



a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA

IRVING K. BARBER SCHOOL  
OF ARTS AND SCIENCES

**BIOPSYCHOLOGY OF BEHAVIOUR  
PSYCHOLOGY 230, SECTION 001  
Term 1, 2019-2020**

**INSTRUCTOR:** Barbara Rutherford, Ph.D.  
Office: Arts 318  
Phone: 250-807-8734  
Office Hours: Tues 9:30-10:30am, Wed 2:00-3:00pm or by appointment  
Email: [barbara.rutherford@ubc.ca](mailto:barbara.rutherford@ubc.ca)

**TEACHING ASSISTANTS:** Teaching assistants will provide one-on-one tutoring, tips for effective study and note-taking, help with the electronic study aids, and advice regarding the assignment and option 2 for the research activity.

**Lydia Wood**  
Office and Office hours: Arts 336, Fri 11:30-1:30pm  
Email: [lydia.wood@ubc.ca](mailto:lydia.wood@ubc.ca)

**Graham Armstrong**  
Office and Office hours: Arts 280H, Mon 1:30-3:30pm  
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**COURSE DESCRIPTION:** Topics will include structure and function of the nervous system, research methods, and their application to a selection of the following topics: human brain damage and recovery, stress, selected psychological and neurological disorders, sleep, memory, and vision. (UBC Okanagan Calendar 2019/20. Retrieved July 29, 2019 from <http://www.calendar.ubc.ca/okanagan/courses.cfm?go=name&code=PSYO>).

**PREREQUISITES:** All of PSYO 111, PSYO 121. Students who lack the prerequisites must have a prerequisite waiver form approved in order to receive a grade in the course.

**COURSE FORMAT:** The class lectures will review and **expand on** selected material from the textbook. Students should read the relevant chapter before class and attend all classes. Tests may include information in the required chapters of the textbook that is not covered in lectures and lecture material that is not covered in the textbook.

**LEARNING OUTCOMES:** By the end of the course, you should be able to:

1. Use anatomical and physiological terms correctly and discuss links to behaviour.
2. Categorize variables in research hypotheses and analyse strengths and limitations of biopsychological research methodologies.
3. Analyse strengths and limitations of biological explanations of learning and memory, drug addiction, stress, psychiatric disorders, and vision.
4. Explain how the brain develops, and describe evidence of plasticity and lateralization of functions.

**REQUIRED COURSE PACKAGE:**

iClicker: Available for purchase at the bookstore

Textbook:

Pinel, J.P.J. & Barnes, S.J. (2018). *Biopsychology* (10th ed.). Toronto: Pearson, Allyn & Bacon.

The textbook is electronic. An Access Code Card available for purchase at the Bookstore.

Revel Course Invite Link: <https://console.pearson.com/enrollment/kazwfk>

**LECTURE POWERPOINTS:**

Powerpoints will be posted on canvas before class. The slides contain key words for core concepts. You will need to add notes from lectures and the textbook to explain the concepts.

**TENTATIVE SCHEDULE:**

| <b>Date</b>   | <b>Topic</b>   | <b>Readings</b>                        | <b>Chapter quizzes<br/>Due Date</b> |
|---------------|--|--|-------------------------------------|
| Sept. 5       | What is biopsychology?   | Chapter 1                              | Sept 9                              |
| Sept. 10- 17  | Anatomy of the nervous system                                      | Chapter 3                              | Sept 17                             |
| Sept. 19 – 26 | Conduction & synaptic transmission                                 | Chapter 4                              | Sept 26                             |
| <b>Oct. 1</b> | <b>Test 1</b>  | <b>All of the above &amp; lectures</b> |                                     |
| Oct. 3        | Research methods   | Chapter 5                              | Oct 3                               |
| <b>Oct 8</b>  | <b>Library Assignment Due</b><br>Development of the nervous system | Chapter 9                              | Oct 8                               |
| Oct 10-17     | Brain damage & recovery  | Chapter 10                             | Oct 10                              |
| Oct 22        | Learning, memory, & amnesia  | Chapter 11                             | Oct 22                              |
| <b>Oct 24</b> | <b>Test 2</b>  | <b>All of the above &amp; lectures</b> |                                     |
| Oct. 29       | Drug addiction   | Chapter 15                             | Oct 29                              |
| Oct 31        | Lateralization & language  | Chapter 16                             | Oct 31                              |
| Nov 5-7       | Stress & health  | Section 17.5                           | Nov 5                               |
| Nov 14-19     | Psychiatric disorders  | Chapter 18                             | Nov 14                              |
| Nov. 21-26    | Vision   | Chapter 6                              | Nov 21                              |
| Nov. 28       | Mind & brain   |  |                                     |
| <b>TBA</b>    | <b>Test 3</b>  | <b>All of the above &amp; lectures</b> |                                     |

