UNIVERSITY OF CALGARY

DEPARTMENT OF PSYCHOLOGY
Faculty of Arts

PSYC/NEU 521	Cognitive & Clinical Neuroscience	Winter 202

Instructor:	Giuseppe Iaria	**Lecture Location:**	ST130
Phone:	403-220 8482	**Lecture Days/Time:**	Tuesday 17:00 – 19:45
Email:	giaria@ucalgary.ca		
Office:	AD 218		
Office Hours:	Anytime (but email first)		

Course Description

The course provides an overview of the latest research investigating brain mechanisms underlying some of the cutting-edge topics in cognitive neuroscience. At the outset, students will be introduced to basic concepts of cognitive neuroscience and the range of techniques used with both healthy subjects and clinical populations. In subsequent weeks, classes will consist of detailed introductions to specific topics, student presentations and class discussion of scientific literature. The goal is for students to acquire knowledge about cognitive and clinical neuroscience through selected topics and to develop critical thinking skills when evaluating scientific literature.

Course Learning Outcomes

The Department of Psychology is committed to student knowledge and skill development. The table below lists the key learning outcomes for this course, the program-learning outcomes they facilitate (see psyc.ucalgary.ca/undergraduate/program-learning-outcomes), and the expected level of achievement.

Notes. PLOs = Program-Learning Outcomes: 1 = demonstrate knowledge of psychological sciences, 2 = think critically and solve problems, 3 = conduct research and analyze data, 4 = communicate effectively, 5 = demonstrate information literacy, 6 = understand and implement ethical principles, 7 = apply psychological knowledge and skills. Level of PLO achievement facilitated by this course: I = introductory, C = competency, A = advanced.

By the end of this course students will be able to ...	Teaching and Learning Activities	Assessment Methods	PLOs	Level
Analyze fundamental differences between cognitive science and cognitive neuroscience, as well as between neuropsychology and clinical neuroscience.	Online forum discussion	Quality of student's contribution on online forum discussion	1, 5	C

Differentiate the use of neuroimaging techniques to investigate cognitive functioning and behaviour.	Reading material and online forum discussion	Grading on student's summary presentation posted online and online forum contribution	1, 2, 5	C
Evaluate the methodological approach of selected peer-reviewed scientific articles, and critique their overall contribution to the field of cognitive and clinical neuroscience.	Online questions, article presentation through summary posted online, and online forum discussion	Quality of student's online questions, and quality of online forum discussion.	2, 3, 6	C
Create scientific presentation aiming to disseminate knowledge in an engaging manner.	Student article presentation through online summary posting, and online forum discussion	Quality of student's online summary presentation.	4, 5	A
Formulate questions and raise issues in order to generate discussion among peers.	Online questions, article presentation through summary posted online, and online forum discussion	Quality of student's online questions, and quality of online forum discussion.	1, 2, 4, 5	C
Design a novel experiment by formulating a specific hypothesis, and write it in the format of a research proposal.	Written proposal	Written proposal.	1-5, 7	A
Predict the location of brain damages (or neural activity while acquiring fMRI scans) by observing and measuring cognitive processes.	Student article presentation through online summary posting, and online forum discussion	Quality of online forum discussion.	1, 2, 7	C

Prerequisites

Psyc 300 and 301 or 312 (Experimental Design & Quantitative Method) and Psyc 375 (Brain and Behaviour), nd admission to the psychology/neuroscience major.

Required Text

There are no required textbooks for this course. The course material consists of selected articles that will be made available to students throughout the course.

Assessment Methods

Student evaluations will be based on one leading discussion assignment (40% of final grade), prepared questions for forum online discussion (10% of final grade), and one term paper (40% of final grade); in addition, students' participation in the online forum discussion throughout the course will account for 10% of the final grade. Missed or late assignments will receive 0% unless documented by approved

documentation. Important, at the end of the leading discussion assignment, students will receive a comprehensive feedback and a percent grade via email.

During the first week of class, students will be asked to select a date (and, accordingly, a topic as scheduled in the course outline) for their leading discussion assignment. Students will perform their assignments individually or in groups depending on class size, and assigned at random if the number of dates and topics chosen voluntarily do not cover the entire course schedule. Students may be asked to lead more than two discussions, in which case only the last two assignments will be graded, and the initial ones will be considered practice trials.

