ABOUT PSYC 301
The human brain is an amazingly complex and intricate network of neurons and glia. Consider the complex array of approximately 90 billion neurons, the estimated 100 trillion connections among them, and the almost infinite number of paths that neural signals can follow through those connections. The complexity of the human brain is hardly surprising, considering what it can do. An organ capable of creating a Van Gogh, an artificial limb, and a space station; and of experiencing the wonders of a seaside sunrise and a newborn infant must be complex.

This course is about what happens when the complex network that is our brain becomes dysfunctional; the various forms that brain dysfunction can take; and how the brain repairs itself – if and when it does – after its networks and their functions have been compromised.

Though we have learned much about neuroanatomy and brain injury, there is still much to discover about how the brain repairs itself. The study of human brain dysfunction and recovery serves two important purposes: (1) it increases our understanding of the healthy brain; and (2) it serves as a basis for the development of new treatments.

This course is designed to be ideal for students with an interest in medicine (particularly neurology and psychiatry), clinical neuropsychology, neuroscience, occupational therapy, speech-language pathology, or similar fields.

LEARNING GOALS
By the end of this course you should be able to

- understand and use some of the fundamental language of neuroscience (e.g., neuroanatomical and neurophysiological terms).
- navigate the neurological and neuropsychological research literatures with some confidence.
- describe how certain neuroanatomical and neurophysiological processes have been linked to behaviour and/or cognition.
- explain how the relationship between neuroanatomy and behavioural and/or cognitive processes can be investigated by neurologists and clinical neuropsychologists.
- understand how a range of tools from the cognitive neurosciences (e.g., fMRI, PET) can be employed to characterize a patient’s impairments and any subsequent functional improvements.
- analyze various theories that have been designed to explain the nature of the deficits and recovery that arise following brain dysfunction.
- evaluate the legitimacy of various pieces of evidence related to theories of brain dysfunction and recovery.
- explain the range of physiological and psychosocial effects of brain dysfunction.
- synthesize what you’ve learned to better appreciate the highly integrative nature of neural and cognitive processes, and what future treatments may aim to target.

WHO, WHEN, WHERE
Instructors: Steven Barnes
Office: Room 3104, Kenny
sjb@psych.ubc.ca
Office Hours: Thurs 11:15-12:15 (Kenny 3104), 7:30-8:30 (CIRS 1250), and by appointment.

Teaching Assistants: Giulia Capuzzo
gcapuzzo@psych.ubc.ca
Office Hours: by appointment

Matthew Cooke
matthewcooke@alumni.ubc.ca
Office Hours: by appointment

Schedule: Thu, 5:00 - 7:30
CIRS 1250
Important Notes:
1. Office hours might change; please check the course website for updates.
2. In most cases, emails will be answered within 48 hours on weekdays (not on weekends) during normal working hours.
3. When you send us an email, the subject line should include the course number and the nature of the inquiry (i.e., “PSYC 301 – Question about complex partial seizures”).
4. If you do send us an email that is content related, it should contain no more than one question and you should try to explain your current understanding of the content in the email (which will be affirmed or corrected by one of us).

PREREQUISITES
There are two prerequisites for this course:

1. You have completed either (1) PSYC 100 or (2) two of PSYC 101, 102, 205, 207, 208, 216, or 217 (PSYC 101, 102 and PSYC 216 or 217 are strongly recommended).
2. You are in the second year or later of your undergraduate degree, you are in a graduate degree, you are qualifying for a graduate degree, or you are an unclassified student.

EVALUATION

1. Exams (up to 100%):
There will be three exams: the final exam will be written during the exam period at a time designated by the Registrar’s Office (you must be available to write at any time during the exam period), and 2 midterm exams will be written during class time.