## EVALUATION

There will be three tests, one assignment, a participation component, and an option for bonus credits from research participation. Each is worth the following percentage:

Test 1 - 25%

Test 2 - 25%

Test 3 - 34%

Library Assignment -10%

Participation - 6%

Optional research participation – 2% bonus marks

Final grades will stand as calculated from the above activities. There will be no supplementary activities to revise grades.

### Tests

Information in the required chapters (see page 2 of this course outline) of the **textbook, whether or not covered in lecture**, as well as the information presented in **lecture, whether or not covered in the text**, may be included on tests. Tests examine your understanding of the material, so questions may require that you apply course material to an example not covered in the text or class. Hence, it is important to work toward comprehending the material, rather than simply memorizing it.

Tests will be composed of multiple-choice questions and will be cumulative.

If you are unable to write a term test because of illness or a death in the family, then you must notify me **before the test**, produce **valid documentation**, and arrange to make up the test within 5 days of missing the test. Students who do not write the test will receive a “0” for the test.

If you are unable to write the final exam because of illness or a death in the family, then you must complete an out-of-time examination request form ([https://ikbsas.cms.ok.ubc.ca/wp-content/uploads/sites/104/2019/05/Out-of-Time\\_Final\\_Examination31637.pdf](https://ikbsas.cms.ok.ubc.ca/wp-content/uploads/sites/104/2019/05/Out-of-Time_Final_Examination31637.pdf)), attach the required documentation, and send the documents to the Dean’s Office ([bsasdeansoffice.ubc@ubc.ca](mailto:bsasdeansoffice.ubc@ubc.ca)) within 48 hours of the missed exam. The Dean’s Office will notify you of the decision on your request.

### **Library Assignment**

There are three goals to the Library Assignment. The first is that you become familiar with topics relevant to the course content in Psychology 230. The second is that you gain practice in searching PsycINFO, one of the primary data bases of psychological research. The third is to familiarize you with the requirements of the American Psychological Association for a reference list. Hence, there are three tasks required by the assignment.

The first is to identify a topic that is relevant to the course content of Psychology 230. To facilitate this, read the table of contents for each chapter covered in the course. Prepare a list of the subsections for topics that provoke your interest and then read each of the subsections. As you read, make note of concepts relevant to the topic.

As an example, let us say that your list of topics includes subsection 11.1 ‘Amnesic Effects of Bilateral Medial Temporal Lobectomy.’ After reading the subsection, you note

that the hippocampus is involved in anterograde and retrograde amnesia as well as explicit, semantic, and episodic memory.

You then do the same thing for each of the 4 remaining topics of interest.

The second task for the assignment is to access *PsycINFO* to search for articles related to your topics. You **MUST** use the **UBCO library access** to do this because other ways of accessing *PsycINFO* (e.g google or yahoo searches) may truncate the information available to you, which, in turn, could result in a lower grade on your assignment. Conducting an effective search of *PsycINFO*, or any data base, is an acquired skill that the librarians can help you learn. Essentially, you must first enter the data base. Then you must enter search terms to find research related to your topic. Typically, it is necessary to enter more than one search term in order to narrow the output to a manageable quantity.

