

Grande Prairie Regional College

Psychology 2750: Brain and Behaviour (Section A2)

Mondays and Wednesdays – 2:30 to 3:50 p.m.

Room A212

September 8 to December 8, 2008

Instructor: Jo-Anne Tomie

Office Number: C205

Office Phone: 539-2739

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Office Hours:

Mondays, 9:30 -11:00 a.m.

Tuesdays through Thursdays, 9:30 a.m. to 12:00 noon

Other times, Drop in, or Make Appointment

Course Credit Hours: 3

Student Contact Hours: 3 per week

University Transferable: UA, UC,
UL, AU, AF, KUC

Delivery Mode: Lecture

Prerequisites: Biology 30 or
equivalent, and PY1040

Course Description:

This course is an introduction to the neural basis of sensation, movement, learning, memory, motivation and cognition as studied in both humans and non-humans.

Required Textbook:

Freberg, L.A. (2006). *Discovering Biological Psychology*. Boston, Massachusetts: Houghton Mifflin.

Blackboard:

Some course resources (course outline, handouts, study questions) will be posted to Blackboard during the term. Blackboard is web-based teaching and learning software that all GPRC students have access to. Blackboard is located at the following website:

<http://blackboard.gprc.ab.ca>

The first time you log onto Blackboard, use your student ID number as the username, and your birthdate in the form YYYYMmmDD as your password (e.g., 1924Sep05). Future logons are made with your student ID number and your own personal password, that Blackboard will force you to create the first time you logon.

Course Structure:

This course will cover the majority of the material from the following chapters in the required textbook. Related material from other resources will be included as well.

Chapter 1: *Introducing Biological Psychology*

Historical Highlights; Research Methods; Research Ethics

Chapter 2: *The Anatomy of the Nervous System*

Anatomical Directions and Planes of Sections; Protecting and Supplying the Brain; Central Nervous System; Peripheral Nervous System

Chapter 3: *Cells of the Nervous System*

Neurons and Glia; Generation of the Action Potential; Propagation of the Action Potential; The Synapse

Chapter 4: *Psychopharmacology*

Neurotransmitters, Neuromodulators, Neurohormones; Drug Actions at the Synapse; Basic Principles of Drug Effects; Effects of Psychoactive Drugs

Chapter 5: *The Genetics, Evolution, and Development of the Human Brain*

Genetics and Behaviour; Evolution of the Nervous System and Brain; Brain Development (Cell Growth and Differentiation; Effects of Experience; Disorders of Brain Development; Redevelopment in Response to Damage; the Aging Nervous System)

Chapter 6: *Vision*

Characteristics of Light; Structures and Functions of the Visual System; Visual Perception; Development of the Visual System; Disorders of the Visual System

Chapter 8: *Movement*

Muscles; Neural Control of Muscles; Reflex Control of Movement; Motor Systems of the Brain; Movement Disorders

Chapter 11: *Sleep and Waking*

Circadian Rhythms; Stages of Waking and Sleep; Sleep Throughout the Lifespan; Dreaming; Functions of Sleep; Brain Mechanisms of Sleep/Arousal; Biochemistry of Sleep; Sleep Disorders

Chapter 12: *Learning and Memory*

Learning (Types; Studying in Invertebrates and Vertebrates); Memory (Types, Brain Mechanisms, Memory Failure; Effects of Normal Aging)

Chapter 13: *Lateralization, Language, Intelligence*

Lateralization of Brain Function; Language; Communication Disorders and Brain Mechanisms for Language; Intelligence

Chapter 15: *Neurological Disorders*

Major Classes of Neurological Disorders; Brain Infections; Migraine Headache; Assessment of Neurological Disorders; Recovery from Damage; Therapy for Brain Damage

Evaluation:

Exam #1	25%
Exam #2	25%
Final Exam	25%
Annotated Bibliography and Journal Article Summary	15%
Sheep Brain Dissection (Participation and Report)	10%

Exams:

The exams will consist of **multiple choice, fill-in-the-blank, diagram labeling, matching, and/or short answer questions**, and will be **closed book**. **Exam #1** will be worth 25% of your final grade, will be administered in class on **Monday, October 6th**, and will cover everything covered in class from September 8th to October 1st, inclusive. **Exam #2** will be worth 25% of your final grade, will be administered in class on **Wednesday, November 5th**, and will cover everything covered in class from October 8th to November 3rd, inclusive. The **Final Exam** will be worth 25% of your final grade, will be administered **sometime between December 10th and 19th**, **at the time and on the date scheduled by the Registrar's office**, and will cover everything covered in class from November 12th to December 8th, inclusive. The Registrar's final exam schedule should be available by November 1st.

Exam #1 and Exam #2 must be written at the times and on the dates noted above, and the Final Exam must be written at the time and on the date scheduled by the Registrar's office.

Missed exams will receive grades of zero. Make-up exams will only be administered for valid and documentable medical or related reasons discussed with the instructor beforehand.

Annotated Bibliography and Journal Article Summary:

An annotated bibliography and journal article summary will be **due at the beginning of class on Monday, November 24th**. This assignment will be worth 15% of your final grade. **The topic for this assignment must be approved by the instructor before you begin work on it.** Details about this assignment – its necessary length, format, etc. -- will be handed out on the first day of class.