Midterm Exam 1 (25%) Oct 4 (class time)
Midterm Exam 2 (30%) Nov 8 (class time)
Final Exam (45%) Dec 4-19

Notes on the Exams:
- Midterms exams are not cumulative; the final exam is cumulative. For the final, every lecture is testable but only readings after Midterm 2 will be testable.
- There will be no makeup exams (except in certain instances when the Final Exam is missed--see below).
- You will not be accommodated for missing an exam unless you present evidence to me of an unavoidable hardship within 48 hours of missing the exam.
- Being accommodated for missing a midterm examination is at my sole discretion.
- If you are accommodated for missing Midterm 1, that portion of your course grade will be evenly split between Midterm 2 and the Final Exam. If you are accommodated for missing Midterm 2, that portion of your course grade will be added to the Final Exam. If you are accommodated for missing both Midterm 1 and Midterm 2, you will be assigned a research project to make up for the portion of the grade corresponding to both Midterms 1 and 2.
- If you miss the Final Exam, you must contact your Faculty Academic Advising Office to address the issue—note that they will probably require medical or other documentation. Please refer to the UBC Calendar for details of academic concession.’ Note that make-ups for the Final will differ from the version used for the rest of the class.
- You will not be allowed to write an exam if (1) you are more than 30 minutes late, or (2) another student has already submitted their exam and left the exam room—whichever occurs first.
- Note that, during exams, either myself or the invigilators reserve the right to move you to a new seat without providing an explanation.

The date of the Final Exam is not announced by the University until mid-February. You should not make any travel plans until you learn the date of your Final Exam.

There will be topics covered in class that are not in the readings and materials in the readings that are not covered in class. You will be responsible for both. That is, all readings and all lecture materials are examinable.
- All exams will include multiple-choice and short-answer questions.
- Note that the instruction on all multiple-choice questions will be to “select the single best response.”
- If you encounter what you believe to be a faulty question on an exam, answer it to the best of your ability under the circumstances, and write a brief explanation of what you think is the problem on the front of your exam. Occasionally, bonus marks are awarded to those who spot ambiguities or errors.
- Once exams have been marked, grades will be posted on Canvas. You will receive an email no-
tification when grades are posted (please ensure the University has your correct email address).

- You are strongly encouraged to review your exam with Giulia. Most requests for grade adjustments can be settled directly with Giulia. In cases of a dispute that cannot be satisfactorily resolved, one of us will render a decision after reading your exam and talking to both parties.

- Any grading disputes (other than calculation errors) must be handled within 2 weeks of exam grades being released.

2. Optional Project (up to 20%):

You may elect to do a project on a topic of your choosing that is related to the course materials. If you do elect to do a project, the grade you receive on that project will be worth 20% of your final grade, and the grades you receive on each of the exams will be worth the following:

Midterm Exam 1: 20%  
Midterm Exam 2: 22.5%  
Final Exam: 37.5%

There are three purposes to this optional project:

1. To offer you the chance to explore a topic of your choice in greater depth than the lecture and readings can offer.
2. To assess your ability to think both critically and creatively.
3. To offer you a chance to explore other ways of expressing your knowledge.

Although the standard format for this project is a review paper (described below), you are strongly encouraged to pursue other project formats. For example, you might consider creating a short video, a painting, a computer model, a musical composition, a dance sequence or a stop-motion animation.

If you are ever unsure of whether the topic or format of your project is acceptable, please ask me.

If you choose any format other than the review paper (described below), you will need to clear your project topic and format with me. This can be done by email (gjb@psych.ubc.ca) or in person, on or before Sep 20. In most cases, I will provide you with a grading scheme customized to your specific project.

Please note that your project should be one that is done for this course exclusively; handing in work done for another course (past or present) is not acceptable.

Review Paper Option. If you would like to write a review paper as your project (in American Psychological Association (APA) style; for examples of APA-style review articles, see the journals Psychological Bulletin and Psychological Review) you are encouraged, but not obligated, to contact us to check that the topic of your paper is suitable before you start writing. The content of your paper should not overlap substantially with the material in the text or lectures. The audience for your paper is a person who has already taken this course. Detailed grading criteria for the review paper are available on the course website.

