

Biological Psychology, Psyc 220, Section 001

Fall 2018

MWF: 8:00am – 8:50am

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Department of Psychology & Neuroscience

INSTRUCTOR

Douglas James Hermes

- Office Hours: Wednesday 9am – 10am; Other times by appointment
- Davie Hall 122
- Contact: aerime@live.unc.edu (responses within 24 business hours)

TEXTBOOK: Kalat, James, W. (2013). *Biological Psychology* (12th ed.) Belmont, CA: Thomson Wadsworth. (You will want to have this addition.)

Additional Reading: Other materials may be assigned, which will be distributed on the course Sakai site.

COURSE DESCRIPTION/OBJECTIVE

This course will provide a biological framework for understanding complex behaviors and the neurobiological processes underlying topics such as vision, learning and memory, hormone signaling, and psychological disorders. This course will begin by introducing the basic components (cells and structures) of the nervous system as well as its functions (vision, chemical senses, sleep etc). Later, such systems will be discussed within the context of motivated behavior, memory, substance abuse, and psychological disorders.

Prerequisite courses: Psyc 101/General Psychology

SAKAI

This course will make use of sakai for access to class materials and communication.

It is important that you periodically check sakai for new announcements and updated materials. You can access the site at <https://sakai.unc.edu> using your onyen and password. If you cannot gain access to the site please contact ITS at 919-962-HELP). Without access you will have difficulties performing well in this course.

Assessment

Your progress in this course will be tracked using Papers, online quizzes, and in-class examinations as summarized below. Attending lecture is an important component of learning and will count for a portion of your grade.

Attendance	5%	50 pts
Online Quizzes	10%	100 pts
Papers (6 total)	10%	150 pts
Exam 1	12%	120 pts
Exam 2	15%	150 pts
Exam 3	18%	180 pts
Cumulative Final Exam	30%	300 pts

TOTAL	100%	1000 pts
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Specific Requirements

Exams

The first 3 exams will be non-cumulative and increase in weight (see chart above).
The cumulative final exam must be taken and will be worth 20% of your final grade.

Late/Missing an Exam Policy

I strongly encourage that you plan not to miss exams as they are a large part of your final grade. Exam grades can only be excused under 3 criteria:

Authorized University activities, Religious observances, or significant health condition

With proper documentation the grade will be dropped and your final grade will be prorated accordingly. If you know you will miss an exam with an excusable reason please contact me ahead of time, preferably >1 week before the exam date.

If a second exam is missed with a UNC recognized and documented excuse then the exam will have to be made up. Exams must be made up within one week of the test date through the testing center. Exams not made up during this time will be given a grade of 0.

You will be recorded as being “late” to the exam if you arrive after the first person to turn in their exam. Please plan to arrive to exams at the normally scheduled time.

Cumulative Final Exam

University policy dictates that course instructors cannot change the time of the final exam. An Official Examination excuse from Academic Advising (or from Student Health)

is needed in order for you to take the final exam on our alternative date. Academic Advising only grants these excuses under very specific circumstances (i.e. having 2 finals at the exact same time or having three finals within a 24-hour period). If you are given an excuse please contact me ASAP so we can set a time for your make-up exam. If you are unable to take the exam you will need to contact me so you can make it up during the first 8 weeks of next semester (Spring Semester 2019).

If you miss the final exam you will be given an "AB" grade. This means that with an official examination excuse you will need to take the cumulative final exam on the alternative final exam time as stated above and/or reschedule within the first 8 weeks of the next semester. Otherwise, the "AB" turns into a permanent "F."

You will need:

#2 pencil & a blank scantron sheet (available for purchase at student store)

Please fill out your name and PID number before beginning the exam.

ARS & Learning disabilities

If you have a documented learning disability and are eligible for extended exam time, please be sure to contact Accessibility Resources & Service to arrange for them to proctor your exams (<http://www.unc.edu/depts/lds/students-overview.html>). Please do this at least one week before each exam date as I will have to upload a copy of the exam.

Exams must be scheduled for the same day as the exam preferably at the same time. If you feel that you must take the exam at a different time please contact me first before scheduling with ARS.

Online Quizzes

The purpose of these quizzes is to give credit for effort and to check your textbook reading.

Quizzes must be completed by the deadline at 8am before we begin that lecture topic (see schedule below).

Deadline extensions are not possible even for computer troubles. Please plan to complete quizzes well before the due date time (1-2 days before if possible). If you are having computer troubles contact ITS at (919-962-HELP).

Located on Sakai > Quizzes and Tests

You have 30 minutes to complete each quiz.