This assignment must be handed in at the time and on the date noted. Bibliographies and journal article summaries not handed in on time will receive grades of zero. Late bibliographies and journal article summaries will only be accepted for valid and documentable medical or related reasons discussed with the instructor beforehand.

Sheep Brain Dissection (Participation and Report):

This exercise and accompanying written report is worth 10% of your final grade. During class on Monday, October 20th, you will be dissecting sheep brains in a Biology Lab (J126). Dissection equipment and surgical gloves will be provided. A list of brain structures will be handed out in class beforehand, and working in groups of 2 or 3, you will be expected to locate these structures on your sheep brain. A report noting what you did, what you learned, and your own personal reflections about this exercise will be due at the beginning of class on Monday, October 27th.

Details about this report – its required length, format, etc. -- will be handed out in class at least 1 week before the sheep brain dissection takes place. Your grade for the sheep brain dissection will be based on your attendance and participation with this exercise, and on quality and thoughtfulness of the written report you hand in after this exercise.

Class Attendance

You are responsible for knowing all of the material covered in class for examination purposes, and some of the material covered in the class will not be in the textbook. It is thus highly recommended that you attend class regularly.

Letter Grades:

The following table will be used to convert final percentage averages into a letter grade:

95-100	A+	75-79	B	60-63	C-
90-94	A	70-74	B-	55-59	D+
85-89	A-	67-69	C+	50-54	D
80-84	B+	64-66	C	0-49	F

Tentative Course Schedule:

Please NOTE that this schedule is **tentative**, and might change slightly as the term progresses. The material will be covered in the order shown, but might be covered at a slightly different pace. **The dates for the exams, library session, bibliography and journal article summary, and sheep brain dissection are firm, however, and will not change.**

September 8	Introduce this course; Begin Chapter 1
September 10	Complete Chapter 1; Begin Chapter 2
September 15	Chapter 2, continued
September 17	Library Introduction -- Class in the Alward Computer Lab in the Library
September 22	Complete Chapter 2; Begin Chapter 3
September 24	Chapter 3, continued
September 29	Complete Chapter 3; Begin Chapter 4
October 1	Complete Chapter 4
October 6	Exam #1 - Covers all class material from Sept 8 to Oct 1, inclusive
October 8	Begin Chapter 5
October 13	No Class – Thanksgiving
October 15	Complete Chapter 5; Begin Chapter 6
October 20	Sheep Brain Dissection -- Class Held in a Biology Lab (J126)
October 22	Chapter 6, continued
October 27	Report about Sheep Brain Dissection Due, at beginning of class Complete Chapter 6; Begin Chapter 8
October 29	Chapter 8, continued
November 3	Complete Chapter 8
November 5	Exam #2 – Covers all class material from Oct 8 to Nov 3, inclusive
November 10	No Class – Fall Break
November 12	Begin Chapter 11
November 17	Complete Chapter 11; Begin Chapter 12
November 19	Chapter 12, continued
November 24	Bibliography and Journal Article Summary Due, at beginning of class Complete Chapter 12, Begin Chapter 13
November 26	Chapter 13, continued
December 1	Complete Chapter 13, Begin Chapter 15
December 3	Chapter 15, continued
December 8	Complete Chapter 15
Final Exam -- Sometime between December 10 to 19th – Registrar Scheduled Covers all class material from November 12 to December 8, inclusive	

Other Noteworthy Dates:

September 30 – final date to **Drop** this course from your Fall schedule

November 1 – Registrar's Final Exam Schedule should be available

November 6 – final date to **Withdraw** from this course without academic penalty

Students with Special Needs:

Students who require special accommodations must register with Disability Services and must inform the instructor about their needs in a timely manner. Registration with Disability Services does take time, and does require submission and review of appropriate documentation. Instructors require reasonable prior notice in order to arrange for needed accommodations.

Classroom Behaviour:

It is assumed that students are mature and considerate adults, who will behave as such, and who will treat the instructor and all of their fellow students with the utmost respect. Disruptive behavior, such as talking with neighbours during lectures, playing computer games, or emailing or text-messaging others during lectures, etc., is not welcome in this class. Electronic devices such as cell phones, text-messaging devices, video cameras, audio recorders, i-pods and the like **must be turned off** during classroom time.

Cheating, and Plagiarism:

If cheating or plagiarism is detected during this course, the GPRC ***Student Misconduct: Plagiarism and Cheating*** policy will be immediately invoked. This policy can be seen on the following website:

<http://www.gprc.ab.ca/downloads/documents/Student%20Misconduct%20Plagiarism%20and%20Cheating.pdf>

Cheating and plagiarism are serious academic offences, that can result in failing grades being awarded or in forced withdrawal from GPRC. Cheating and plagiarism are defined on page 49 of the 2008-2009 printed GPRC calendar, in the section about ***Student Conduct, Rights and Responsibilities*** (see pages 47 to 51 of the printed 2008-2009 GPRC calendar). You are encouraged to read this section of the printed calendar, and in particular, page 49.

A Final Note:

If you have any questions during the term, definitely do feel more than free to consult with me, and I will certainly strive to be as helpful as I can. I do NOT lend out my lecture notes, though, and so please do NOT ask for these! Thanks!

I hope you all find something in this course that you enjoy, and I look forward to working with you all during this term! ☺