You are expected to read a minimum of 10 peer-reviewed jour-
student number in the document, as well as any metadata or hidden data that might be stored in the document itself. To remove metadata from your Microsoft Word document:

- Windows: You can remove the hidden data by using Microsoft Word's Document Inspector.
- Mac: You can remove the hidden data by clicking on Word > Preferences > Security, then selecting Remove personal information from this file on save.

**Late Policy.** Late submission of either the preliminary draft of the optional project or the final version of the optional project will result in a penalty of 10% per day.

**3. Research Participation (up to 3% bonus):**

You have the opportunity to earn up to 3 extra percentage points on your overall final grade by participating in studies regularly conducted by the Psychology Department and coordinated through the human subject pool (HSP). This provides you with the opportunity to observe the research process directly and to contribute to ongoing research activities at UBC. The extra credits are obtained by signing up for the subject pool at [ubc-psych.sona-systems.com](http://ubc-psych.sona-systems.com). If you plan to earn extra credit through research participation, please register in this online system by the end of the first month of classes.

You can find detailed information about research participation guidelines at [psych.ubc.ca/undergraduate/human-subject-pool](http://psych.ubc.ca/undergraduate/human-subject-pool). Please note that any inquiries about HSP credits should be directed to HSP and/or the experimenters that you worked with, not to us or your TA.

As an alternative to participating in studies, you may choose to complete library writing projects, in which you read and summarize a research article; each article summary counts as one hour of research participation. More information about this option can be found at [psych.ubc.ca/undergraduate/human-subject-pool](http://psych.ubc.ca/undergraduate/human-subject-pool).

All of your credits for study participation or the library option will be added to your final course grade, after any scaling that may have been applied. One percentage point is assigned to your final grade for each credit earned. Credits can be recorded and tracked via the HSP website. If you do not correctly assign your credits to this course, you will not receive credit so please make sure you have done this correctly.

The last day to earn and assign HSP credits is the final day of classes (i.e., Nov 30).

**COURSE SCHEDULE**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Sep 6</td>
<td>Course Introduction and Overview</td>
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<tr>
<td>Sep 13</td>
<td>Basic Neuroanatomy; Neurons and Neural Communication</td>
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<tr>
<td>Sep 20</td>
<td>Informal Proposal for Optional Project Due (if other than a review paper)</td>
</tr>
<tr>
<td>Sep 27</td>
<td>Functional Neuroanatomy; Structural and Functional Neuroimaging</td>
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<tr>
<td>Oct 4</td>
<td>Midterm Exam 1</td>
</tr>
<tr>
<td>Oct 11</td>
<td>Neurological Exam and Neuropsychological Assessment; Preliminary Draft of Optional Project Due; Possible Guest Speaker</td>
</tr>
<tr>
<td>Oct 18</td>
<td>Causes of Brain Dysfunction; Possible Guest Speaker</td>
</tr>
<tr>
<td>Oct 25</td>
<td>Neurological Disorders; Possible Guest Speaker</td>
</tr>
<tr>
<td>Nov 1</td>
<td>Brain Dysfunction Affecting Sensorimotor function, Perception; Possible Guest Speaker</td>
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<tr>
<td>Nov 8</td>
<td>Midterm Exam 2</td>
</tr>
<tr>
<td>Nov 15</td>
<td>Brain Dysfunction Affecting Attention, Memory; Possible Guest Speaker</td>
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<tr>
<td>Nov 22</td>
<td>Dysfunction of the Frontal Lobes; Factors Influencing Recovery of Function Following Brain Dysfunction; Possible Guest Speaker</td>
</tr>
<tr>
<td>Nov 29</td>
<td>Brain Dysfunction Associated with Psychiatric Disorders; Possible Guest Speaker; Final Version of Optional Project Due</td>
</tr>
<tr>
<td>Dec 4-19</td>
<td>Final Exam (Cumulative--see Exam notes)</td>
</tr>
</tbody>
</table>

**COURSE READINGS**

Course readings may be changed (e.g., if some exciting new research finding is published) or supplemented, so please check the course schedule on the course website and watch your email for notices to that effect. All course readings will be posted on Canvas.

