: We will not be accepting late work for this class, and students who do not submit any work on time will be given a grade of 0 for that work. However, The overall grading scheme for the course has been intentionally designed to offer alternative forms of flexibility and accommodation for students who find themselves unable to complete some aspects of the course materials for course work missed for legitimate reasons (as detailed in the following section).
This approach balances the aims of not disadvantaging students who are unable to complete their work on time for a number of reasons, while still allowing for prompt feedback to other students. Additionally, some aspects of the course have been made optional, i.e., the two optional scaffolding components of the final paper (although strongly recommended), can be skipped and a student could, in principle, still earn a perfect score on their final paper.

If your reason for missed work satisfies the guidelines listed below, we will reweight all other evaluation materials accordingly. The only exception is the final paper. All students who complete this class are expected to submit a final paper and not submitting a final paper will result in a grade of 0 for that paper with no reweighting.

For example, final grades are normally computed as follows:

Item	Value (%)
Mid-term Exam 1	24%
Mid-term Exam 2	28%
Final Paper	24%
Assignment 1: Written Assignment	9%
Assignment 2: YouTube Assignment	15%

If, for example, you did not complete mid-term 1 and your reason for missing this mid-term satisfied the policy outlined below, we would calculate your final grade by reweighting the sum of all of your other evaluations with a re-weighting factor so that you still get a grade out of 100%

Item	Value (%)
~~Mid-term Exam 1~~	~~24%~~
Mid-term Exam 2	28%
Final Paper	24%
Assignment 1: Written Assignment	9%
Assignment 2: YouTube Assignment	15%
Sub-TOTAL:	76%
Reweighting factor: divide by (Subtotal/100)	76% / (76/100)
TOTAL	100%

Psychology Department Missed Term Work Policy, WINTER 2022

For missed term work (assignments and term tests) due to illness, emergency, or other mitigating circumstances, please follow the procedures outlined below.

- The following reasons are not considered sufficient for missed term work: travel for leisure, weddings, personal commitments, work commitments, human error.
- Missed Final Exams are handled by the Registrar's Office and should be declared on eService: http://www.utsc.utoronto.ca/registrar/missing-examination
- Instructors cannot accept term work any later than five business days after the last day of class. Beyond this date, you would need to file a petition with the Registrar's Office: https://www.utsc.utoronto.ca/registrar/term-work

Accommodations for Illness or Emergency:
>For missed work due to ILLNESS OR EMERGENCY, complete the following **three-step** process:
>1. Complete the Request for Missed Term Work Accommodations Form
>2. Declare your absence on ACORN (Profile & Settings > Absence Declaration)
>3. Email both the Request for Missed Term Work Accommodations Form **AND** a screenshot of your Self-Declared Absence on ACORN to the email address provided by your instructor on the course syllabus **WITHIN 2 BUSINESS DAYS** of the missed work.

Note: If you are unable to submit your documents within 2-business days, **you must still email your instructor within the 2-business day window** to explain the nature of the delay, and when you will be able to provide your documents. Exceptions to the documentation deadline will only be made under **exceptional circumstances**.
Note: For this semester, we do not require any additional supporting documentation (e.g. medical notes) to support your missed term work accommodation request.

Accommodations for Academic Conflicts:
>For missed term work due to an ACADEMIC CONFLICT (i.e. two midterms scheduled at the same time), please complete the following process:

1. Complete the [Request for Missed Term Work Accommodations Form](#), choosing "Other" and explaining the conflict in the space provided.
2. Take screenshots of your course homepages that demonstrate the conflict.
3. Email the form and screenshots to your course instructor **at least two weeks (10 business days) before the date of the activity,** or as soon as possible if it was not possible to identify the conflict earlier.

Note: Multiple assignments due on the same day are not considered conflicts. Accommodations may only be possible in the case of quizzes and tests that are both scheduled during the same discrete period. Back-to-back tests/quizzes are not considered conflicts.

Note: Students are responsible for keeping their course timetables conflict-free. Students who choose to register in two synchronous courses with overlapping lecture/tutorial/lab schedules will not be accommodated.

Accommodations for Religious Conflicts:

For missed term work due to a RELIGIOUS CONFLICT, please complete the following process:

1. Complete the [Request for Missed Term Work Accommodations Form](#), choosing "Other" and noting "Religious conflict" in the space provided.
2. Email the form to your course instructor **at least two weeks (10 business days) before the date of the activity,** or as soon as possible if it was not possible to identify the conflict earlier.

Accommodations for Students Registered with AccessAbility Services:

For missed **TERM TESTS** due to ACCESSABILITY REASONS:

- **Contact your AccessAbility consultant** and have them email your instructor detailing accommodations required.

