



The Biological Basis of Behavior

APPL 601 - Section 185 (4007) – 3 Credit Hours – Fall 2019

Day & Time: **Tuesday 5:30-8:00 pm**

Dates: August 26, 2019 – December 15, 2019

Location: **Liberal Arts & Policy Building – Room LAP-207**

Instructor:

Dr. Michael J. Frederick

Office Hours and Location:

Tuesdays 12:30-2:00 pm in LC 414

Office Phone: 410-837-5997

Contact Information:

E-mail: mfrederick@ubalt.edu

I prefer that students contact me via email. Please be sure to include the course number in the subject line. I will make every effort to respond to your inquiry within 48 hours or earlier. If an issue is urgent, please indicate "urgent" within the subject line of the email and I will respond as soon as is practical.

Course Description:

Surveys the current knowledge of the structure and function of the nervous system, with an emphasis on how this information contributes to understanding behavior and mental processes. Introduces neuroscience and demonstrates how different types of information are integrated in this interdisciplinary field. Students gain insight into how biochemical, anatomical, and physiological approaches contribute to the understanding of behavior and clinical phenomena. Addresses multicultural and social justice advocacy considerations. Lab fee required.

Prerequisite: only open to the following majors: M.S. in Applied Psychology or Certificate in Professional Counseling Studies; other majors may take this course with departmental permission only.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

1. Describe the philosophical underpinnings and methods used in neuroscience
2. Describe the anatomy and physiology of the central nervous system
3. Describe how sensory and motor systems in the brain influence behavior
4. Describe how attention, consciousness, emotion, and motivation interact
5. Discuss the major types of brain disorders and their treatment
6. Integrate primary neuroscience research articles in an APA-style literature review paper
7. Discuss multicultural and social justice advocacy considerations

Required Course Materials:

Carlson, Neil R. (2016). *Physiology of Behavior* (12th). New Jersey: Pearson Education. ISBN: 0134080912

Ramachandran, V.S. & Blakeslee, S. (1998). *Phantoms in the Brain: Probing the Mysteries of the Human Mind*. New York, NY: William Morrow and Company, Inc. ISBN: 0688172172

Grading: Evaluation will be based on exams, homework assignments, a term paper, and a group oral presentation. It is assumed that students will attend and participate in class without being disruptive. Students who do so will have their grades calculated according to the following weighted system:

Evaluation	Percentage of Grade
Exam 1	15%
Exam 2	15%
Exam 3	15%
Final Exam	15%
Homework Assignments (3)	15%
Term Paper	15%
Team Presentation	10%

APPL 601 Letter/Number Conversion Scale:

95-100 = A	87-89 = B+	77-79 = C+	69 or below = F
90-94 = A-	83-86 = B	73-76 = C	
	80-82 = B-	70-72 = C-	

Exams

Examinations will test knowledge of information from lectures and reading assignments. The test format will include multiple choice, matching, labelling, and essay questions. During exams, cell phones must be left at the front of the classroom.

Homework Assignments & Participation

Three homework assignments will occur as scheduled on the syllabus. These will require you to read and summarize a neuroscience research article. For each homework assignment, the class will be divided into groups of 4-5 students, and each group will be assigned a different article. Each student will write a 1-2 page summary of the article. On the date the homework is due, each group will give a 5-10 minute presentation describing their article to the class. You will each receive a grade for your paper (10 points max) and a grade for your contribution to the group presentation (10 points max). The combined score for all homework assignments will be worth 15% of your final course grade.

Research Paper & Team Presentation

Students will be assigned to teams of 4-5, and during the last day of regular class, each group will be responsible for a 20 minute oral presentation on a specific area of neuroscience research. Groups will be assigned specific topics. Each student will identify a more specific sub-topic in this area, and will find and retrieve appropriate research articles. Each student will write a short paper (5-7 pages plus references) summarizing **three empirical neuroscience research articles** from professional journals. During the group presentation, following an introduction each student in the team will present one of the papers that he or she summarized. Each student's presentation will be evaluated for organization, elocution, effectiveness, and the extent to which the whole team is able to present a coherent set of information to the class. The research paper is to be written in APA format. For details consult the APA manual or an online APA style guide (e.g., <http://owl.english.purdue.edu/owl/resource/560/01/>).

Classroom Environment

Among behaviors that are *not appropriate* in this class are habitual tardiness, sleeping, reading during class, conversing with others while someone else is speaking, use of electronic devices in class such as cell phones and computers (except for taking notes). ***Silence your phone before class starts!***

Citations in Research Papers

Although the use of web resources, including Wikipedia and specific web pages, is encouraged in order to gain a perspective on the material, these sources are not to be used as citations in the formal assignments. All citations are to be from peer-reviewed journal articles and published sources. Citations and reference sections should be in APA style.