- **Basic Neuroanatomy; Neurons and Neural Communication**  

- **Functional Neuroanatomy; Structural and Functional Neuroimaging**  


Neurological Exam and Neuropsychological Assessment


Causes of Brain Dysfunction


Neurological Disorders


Brain Dysfunction Affecting Sensorimotor Function, Perception


Brain Dysfunction Affecting Attention, Memory


Dysfunction of the Frontal Lobes; Factors Influencing Recovery of Function Following Brain Dysfunction


Brain Dysfunction Associated with Psychiatric Disorders

Readings TBA

WITHDRAWAL DATES

If you wish to withdraw from this course without any record of the course on your transcript, you must do so on or before Sep 18. If you wish to withdraw with a “W” on your transcript, you must do so on or before Oct 12.

GRADING AND ATTENDANCE

Grading. Your grade for each exam (and your project components, if applicable) will be posted on Canvas. If you wish to inspect your exam, you may do so by meeting with your TA.

In order to reduce grade inflation and maintain equity across course sections, all psychology courses are required to comply with departmental norms for grade distributions. According to departmental norms, the mean grade in a 300-level class is 70 for a good class, 68 for an average class, and 66 for a weak class (with a standard deviation of 13). Scaling may be used in order to comply with these norms; grades may be scaled up or down as necessary by myself or the department. Grades are not official until they appear on your transcript. You will receive both a percent and a letter grade for this course. At UBC, your course percentage is converted to a letter grade according to the following key:

<table>
<thead>
<tr>
<th>Grade Letter</th>
<th>Percentage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>90-100%</td>
</tr>
<tr>
<td>A</td>
<td>85-89%</td>
</tr>
<tr>
<td>A-</td>
<td>80-84%</td>
</tr>
<tr>
<td>B+</td>
<td>76-79%</td>
</tr>
<tr>
<td>B</td>
<td>72-75%</td>
</tr>
<tr>
<td>B-</td>
<td>68-71%</td>
</tr>
<tr>
<td>C+</td>
<td>64-67%</td>
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<tr>
<td>C</td>
<td>60-63%</td>
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<tr>
<td>C-</td>
<td>55-59%</td>
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<tr>
<td>D</td>
<td>50-54%</td>
</tr>
<tr>
<td>F</td>
<td>0-49%</td>
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</tbody>
</table>

Because you are earning a degree at a highly reputable post-secondary institution, the criteria for success are high. The Faculty of Arts offers the following guidelines that broadly characterize the kind of work that is generally associated with the particular grade ranges. These characteristics help put the Psychology Department grading policies into perspective. Please note that adequate performance is in the C range.

A Range: Exceptional Performance. Strong evidence of original thinking; good organization in written work; capacity to analyze (i.e., break ideas down) and to synthesize (i.e., bring different ideas together in a coherent way); superior grasp of
subject matter with sound critical evaluations; evidence of extensive knowledge base.

**B Range:** Competent Performance. Evidence of grasp of subject matter; some evidence of critical capacity and analytic ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.

**C-D Range:** Adequate Performance. Understanding of the subject matter; ability to develop solutions to simple problems in the material; acceptable but uninspired work; not seriously faulty but lacking style and vigor.

**F Range:** Inadequate Performance. Little or no evidence of understanding of the subject matter; weakness in critical and analytical skills; limited or irrelevant use of the literature.