For missed **ASSIGNMENTS** due to ACCESSABILITY REASONS:

- If your desired accommodation is **within the scope** of your Accommodation Letter (e.g. your letter includes "extensions of up to 7 days" and you need 3 days):
    1. Complete the [Request for Missed Term Work Accommodations Form.](#)
    2. Email the form and your **Accommodation Letter** to your instructor, specifying how many days extension you are requesting.

- If your desired accommodation is **outside the scope** of your Accommodation Letter (e.g. your letter includes "extensions of up to 7 days" but you need more time than that):
    1. **Contact your AccessAbility consultant** and have them email your instructor detailing the accommodations required.

Accommodation Procedure:

After submitting your documentation, you will receive a response from your instructor or TA. This form does not guarantee that you will be accommodated. The course instructor reserves the right to decide what accommodations (if any) will be made. Failure to adhere to any aspect of this policy may result in a denial of your request for accommodation. **You are responsible for checking your official U of T email and Quercus course announcements daily**, as accommodations may be time-critical.

For missed assignments, **do not wait for an instructor response to resume work on your assignment.** Extension accommodations may be as short as one business day, depending on the nature of the illness/emergency. You should complete your assignment as soon as you are able and email it your instructor.

For an anticipated event (e.g. scheduled surgery or an illness with a prolonged recovery period), submit a [Verification of Illness Form](#) completed by your doctor, AND this form to your instructor if you would like to

request accommodations in advance of the assignment deadline or midterm date. **Declare your future absence on ACORN (absences can be declared up to 14 days in the future).**

<u>Missed Accommodations</u>

If an accommodation is granted but a continued illness/emergency prevents you from meeting the requirements of your accommodation, you must <u>repeat</u> the missed term work procedure to request additional accommodations. **Please make it clear in your subject line that you are requesting a second accommodation.** For example, if you are given an extension but are still sick and need more time, or if you miss a <u>make-up</u> midterm, you must submit another request 'Missed Term Work Accommodations' form and declare your extended absence on ACORN. ***Note: In the case of a missed make-up test, an opportunity to write a second make-up test may not be provided.

A note on Academic Integrity

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

<u>In papers and assignments</u>:
- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor in all relevant courses
- Making up sources or facts
- Obtaining or providing unauthorized assistance on any assignment

<u>On tests and exams</u>:
- Using or possessing unauthorized aids
- Looking at someone else's answers during an exam or test
- Misrepresenting your identity

<u>In academic work</u>:
- Falsifying institutional documents or grades
- Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes

All suspected cases of academic dishonesty will be investigated following procedures outlined in the *Code of Behaviour on Academic Matters*. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please reach out to me or the teaching assistants. Note that you are expected to seek out additional information on academic integrity from me or from other institutional resources (for example, the University of Toronto website on Academic Integrity). When in doubt, reach out!

A note on unauthorized assistance

You may see advertisements for services offering grammar help, essay editing and proof-reading. Be very careful. If these services take a draft of your work and significantly change the content and/or language, you may be committing an academic offence (unauthorized assistance) under the *Code of Behaviour on Academic Matters.*

It is much better and safer to take your draft to the Writing Centre as early as you can. They will give you guidance you can trust. Students for whom English is not their first language should go to the English Language Development Centre.

If you decide to use these services in spite of this caution, you <u>must </u>keep a draft of your work and any notes you made before you got help and <u>be prepared to give it to your instructor on request.</u>

A note on Writing Skills and Improving Academic English from the Centre for Teaching and Learning's Writing Support and English Language Support

For all written work in the class, consistently poor writing (spelling, grammar, etc.) will be taken into consideration as part of your grade. Please make use of the assistance offered by the university if you feel that you need additional help with your writing or wish to improve your current skills.

The Centre for Teaching and Learning offers personalized support for developing academic writing skills and English writing skills that are needed in academic communications. More information on relevant services are available here: https://www.utsc.utoronto.ca/ctl/academic-learning-support.

A note on Accessibility Services in Relation to this Course

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Access*Ability* Services as soon as possible.

Access*Ability* Services staff (located in Rm SW302, Science Wing) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. Several ways of contacting Access*Ability* are listed on their website: https://www.utsc.utoronto.ca/ability/welcome-accessability-services. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Video and Auditory Recording

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor.
For questions about the recording and use of videos in which you appear, please contact your instructor.

Unauthorized video or audio recording in the classroom is prohibited, as outlined in the Provost's guidelines on Appropriate Use of Information and Communication Technology. Students must obtain the written consent of the instructor before recording lectures. The private use of videos for students with disabilities will not be unreasonably withheld.

On the University's plagiarism detection tool

The University's plagiarism detection tool is a tool that will assist in detecting textual similarities between compared works. University's plagiarism detection tool is an efficient way to identify common writing issues and deter plagiarism in course assignments.

Normally, students will be required to have their written work (e.g., final papers, written assignments, written test questions) analyzed by the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their materials to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (https://uoft.me/pdt-faq)."

On Equity, Diversity and Inclusion

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.