Sakai

All students are required to use Sakai for course materials, which can be accessed via the internet using one's University of Baltimore login information. There is an introduction to Sakai available once you login. If you have difficulty, visit: http://www.ubonline.edu/documents/gettingstarted_student.pdf for assistance. Given that help is always available (24/7 Help Desk **1-855-501-0856**) for this program, difficulty with Sakai will not serve as a valid excuse for late and/or missing assignments.

Attendance Policy

Attendance is **strongly encouraged**. Much that is covered in lectures will **not** be found in the textbook! **You are responsible** for information provided in lectures and during class, **as well as** information found in your textbook, and learning gathered from assignments. If you need to miss a class, please speak with another classmate to see what you may have missed. Bear in mind that homeworks cannot be made up if you are absent. In case of an emergency, please email me **before class** so we can discuss your options.

Scheduled In-Class Discussions

Certain class days will include designated in-class discussions as indicated on the syllabus. On these days, I will begin the class by **randomly calling on approximately 5 students**. Each student who is called upon will share with the class **one fact or insight from the assigned readings that he/she found to be surprising or impressive**. Failure to do so may result in point deductions of up to 25% on the next or most recent homework assignment. **Come to class prepared to discuss the readings!**

Missed Exams

In the interest of fairness to all students, students are permitted to make up exams only in the case of extreme circumstances (e.g., serious illness, accident, death in the family) or a university-sanctioned activity (written documentation required). To qualify for a make-up exam, you must notify me **no later than the day before** the exam. When permission is granted, make-up exams must be completed within one week of the scheduled exam. Students who miss an exam without a documented excuse will receive a score of zero. Please be aware of the exam dates when making travel arrangements.

Late Assignments

In the interest of fairness to students who complete their papers on time, any written assignment handed in more than **five** minutes past the start of class will be marked down by 10% of the potential points, with an additional 10% markdown every 24 hours.

Grade Disputes

If I mark an exam response as incorrect, but you feel it is correct, you may submit a request for grade reconsideration. Such requests will be accepted **only** if submitted to me in writing within 1 week of receiving the grade in question. Requests do not guarantee a grade change; you must present a strong and convincing argument for why you believe you deserve the point(s). Your written request should specify (a) what you believe an alternative correct answer could be, (b) the reason you think so, and (c) where you found supporting evidence for your view (e.g., exact page in reading or date of class notes).

Extra Credit

Students may earn up to 3 percentage points in extra credit for participation in faculty and student research projects. The amount of extra credit awarded will correspond to the amount of time for the research participation (½ credit for ½ hour, 1 credit for 1 hour, up to 3 hours max). Some of these studies may be online, and others will be in the Wagman Lab (AC220). Students who are interested in submitting written assignments in lieu of participating in research should approach the instructor for details. **All extra credit must be completed before our final class on December 3rd.**

For a complete list of student resources and policies, please consult the **Syllabus Addendum** at: <https://www.ubalt.edu/policies/academic/Student-Success-Resources-Syllabus-Addendum.pdf>

APPL 601

***** Class meets in LAP-207 *****

Tentative Schedule (When adjustments are made, they will be announced in class):

<u>Date</u>	<u>Topic</u>	<u>Chapter in Text</u>
August 27	Overview of Course; History of Neurobiology	1
September 3	<i>Discussion of Chapters 1 & 2</i> Neurons	2
September 10	Neurotransmitters Neurodevelopment & Protecting the Brain	4 (pp. 100-115) 3 (pp. 57-69)
September 17	<i>Discussion of Chapters 3 & 4, Phantoms 1-3</i> Neuroanatomy	3 (pp. 70-86)
September 24	Exam 1 (<i>Text Ch. 1-4; Phantoms 1-3</i>) Research Methods	5
October 1	Homework 1 Psychopharmacology	4 (pp. 88-100)
October 8	<i>Discussion of Ch. 4, 5, & 18, Phantoms 4-6</i> Substance Abuse	18
October 15	Exam 2 (<i>Text Ch. 4,5,18; Phantoms 4-6</i>) Sleep	9
October 22	Homework 2 Vision	6
October 29	<i>Discussion of Ch. 6, 9 & 7, Phantoms 7-9</i> Somatosensation & Audition	7
November 5	Exam 3 (<i>Text Ch. 9,6, &7; Phantoms 7-9</i>) Hormones & Sex	10
November 12	Homework 3 Emotion & Affective disorders	11 16 (pp. 537-550)
November 19	<i>Discussion of Ch. 11, 16, & 17, Phantoms 10-12</i> Schizophrenia & Anxiety Disorders	16 (pp. 519-536) 17
November 26	No Class Meeting – Thanksgiving Week	
December 3	Student Presentations Review for Final Exam	<i>Term Paper Due</i>
December 10	Final Exam (<i>Text Ch. 11,16,17; Phantoms 10-12</i>)	----