For example, you decide to begin your search of *PsycINFO* with terms from your reading of subsection 11.1. You may choose to conduct an **advanced search**, but the **ONLY limiters** that you can use are **peer reviewed journals** and **English as the language** of the article. You start with hippocampus, which generates over 56,000 articles, which is far too many to work with. To narrow the output, conduct a conjunctive search where you enter two or more terms. Your list for hippocampus includes memory, so enter memory as a second search term. The result decreases to over 22,000 hits, which is still too many to work with. To narrow the topic even further, include a third search term from your list. You choose “anterograde amnesia.” The results decrease to over 140 hits, which is still too many to work with. To narrow the topic further, read the titles and abstracts of some of the articles. You note investigations into global amnesia, scene memory, recognition memory, and autobiographical memory, to name a few. Let us say that after reading the abstracts, autobiographical memory interests you. Now conduct a new search inputting three search terms hippocampus, “autobiographical memory,” and “anterograde amnesia.” This results in less than 20 hits, which is a reasonable number should you need to read the articles.

The third task is to prepare a reference list of a minimum of 5 articles presenting research on the topic that you have chosen. The reference list must meet the format required by the **American Psychological Association (APA)**. For information on APA format requirements, refer to the *Publication Manual of the American Psychological Association* (2010), which is in the reference section of the library. Another helpful resource is a Quick Guide available through the Library (<http://ok-lib.sites.olt.ubc.ca/files/2014/08/APA-Guide-Fall-2013.pdf>). Be sure to pay particular attention to the formatting of the reference, the order of components within the reference, and the punctuation that separates each component.

The assignment itself will be a **single** page in length and will have two parts. The first title is **Topic**. In a single sentence identify your search terms. This sentence must include, in **bold**, each of the terms exactly as they were entered in *PsycINFO*. For example: The **hippocampus** and “**autobiographical memory**” and “**anterograde amnesia.**” The title of the second part of the assignment is **References**. This must be followed by a reference list in **APA format** of 5 articles from your search of *PsycINFO*.

The assignment is worth **10%** of the final grade in the course. It is due at the **start** of class on **October 8**. Marks will be deducted: (1) If the topic is not relevant to the course content of Psychology 230 (5 mark deduction); (2) If a search of *PsycINFO* with bolded terms of your topic sentence generates more than 20 hits (.5 deduction for each multiple of 5 over 30, to a maximum deduction of 5 marks); (3) For **each** error in the reference list (.5 per type of error to a maximum of 5 marks); and, (4) For each day that the assignment is late (20% per day).

## Participation

There are two components to participation marks: (1) study activities (2) class activities. Marks for study activities are earned by completing chapter quizzes **by the due date** on the course outline. If you miss the due date, then you still will be able to complete the quizzes but you won't earn participation marks. Marks for class activities are earned by responding to clicker questions.

The calculation of the final mark for participation is as follows:

| Final Participation Mark | Study activities:<br>% completed by due date | Class activities:<br>% completed |
|--------------------------|--|----------------------------------|
| 3                        | 80-100%                                      | 80-100%                          |
| 2                        | 50-79%                                       | 50-79%                           |
| 1                        | 11-49%                                       | 11-49%                           |
| 0                        | < 11%  | <11%                             |

## Research Activity

You have the option to engage in research activities to gain up to 2% bonus credits toward your final grade in the course. This requirement may be fulfilled either through direct participation in research through the Sona online volunteer subject pool (Option 1), by completing two written summaries of primary research articles (Option 2), or by a combination of the two types of activities.

### Research Participation (Option 1)

As a participant in one of numerous Psychology Department Subject Pool experiments posted at <http://ubco.sona-systems.com/>, you will obtain 0.5% credit for each 0.5 hour of participation at UBCO. Hence, participation requiring a 1-hour time commitment provides a credit of 1%, 1.5 hours provides a credit of 1.5%, and 2 hours provides a credit of 2.0%, etc.