A. *Leading Discussion (40% of final grade)*. The format of the leading discussion consists in preparing a one single-spaced page summary of the selected article, and post it in the dedicated D2L online discussion forum do to be discussed with the rest of the class. In the summary, students will be asked to examine in detail a peer-reviewed journal article, which other students in the class would have read as well. The summary will be posted in the discussion forum before the official scheduled time of the class. Students missing their leading discussion assignment without approved documentation will receive 0% grade for the assignment.

The leading discussion assignment may occur individually or in groups depending on class size, and assigned at random if the number of dates and topics chosen voluntarily do not cover the entire course schedule. Evaluation is based on creativity and success in engaging students' participation in the online class discussion, clarity, accuracy and completeness of the summary.

As a guideline, each leading discussion summary assignment should include: (1) a brief overview of the subject of the article, (2) the main question that the article aims to address, the relevance of it in the context of the topic of the week, and the authors' hypothesis, (3) a detailed description of the methods and procedure used, (4) the results of the study, (5) the authors' interpretation of the results, (6) the authors' general conclusion, (7) the student's observations about the study (including merits and/or limits of the experimental approach used), and (8) the student's suggestions for future studies given the findings provided in the article.

Students are encouraged to read additional research as needed and/or to prepare material (such as handouts or prepared questions) in order to engage the class and stimulate relevant discussion. In order to actively participate in the discussion, students attending are required to read the article presented as well as additional material related to that topic in advance of the class.

B. Questions (10% of final grade). Students who will not be leading a discussion on a given class are required to read one of the articles that will be discussed on that given date/class. As soon as the class starts at the scheduled time, students are expected to post on the D2L online discussion forum one question related to the selected article that will be discussed online for the following two days. Evaluation is based on the quality of the questions submitted throughout the course. Students not posting on the D2L online discussion forum without approved documentation will receive 0% grade for that specific week.

D. *Term paper (40% of final grade)*. Each student will write a term paper consisting of a research proposal. The proposal must focus on a topic covered during the course. The topic chosen for the proposal can be the same as that chosen (or assigned) by the student for his/her leading discussion assignments. In the proposal, students are required to formulate one or two experiments that would make an original contribution to the literature/topic that the proposal focuses on. Importantly, the research proposal must include human studies and must have a neuro-component. Term papers will be submitted by email to the instructor in PDF format (not word).

The content of the paper must be organized into the following sub-headings: (1) Title of the proposal and name of the student, (2) Abstract (150 words maximum), (3) Topic/literature overview, (4) Objective of the proposal, (5) Methods, (6) Expected results, (7) Implications and conclusions, (8) References (minimum 10; reference list in any format). Title of the proposal, name of the student, and abstract will form the "Title page" of the proposal. The body of the paper (excluding title page, abstract, and reference list) must not exceed five pages (double-spaced, 12 pt Times font). No figures or tables should be included in the paper. Evaluation is based on clarity, accuracy and completeness, and special consideration will be given to the novelty and originality of the proposal. Students who do not comply with the guidelines described above will have 5% deducted from the term paper's grade. Without approved documentation, late submissions of the term paper will not be accepted.

Department of Psychology Criteria for Letter Grades

Psychology professors use the following criteria when assigning letter grades:

A+ grade: *Exceptional Performance.* An A+ grade indicates near perfect performance on multiple choice and short answer exams. For research papers/essays/course projects/presentations, an A+ grade is awarded for exceptional work deserving of special recognition and is therefore not a common grade.

A, A- Range: *Excellent Performance.* Superior understanding of course material. Written work is very strong in terms of critical and original thinking, content, organization, and the expression of ideas, and demonstrates student's thorough knowledge of subject matter.

B Range: *Good Performance.* Above average understanding of course material. Written work shows evidence of critical thinking and attention to organization and editing but could be improved in form and/or content.

C Range: *Satisfactory Performance.* Adequate understanding of course material. Knowledge of basic concepts and terminology is demonstrated. Written work is satisfactory and meets essential requirements but could be improved significantly in form and content. Note: All prerequisites for courses offered by the Faculty of Arts must be met with a minimum grade of C-.

D range: *Marginally meets standards.* Minimal understanding of subject matter. Written work is marginally acceptable and meets basic requirements but requires substantial improvements in form and content. Student has not mastered course material at a level sufficient for advancement into more senior courses in the same or related subjects.

F grade: *Course standards not met.* Inadequate understanding of subject matter. Written work does not meet basic requirements. Student has not demonstrated knowledge of course material at a level sufficient for course credit.

Grading Scale

A+	96-100%	B+	80-84%	C+	67-71%	D+	54-58%
A	90-95%	B	76-79%	C	63-66%	D	50-53%
A-	85-89%	B-	72-75%	C-	59-62%	F	0-49%

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades.