Papers

Papers are another source of credit for effort. Their purpose is to give you practice writing on scientific topics and focusing your attention on key class topics in preparation for exams. These papers are meant to be your own thoughts and answers to the writing prompts. DO NOT use

direct quotes. The only sources necessary are your textbook and lecture notes, you do not need to cite these sources or have a reference list.

Papers are due on Sakai by 8am on the date listed on the schedule below. Similar to quizzes deadlines are final and no extensions will be given. Please feel free to resubmit materials up till the deadline.

You must complete 6 papers in total.

Papers should include 3 paragraphs (3-5 sentences per paragraph) double-spaced (~1.5 - 2 pages). Times New Roman Font size 12

I am grading assignments based on content and organization.

Submit on Sakai > Assignments under the correct link. Copy paste your text into the text box

Prompt Topics/Questions

Action potential paper: Describe the steps involved in an action potential. Specifically, 1) what IS the action potential (i.e. definition), 2) what triggers this to occur, 3) what ion channels open & close (and when?), 4) what is the absolute refractory period, 5) what is the relative refractory period, 6) how does the membrane potential return to the resting value, 7) what does the Na⁺/K⁺ pump do (hint: it is NOT what drives the membrane potential to return to resting value!), 8) where does the action potential occur?, and 9) how can an action potential move more quickly through a neuron?

Brain research methods paper: Describe the following procedures: CT scan, MRI, fMRI, EEG, MEG, PET, ablation/lesion, stimulation. What information does this procedure give (e.g., image of brain? functional information about the brain?)? How is this procedure done? Is it harmful (e.g., does it involve radiation? does it damage the brain?)

Ferret paper: Describe the ferret experiment. What was done to the ferrets and why? What were the results/conclusions?

Vision paper: There are at least three different types of cells in the primary visual cortex. Describe where the primary visual cortex is located. Describe how the three different types of cells differ from each other.

Auditory paper: Describe the theories of pitch.

Mirror neuron paper: What are mirror neurons and what are their significance to the field of Psychology? How might they connect the motor system with learning and memory?

Sleep paper: Your textbook lists a variety of sleep disorders. What symptoms differentiate each from the others?

Sexual orientation: What possible biological factors may be involved with sexual orientation? (remember that “sexual orientation” is different from a person’s sex)

Memory paper: What is the difference between “short-term” and “working” memory? (check lecture notes)

Schizophrenia paper: Describe the “neurodevelopmental hypothesis” of schizophrenia.

Attendance

Attending lecture is an important for getting the most out of this course. I will be randomly taking attendance at the beginning, middle, or end of class (not necessarily every day). You only need 90% attendance to receive full credit.

Honor Code

"The University of North Carolina at Chapel Hill has had a student-led honor system for over 100 years. Academic integrity is at the heart of Carolina and we all are responsible for upholding the ideals of honor and integrity. The student-led Honor System is responsible for adjudicating any suspected violations of the Honor Code and all suspected instances of academic dishonesty will be reported to the honor system. Information, including your responsibilities as a student is outlined in the Instrument of Student Judicial Governance. Your full participation and observance of the Honor Code is expected."

STUDY TIPS:

Carolina can be challenging but everyone can do well--IF they 1) know how to study and 2) take time to study. The goal is not to study 24-7 but to study efficiently (i.e., study for the least amount of time for the most amount of information).

- It is important that you thoroughly read through chapters BEFORE coming to class.
- Please be aware that there will not be enough class time to discuss all concepts included in the chapters - but since you are responsible for understanding ALL concepts, be sure to ask us if you do not understand something.
- It is also a good idea to bring a printed copy of the class outline (from Sakai) to class, to make note-taking more efficient.
- Take excellent notes in class (or combine notes with classmates). You can never take "too many" notes.
- Pay attention to what we talk about during class - this is one way to draw your attention to important and/or complicated concepts.
- Expect to take some time to study. The rule of thumb is 2 hours of study outside of class for every hour spent in class per week. (So our 3-credit hour class = 6 hours of outside study time per week as a minimum.) If you are not comfortable with learning biological concepts, you will need to put in more time.

- Note that while reading the materials is the minimum you should do, only relying on reading is also a poor study strategy. (e.g. It would be better to read through a chapter - thoroughly - once and use other study strategies, such as self-testing.)
- There are services available to you if you'd like to learn about best study strategies, e.g. Learning Center (which includes a tutoring program) OR Accessibility Resources & Services for those who qualify.
- Tips provided by Dr. Jeannie Loeb.

