

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

COURSE OUTLINE – FALL 2022

PY3752 (A2): Brain and Behaviour – 3 (3-0-0) 45 Hours for 15 Weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land, and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

INSTRUCTOR: Dr. Ali M. AL-Asadi **PHONE:** 780-539-2061
OFFICE: C-311B **E-MAIL:** aalasadi@gprc.ab.ca
OFFICE HOURS: By appointments

CALENDAR DESCRIPTION: This course is an introduction to the neural basis of sensation, movement, learning, memory, motivation and cognition as studied in humans and other animals.

PREREQUISITE(S)/COREQUISITE: PY2230 or permission of the instructor

REQUIRED TEXT/RESOURCE MATERIALS:

- John Pinel, J. P. J. & Barnes, S. J. (2018). Biopsychology (10th edition or later). Pearson Education Canada Inc., Toronto, Ontario, Canada.
- Collection of reading materials, articles, and other resources based on Open-Sourced texts will be posted to this course's D2L site at: <https://myclass.gprc.ab.ca/d2l/home>

DELIVERY MODE: Lectures and Discussions

COURSE OBJECTIVES: Students will be taught neuroanatomy, nerve conduction, synaptic transmission and basic research methods in the field of biological psychology. The central nervous system's role in processes such as vision, motor control, learning, memory, sexuality, sleeping, emotion and psychiatric disorders will also be explored. Other topics that will be addressed are the development of the nervous system, the effects of brain damage, and the laterality of the brain.

LEARNING OUTCOMES: As a result of taking this course, students will know fundamental neuroanatomy, nerve signalling and basic research methods in neuroscience. They will also be able to identify the key brain structures involved in processes such as vision, motor control, learning, memory, sexuality, sleep, emotions and psychiatric disorders. Students will also gain an appreciation of the complexity of brain development, the brain’s ability for neuroplastic reorganization, and the brain’s fundamental lateralization of function.

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide at <http://transferalberta.alberta.ca/transfer-alberta-search/#/audienceTypeStep>

**** Grade of D or D+ may not be accepted for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

EVALUATIONS:

Exam #1 (Chapters 1, 3, 4, 5)	20-30%
Exam #2 (Chapters 6, 8, 9, 10, 11)	20-30%
Exam #3 (Chapters 13, 14, 16, 17, 18)	30%
Assignment**	5-20%
Attendance and Participation	10%
Total	100%

* Remember, all exams may include questions from lectures that may not be covered by your reading materials.

** The assignment can be a short essay for 5% or a longer essay for 10% or 20%. The exam marks will be adjusted accordingly. The assignment can also be a project including a concise informational booklet to educate the general public on a particular brain disorder or a PowerPoint presentation with animation about a topic of interest. Other proposals will be considered.

GRADING CRITERIA:

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
-------------	--------------------	-----------------------	-------------	--------------------	-----------------------

A+	4.0	95-100		C+	2.3	66-69
A	4.0	90-94		C	2.0	63-65
A-	3.7	85-89		C-	1.7	60-62
B+	3.3	80-84		D+	1.3	55-59
B	3.0	75-79		D	1.0	50-54
B-	2.7	70-74		F	0.0	00-49

*Note: This grading criteria is specific to this course and differs from the general criteria.

COURSE SCHEDULE/TENTATIVE TIMELINE:

Week 1-5	Chapters 1, 3, 4, 5: What is biopsychology, Anatomy of the nervous system, Neural conduction and synaptic transmission, Research methods in biopsychology)	Exam 1 (20-30%)
Week 6-10	Chapters 6, 8, 9, 10, 11: Visual system, Sensorimotor system, Development of the nervous system, Brain damage and neuroplasticity, Learning, memory and amnesia)	Exam 2 (20-30%)
Week 10-15	Chapters 13, 14, 16, 17, 18: Hormones and sex, Sleep and circadian rhythms, Lateralization, language and split-brain, Biopsychology of emotion, stress and health, Biopsychology of psychiatric disorders) Final Exam	Final Exam (30%) is Scheduled by the Registrar's Office

STUDENT RESPONSIBILITIES:

Each class's assigned readings and exercises should be completed before attending that class, except for the first class. As this course depends heavily on discussion and, at times, practice exercises and illustrations, attendance at all sessions is required and is critical to the student's success in the course. In case of illness or emergency, notify the instructor as soon as possible. If you have difficulty in this course, please contact me immediately for assistance. If you simply want more discussion about any aspect of the course, please visit my office during office hours or at a more convenient pre-arranged time.

You are accountable for delivered lectures, assigned readings, and any announcements that will be made in class from time to time. If you are unable to attend a particular class, it is your responsibility to find out what was missed. For optimal learning and readiness for class participation, you are expected to attend class regularly (no less than 80% attendance) and to read the assigned chapters/topics before coming to class on the dates indicated on the timetable, except, of course, for the first session. Past course records show that class attendance is highly correlated

with the final grade in the course.

If you foresee that you will be unable to write a test or exam at the scheduled time due to illness or emergency, you should notify me immediately, preferably one day in advance. A message may be left on my voice mail (780-539-2061) or e-mail (aalasadi@gprc.ab.ca) together with a phone number where you may be reached to arrange for an alternative date to write the test, if feasible. Failure to notify the instructor will result in a grade of zero for the test that was missed unless proof is presented that you were physically or mentally unable to do so due to a sudden illness or emergency or unavoidable circumstances beyond the student's control.

All students are expected to display a professional attitude and behaviour in the classroom. This includes reliability, respect for and cooperation with your fellow students and the instructor, attention to fellow students' questions and instructor's response, determination to achieve first-class work while meeting deadlines, and constructive response to criticism.

Please keep this course information sheet for future reference.

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the Northwestern Polytechnic Calendar at <https://www.nwpolytech.ca/programs/calendar/> or the Student Rights and Responsibilities policy which can be found at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

Instructors reserve the right to use electronic plagiarism detection services on written assignments. **Instructors also reserve the right to ban the use of any form of electronics (cell phones, Blackberries, iPods, tablets, scanning pens, electronic dictionaries, etc.) during class and exams.**

**Note: all Academic and Administrative policies are available at <https://www.nwpolytech.ca/about/administration/policies/index.html>

Additional Information

1. The format of each exam will be discussed in class.
2. Exam grades are final, and there is no substitute work for your poor exam grade.
3. The nature and topics of your written paper will be discussed in class
4. It is your responsibility to read each and every chapter and assigned reading (if any) and attend all lectures.
5. Lectures will not always cover the reading materials. Lectures may cover topics and include information that is not covered by your reading materials. Therefore, it is imperative that you attend every class as your exams may include materials from the lectures that are not covered by the reading materials.
6. Students are expected to display a professional attitude and behaviour. These attitudes and behaviours are many and will be discussed in class. Any violation or misconduct may result in dismissal from the class.
7. Talk to me if you have concerns or if you are experiencing difficulties that may have a negative impact on your academic performance.