**Attendance.** In this course, material that is taught in class will often be different from or supplement the readings. Moreover, lecture slides are designed to provide a framework for the lecture and any discussions—thus, not everything in the lecture is in the slides. It is, therefore, essential that you both attend class and read ahead. If you do have to miss a class, you are responsible for getting notes from another student.

During your time in this course, if you encounter medical, emotional, or other personal problems that affect your attendance or academic performance, please notify us as soon as possible, as well as your Faculty Academic Advising Office. Please refer to the UBC Calendar for a discussion of academic concession.

The University accommodates students with disabilities who have registered with the Access & Diversity office (see below). The University also accommodates students whose religious obligations conflict with attendance or scheduled exams. Please let us know in advance, preferably in the first few weeks of class, if you will require any accommodation on these grounds. Other absences (e.g., varsity athletics, family obligations or similar) are not part of University policy and you should not assume they will be accommodated. Please discuss this with us before the withdrawal dates (see above).

**Access & Diversity.** UBC is committed to equal opportunity in education for all students including those with documented physical or learning disabilities. If you believe you fall in this category, please visit the website for Access & Diversity (students.ubc.ca/about/access) to take the necessary steps to ensure that you have every opportunity that you deserve to excel in your studies.

**Early Alert Program.** We participate in the Early Alert program, which helps me support students who are facing difficulties that are interfering with that are interfering with their education, their wellness or both. For answers to frequently asked questions regarding the early alert program, please visit blog.students.ubc.ca/earlyalert/information-for-students/students-frequently-asked-questions/.

**Credit/D/Fail Grading.** This course is eligible for Credit/D/Fail grading. The last day to change between Credit/D/Fail and percentage grading is Sep 18.

**OTHER COURSE POLICIES**

**Office Hours.** You should consider visiting Giulia’s office hour if you would like to review one of your exams (note: only Giulia will have your exams). In addition to their regularly scheduled office hours, Giulia will offer additional time windows for the review of exams. If you would like to review your exam, you must plan to attend one of these sessions or Giulia’s office hour. When reviewing your exam, you are not allowed to take notes on, or photos of, the exam. You should also connect with Giulia if you would like to discuss content from the course readings and/or study strategies, or you would like to discuss psychology and neuroscience more generally.

You should consider visiting my office hour if you would like to discuss lecture content (or psychology and neuroscience more generally) or if you have an issue with course performance or progress (e.g., you would like to discuss your exam performance after meeting with Giulia or you missed an exam due to illness or some other adverse situation).

**Classroom Conduct.** Our classroom is a place where you should feel safe and respected. It should also be a place that is conducive to learning and intellectual inquiry. Any behaviour on your part that compromises that environment will not be tolerated and you will be asked to leave.

**POINTS TO REMEMBER**

- Productive classroom discussion and debate are encouraged.
- You are responsible for all readings and lecture materials.
- Lecture slides will be available on the course website. However, if you miss a lecture, don’t expect to find all of what you missed in the slides.
- Lecture slides will be posted on the course website the night before each lecture. This is done as a courtesy. Please be aware that I may make some significant changes to the slides between that time and the lecture the next day. Final versions of lecture slides will be posted no later than the Friday following a lecture, and will be marked as ‘Final Version.’
- Please be aware that some of the content in this course can be challenging for those without some background in biology.
- Laptops and similar devices can be effective learning tools and are welcome in class. However, if you are using them for non-class-related activities it can be distracting for others. So, if you plan to use devices for any non-class-related activities, please sit towards the back of the room.
ACADEMIC MISCONDUCT
Cheating, plagiarism, and other forms of academic misconduct are very serious concerns of the University, and the Department of Psychology has taken steps to alleviate them.

In all cases of suspected academic misconduct, the parties involved will be pursued to the fullest extent dictated by the guidelines of the University. Strong evidence of cheating or plagiarism may result in a zero credit for the work in question. According to the University Act (section 61), the President of UBC has the right to impose harsher penalties including (but not limited to) a failing grade for the course, suspension from the University, cancellation of scholarships, or a notation added to the student's transcript.