To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage (e.g., 89.5% will be rounded up to 90% = A but 89.4% will be rounded down to 89% = A-).

Tentative Lecture Schedule

Date	Topic/Activity/Readings/Due Date (revise and add columns & rows as necessary)
T Jan 14	**Winter Lectures Begin – Introduction to the course**
T Jan 21	**PubMed Search and articles' selection**
R Jan 23	Last day to drop a class without financial penalty
F Jan 24	Last day to add or swap a course
T Jan 28	**Guest lecture**
F Jan 31	Tuition Fee Deadline
T Feb 4	**Topic 1 – Human topographical orientation**
T Feb 11	**Topic 1 – Human topographical disorientation**
Feb 16-22	Reading Week. No lectures. University open (except Family Day). Alberta Family Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.
M Feb 17	Alberta Family Day, University closed (except Taylor Family Digital Library, Law, Medical, Gallagher and Business Libraries). No lectures.
T Feb 25	**Topic 2 – Mood, emotions and empathy in health individuals**
T Mar 3	**Topic 2 – Mood, emotions and empathy in clinical populations**
T Mar 10	**Topic 3 – Neuroplasticity in healthy individuals**
T Mar 17	**Topic 3 – Neuroplasticity in brain-damaged patients**
T Mar 24	**Topic 3 – Neuroplasticity (additional) healthy individuals and brain-damaged patients**
T Mar 31	**Topic 4 – Consciousness in healthy individuals**
T Apr 7	**Research proposal review and discussion through online platform**
F Apr 10	Good Friday
M Apr 13	Non-Instructional Day, University Open

T Apr 14	Topic 4 – Consciousness disorders in brain-damaged patients
T Apr 14	**Research proposal due**
W Apr 15	Last day of classes, last day to withdraw from winter semester
Apr 18-29	Final Exam Period
Apr 30	End of Term

Extra Research Participation Course Credit is Not Offered for this Course.

Seating During Exams
Instructors and exam invigilators are free to ask students to move seats before an exam begins or even during an exam. Students must comply with this request and refusal to do so may warrant a charge of academic misconduct.

Absence From A Test/Exam
Makeup tests/exams are **NOT** an option without the approval of the instructor. A student may be asked to provide supporting documentation for an exemption/special request for a make-up exam https://www.ucalgary.ca/registrar/registration/appeals. . Students who miss a test/exam have up to 48 hours to contact the instructor to ask for a makeup test/exam. It's the instructor's discretion if they will allow a make-up exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Once approved by the instructor a makeup test/exam must be written within 2 weeks of the missed test/exam during exam make-up hours provided by the department http://psychology.ucalgary.ca/undergraduate/exam-and-course-information#mues. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam https://www.ucalgary.ca/registrar/exams/deferred-exams.

Travel During Exams
Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered by the department. Students are advised to wait until the final examination schedule is posted before making any travel arrangements. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam https://www.ucalgary.ca/registrar/exams/deferred-exams. Students with an exceptional extenuating circumstance (e.g., a family emergency) should contact the Department of Psychology (psyugrd@ucalgary.ca).

Reappraisal of Graded Term Work http://www.ucalgary.ca/pubs/calendar/current/i-2.html

Reappraisal of Final Grade http://www.ucalgary.ca/pubs/calendar/current/i-3.html

Academic Accommodations
Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf.

Academic Misconduct
For information on academic misconduct and its consequences, please see the University of Calgary Calendar at http://www.ucalgary.ca/pubs/calendar/current/k.html

Instructor Intellectual Property
Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

Copyright Legislation
All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

Freedom OF Information and Protection of Privacy
Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary

Student Support and Resources
https://www.ucalgary.ca/registrar/registration/course-outlines

Acknowledgments and Respect for Diversity

Our classrooms view diversity of identity as a strength and resource. Your experiences and different perspectives are encouraged and add to a rich learning environment that fosters critical thought through respectful discussion and inclusion. The Department of Psychology would also like to acknowledge the traditional territories of the people of the Treaty 7 region in southern Alberta. The City of Calgary is also home to Métis Nation of Alberta, Region III.

Student Organizations

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 130 and may be contacted at 403-220-5567.

Student Union VP Academic:	Phone: 403-220-3911	suvpaca@ucalgary.ca
Student Union Faculty Rep.:		arts1@su.ucalgary.ca

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **January 23, 2020.** Last day for registration/change of registration is **January 24, 2020**. The last day to withdraw from this course is **April 15, 2020**.