GRADING:

A = 930-1000 pts	C+ = 770-790 pts
A- = 900-920 pts	C = 730-760 pts
B+ = 870-890 pts	C- = 700-720 pts
B = 830-860 pts	D+ = 670-690 pts
B- = 800-820 pts	D = 600-660 pts
	F = below 600 pts

Note: The instructor reserves the right to make changes to the syllabus, including paper due dates and exam dates, when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.

Schedule	Topic	Assignment
Wed, 8/22/2018	Introduction Nerve Cells & Nerve Impulses	Chapter 1
Fri, 8/24/2018	Nerve Cells & Nerve Impulses	Chapter 1 <i>Chapter 1 Quiz</i>
Mon, 8/27/2018	Nerve Cells & Nerve Impulses /Synapses	Chapter 1, Chapter 2

Wed, 8/29/2018	Synapses	Chapter 2 <i>Chapter 2 Quiz</i> , Action Potential paper due
Fri, 8/31/2018	Synapses	<i>Chapter 2</i>
Mon, 9/3/2018	*****	NO CLASS
Wed, 9/5/2018	Anatomy & Research Methods	Chapter 3 <i>Chapter 3 Quiz</i>
Fri, 9/7/2018	Anatomy & Research Methods	Chapter 3
Mon, 9/10/2018	Anatomy & Research Methods	Chapter 3 Brain Research Methods paper due
Wed, 9/12/2018	Anatomy & Research Methods	Chapter 3
Fri, 9/14/2018	*****	EXAM 1 <i>Chapters 1,2,3</i>
Mon, 9/17/2018	Genetics, Evolution, Development and Plasticity	Chapter 4 <i>Chapter 4 Quiz</i>
Wed, 9/19/2018	Genetics, Evolution, Development and Plasticity	Chapter 4
Fri, 9/21/2018	Genetics, Evolution, Development and Plasticity	Chapter 4 Ferret paper due
Mon, 9/24/2018	Genetics, Evolution, Development and Plasticity	Chapter 4
Wed, 9/26/2018	Vision	Chapter 5 <i>Chapter 5 Quiz</i>
Fri, 9/28/2018	Vision	Chapter 5
Mon, 10/1/2018	Vision	Chapter 5 Vision paper due

Wed, 10/3/2018	Other Sensory Systems	Chapter 6
Fri, 10/5/2018	Other Sensory Systems	Chapter 6 Auditory paper due
Mon, 10/8/2018	Other Sensory Systems	Chapter 6
Wed, 10/10/2018	Motor Systems	Chapter 7 Chapter 7 Quiz
Fri, 10/12/2018	Motor Systems	Chapter 7
Mon, 10/15/2018	Motor Systems	Chapter 7 Mirror neuron paper due
Wed, 10/17/2018	*****	EXAM 2 <i>Chapters 4, 5, 6, 7</i>
Fri, 10/19/2018	*****	NO CLASS
Mon, 10/22/2018	Wakefulness & Sleep	Chapter 8 <i>Chapter 8 Quiz</i>
Wed, 10/24/2018	Wakefulness & Sleep	Chapter 8
Fri, 10/26/2018	Wakefulness & Sleep	Chapter 8 Sleep paper due
Mon, 10/29/2018	Reproductive Behaviors	Chapter 10 <i>Chapter 10 Quiz</i>
Wed, 10/31/2018	Reproductive Behaviors	Chapter 10
Fri, 11/2/2018	Reproductive Behaviors	Chapter 10 Sexual Orientation paper due

Mon, 11/5/2018	Emotional Behaviors	Chapter 11
Wed, 11/7/2018	Emotional Behaviors	Chapter 11
Fri, 11/9/2018	Emotional Behaviors	Chapter 11
Mon, 11/12/2018	The Biology of Learning & Memory	Chapter 12 <i>Chapter 12 Quiz</i>
Wed, 11/14/2018	The Biology of Learning & Memory	Chapter 12
Fri, 11/16/2018	The Biology of Learning & Memory	Chapter 12 Memory paper due
Mon, 11/19/2018	*****	EXAM 3 <i>Chapters 8,10,11,12</i>
Wed, 11/21/2018	*****	NO CLASS
Fri, 11/23/2018	*****	NO CLASS
Mon, 11/26/2018	Substance Abuse and Addiction	Chapter 14 <i>Chapter 14 Quiz</i>
Wed, 11/28/2018	Substance Abuse and Addiction	Chapter 14
Fri, 11/30/2018	Mood Disorders	Chapter 14
Mon, 12/3/2018	Mood Disorders	Chapter 14
Wed, 12/5/2018	Schizophrenia	Chapter 14 Schizophrenia paper due

Fri, 12/7/2018
8 AM

FINAL EXAM
All chapters & lectures listed on syllabus