All graded work in this course, unless otherwise specified, is to be original work done independently by individuals. If you have any questions as to whether or not what you are doing is even a borderline case of academic misconduct, please consult with us. For details on pertinent University policies and procedures, please see Chapter 5 in the UBC Calendar (students.ubc.ca/calendar) and read the University's Policy 69 (available at universitycounsel.ubc.ca/policies/policy69.html).

WELLNESS RESOURCES
Below is a list of resources you may want to use if you are struggling in any way to manage your responsibilities while in school or the stresses of life in general.

The Kaleidoscope:
the-kaleidoscope.com

A confidential peer-run mental health support group that takes place on campus at least once a week. You may attend the group if you are experiencing any kind of mental health related challenges, or if you’re just feeling stressed about school in general. Registration is not required to attend the group. See the website for meeting times and locations. Food and drink are provided.

Counselling Services:
students.ubc.ca/livewell/services/counselling-services

Phone number: 604-822-3811

Counselling services offers a variety of resources to help you maintain your mental health while in school. You may see a counsellor on an individual basis, attend group counselling, or to document an illness if you should require academic concession.

SpeakEasy:
ams.ubc.ca/services/speakeasy/

Phone number: 604-822-9246

A student run service that offers confidential support for students experiencing crisis. Also a good resource for additional information and referrals within the UBC community.

SHARE:
www.vivreshare.org

Self Harm Anonymous Recovery and Education is a program designed to promote self care and educate about self harm. SHARE support groups meet biweekly; times and locations can be found on their website.

UBC Wellness Centre:
students.ubc.ca/livewell/services/wellness-centre

Phone number: 604-822-8450

Speak with other students about tips for managing stress, keeping healthy sleep and eating patterns, concerns about safe sex and more.

Access and Diversity:
students.ubc.ca/about/access
604-822-5844

Access and Diversity provides accommodations for students living with physical or mental disabilities.

Student Health Services:
students.ubc.ca/livewell/services/student-health-service

604-822-7011

Student health provides students with a variety of healthcare related services to help you maintain your health while studying. Access to doctors and registered nurses.

Mood Disorders Clinic UBC:
ubc-mooddisorders.vch.ca/

A psychiatric program designed specifically to treat individuals living with depression or bipolar disorder.

Live Well, Learn Well:
students.ubc.ca/livewelllearnwell

The Live Well, Learn Well initiative is a resource hub that provides students with information to help improve physical and mental wellbeing.

Mental Health Awareness Club:
ubcmhac.sites.olt.ubc.ca/

A club that offers opportunities to speak about mental health with others and strives to promote mental health awareness throughout the UBC community.

Pacific Spirit Addiction Services:
3rd Floor, 2110 West 43rd Ave Vancouver B.C. V6M 2E1
Phone number: 604-267-3970

A free and confidential service for youth and young adults up to the age of 24. Services include counselling, access to an addiction physician - including usage of a methadone maintenance program - and a drug education series.
AMS Food Bank:
ams.ubc.ca/services/food-bank/
If you are in a financial emergency AMS food bank can provide you with a food hamper. You are able to use the service up to 6 times each term.

UBC Psychology Clinic:
clinic.psych.ubc.ca
Professional psychological services provided to the community, including assessment & treatment for children, adults & families by clinical psychology trainees.

BC Crisis Center:
crisiscentre.bc.ca
Phone number: 604-872-3311
Non-profit, volunteer-driven organization that provides emotional support to youth, adults, and seniors in crisis in BC. Crisis line available 24/7.

Distress Line:
Phone number: 1-800-Suicide (784-2433)
If you are in distress or are worried about someone in distress who may hurt themselves, call 1-800-SUICIDE 24 hours a day to connect to a BC crisis line, without a wait or busy signal.

Last Modified: September 21, 2018