#### *Important Requirements*

You may participate in more than one experiment in order to accrue credits. In order to ensure that a variety of research methodologies are experienced, ***at least one [1] of the mandatory credit hours must be earned by participating in online questionnaires and at least one [1] of the remaining credit hours must be fulfilled by participating in the university's on-site studies.*** In the event that you participate in a single listed study offering more than three credits for participation, this regulation will be waived. A substantial number of both types of studies are typically hosted on Sona; therefore, you will have many different choices.

It is important to sign up for experiments early in the semester in order to increase the odds that a time slot is available. If you wait until late in the semester, all time slots may be taken.

#### *Logging On To The System*

Sona is only open for those students who are registered in a psychology course offering Sona credit. Please only use the request account option if you have never used the Sona system

before. If you have used the Sona system before, please use the most recent login information you remember to log in.

### *Missed Appointments & Penalties*

Missed appointments (i.e., failure to cancel the appointment at least 3 hours prior to the session) will be tracked. The consequence will be that you will not receive credit for participation in the experiment and will lose the credit value of the study from possible marks associated with participation in research.

Please email [psyc.ubco.research@ubc.ca](mailto:psyc.ubco.research@ubc.ca) with any questions or concerns that you may have regarding the Sona system, including unassigned bonus credits. Your professor does NOT have access to this information.

### **Research Summary Assignment (Option 2)**

As an alternative to participating in a Psychology Subject Pool experiment, you may obtain subject pool credit by completing 2 library-writing projects to a satisfactory level. Each library-writing project is worth a total of two credits [i.e., 2% toward the final grade].

#### *Important Requirements*

1. This project consists of reading and summarizing (in written form) a recent, peer-reviewed, primary research article.
  - A “recent” article has been published within the past 12 months.
  - A “peer reviewed” article is one that has been reviewed by other scholars before it is accepted – for example, it **cannot** be a news item, an article from a popular magazine, a notice, or a letter to the editor.
  - A “primary” research article describes an experiment or study where data are collected by the authors. In other words, the article you choose to review **cannot** be a book review, literature review, or summary article.
  
2. You must choose an article published by one of the following agencies:
  - The American Psychological Society - *Psychological Science*, *Current Directions in Psychological Science*, *Psychological Science in the Public Interest*, or *Perspectives on Psychological Science*.
  - The American Psychological Association - [www.apa.org/journals/by\\_title.html](http://www.apa.org/journals/by_title.html) has a full listing.
  - The Canadian Psychological Association - *Canadian Psychology*, *Canadian Journal of Behavioural Science*, or *Canadian Journal of Experimental Psychology*.
  - The Psychonomic Society - *Behavior Research Methods, Cognitive, Affective, & Behavioral Neuroscience*, *Learning & Behavior*, *Memory & Cognition*, *Perception & Psychophysics*, or *Psychonomic Bulletin & Review*.
  
3. Other Assignment Guidelines
 

The summary should be about 300-500 words in length. The source must be cited and referenced in accordance with the *Publication Manual of the American Psychological Association* (6<sup>th</sup> ed.). The review will be graded on a pass – fail basis (2% or 0%). At least **14 days before the end of classes** each term, submit the following to the course instructor:

  - the article summary

- a copy of the article
- a cover page that specifies your name, student number, email address, and word count of the summary.
- the course title and number

Submitting the assignment 14 days in advance is necessary to ensure that you have an opportunity to make corrections, if required. If you do not check your email frequently, provide a phone number on the cover page.

### **Other Information**

#### **Copyright Disclaimer:**

Diagrams and figures included in lecture presentations adhere to Copyright Guidelines for UBC Faculty, Staff and Students <http://copyright.ubc.ca/requirements/copyright-guidelines/> and UBC Fair Dealing Requirements for Faculty and Staff <http://copyright.ubc.ca/requirements/fair-dealing/>. Some of these figures and images are subject to copyright and will not be posted to *Canvas*. All material uploaded to *Canvas* that contain diagrams and figures are used with permission of the publisher; are in the public domain; are licensed by Creative Commons; meet the permitted terms of use of UBC's library license agreements for electronic items; and/or adhere to the UBC Fair Dealing Requirements for Faculty and Staff.

Access to the *Canvas* course site is limited to students currently registered in this course. Under no circumstance are students permitted to provide any other person with means to access this material. Anyone violating these restrictions may be subject to legal action. Permission to electronically record any course materials must be granted by the instructor. Distribution of this material to a third party is forbidden.

#### **Academic Integrity:**

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at <http://okanagan.students.ubc.ca/calendar/index.cfm?tree=3,54,111,0>.

**UBC Okanagan Disability Resource Centre:**

The Disability Resource Centre ensures educational equity for students with disabilities and chronic medical conditions. If you are disabled, have an injury or illness and require academic accommodations to meet the course objectives, please contact Earllene Roberts, the Diversity Advisor for the Disability Resource Centre located in the University Centre building (UNC 214).

**UNC 214** 250.807.9263

email [earllene.roberts@ubc.ca](mailto:earllene.roberts@ubc.ca)

Web: [www.students.ok.ubc.ca/drc](http://www.students.ok.ubc.ca/drc)

**Ombuds Office:**

The Ombuds Office offers independent, impartial, and confidential support to students in navigating UBC policies, processes, and resources, as well as guidance in resolving concerns related to fairness.

Email: [ombuds.office.ok@ubc.ca](mailto:ombuds.office.ok@ubc.ca)

Phone: (250) 807-9818

Drop-in: UNC 217

Web address: [www.ombudsoffice.ubc.ca](http://www.ombudsoffice.ubc.ca)

**UBC Okanagan Equity and Inclusion Office:**

UBC Okanagan is a place where every student, staff and faculty member should be able to study and work in an environment that is free from discrimination and harassment. UBC prohibits discrimination and harassment on the basis of the following grounds: age, ancestry, colour, family status, marital status, physical or mental disability, place of origin, political belief, race, religion, sex, sexual orientation or unrelated criminal conviction. If you require assistance related to an issue of equity, discrimination or harassment, or to get involved in human rights work on campus, please contact the Equity and Inclusion Office.

**UNC 216** 250.807.9291

email: [equity.ubco@ubc.ca](mailto:equity.ubco@ubc.ca)

Web: [www.equity.ok.ubc.ca](http://www.equity.ok.ubc.ca)

**Health & Wellness:**

At UBC Okanagan health services to students are provided by Health and Wellness. Nurses, physicians and counsellors provide health care and counselling related to physical health, emotional/mental health and sexual/reproductive health concerns. As well, health promotion, education and research activities are provided to the campus community. If you require assistance with your health, please contact Health and Wellness for more information or to book an appointment.

**UNC 337**

Web: [www.students.ok.ubc.ca/health-wellness](http://www.students.ok.ubc.ca/health-wellness)

**Safewalk**

*Don't want to walk alone at night? Not too sure how to get somewhere on campus?*

*Call Safewalk at 250-807-8076.*

*For more information, see: [www.security.ok.ubc.ca](http://www.security.ok.ubc.ca)*

**Sexual Violence Prevention and Response Office (SVPRO):**

A safe and confidential place for UBC students, staff and faculty who have experienced sexual violence regardless of when or where it took place. Just want to talk? We are here to listen and help you explore your options. We can help you find a safe place to stay, explain your reporting options (UBC or police), accompany you to the hospital, or support you with academic accommodations. You have the right to choose what happens next. We support your decision, whatever you decide.

Visit [svpro.ok.ubc.ca](http://svpro.ok.ubc.ca) or call us at 250.807.9640

**Independent Investigations Office (IIO):**

If you or someone you know has experienced sexual assault or some other form of sexual misconduct by a UBC community member and you want the Independent Investigations Office (IIO) at UBC to investigate, please contact the IIO. Investigations are conducted in a trauma informed, confidential and respectful manner in accordance with the principles of procedural fairness.

You can report your experience directly to the IIO via email: [director.of.investigations@ubc.ca](mailto:director.of.investigations@ubc.ca) or by calling 604.827.2060 or online by visiting [investigationsoffice.ubc.ca](http://investigationsoffice.ubc.ca)