



BIOLOGY 447-01

SEMINAR IN NEUROSCIENCE (3 CR)

A CAPSTONE COURSE FOR STUDENTS MINORING IN NEUROSCIENCE

SPRING 2020

Instructor: Dr. Meyer-Bernstein

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Class Location and time: RITA 210; Mondays 12:20-3:20

Office Hours: By appointment

Office Location: RITA 209 or 6 Green Way 201

Teaching Assistants: Kevin Braunscheidel braunsch@musc.edu (current PhD student at MUSC) and Jordan Carter (current MD/PhD student at MUSC)

Prerequisite(s): Senior standing, BIOL 351/PSYC 351, BIOL 352/PSYC 352

Co-requisite(s) or Prerequisite(s): (BIOL 448/PSYC 448) or (permission of the instructor and (BIOL 354 or BIOL 396/PHYS 396 or PSYC 464)) and

MATH 250 or equivalent course in statistics or permission of the instructor.

COURSE OVERVIEW:

This course is designed to expose you to a wide range of topical research in the field of neuroscience and encourage critical thinking and effective communication skills.

REQUIRED READING AND MATERIALS:

Readings will be handed out in class or available on OAKS.**STUDENT LEARNING OUTCOMES**

- Students will demonstrate effective communication skills.
- Students will show evidence that they can apply research methods in neurobiology to address questions related to brain and behavior.
- Students will demonstrate effective critical thinking skills by evaluating primary research in the field of neuroscience.

COURSE POLICIES AND PROCEDURES:

Attendance Policy:

The class will meet for 180 minutes, once per week. **Class attendance is mandatory.** If there is an emergency (i.e. you are in the ER) and you must miss a class, contact me immediately. A make-up assignment will be given. If you miss more than one class, you will fail the course and not complete the minor in Neuroscience. **Attendance will be taken at each class meeting.**

Student Assignments and Expectations

20%

Journal Club Presentations/Discussions: A significant portion of this course will involve listening to and learning about topical research in the field of neuroscience. At the beginning of the semester, you will each present a 10 minute mini journal club on a paper assigned to you. Throughout the semester, formal research talks by neuroscientists will be given to the class. Prior to the seminar, students enrolled in the class will read and discuss primary literature related to the upcoming presentation in a journal club format. Each student will present a 20 minute journal club based on a relevant primary research paper assigned to you and lead discussions for that topic. This component of the course is to make you aware of the experimental methodology, design and data analysis used in neuroscience. It is also meant to afford you the opportunity to further develop your critical thinking and presentation skills.

ASSIGNMENT	% OF FINAL GRADE
10 min Journal Club	5
20 min Journal Club	15

30%

Case studies/Reflections: During the course of the semester, you will be presented with 3 case studies. Each case study will be carried out over a 2 week period, during which time you will do a significant amount of work delving into the literature and collaborating with your classmates. At the end of each case study, each student will be asked to write a brief reflective paper. Case studies are not only designed to teach you about neuroscience, but also a variety of transferable skills including, critical thinking, teamwork, leadership, and communication.

ASSIGNMENT	% OF FINAL GRADE
3 Reflection Papers	10
Case Study participation/contribution	20

25%

Student Research Seminars: The ability to create and deliver a good research seminar will also be a focus of the course. Using faculty research presentations as models, each student will present their final Bachelor's Essay project at the end of the semester in a public seminar. For those students not completing a Bachelor's Essay, a presentation topic will be mutually agreed upon by the individual student and faculty.

25%

Class Participation/Preparation: Students will be evaluated on their class participation and preparation throughout the semester. In order to receive full credit, a student must come to class with all materials and assignments thoroughly prepared and must actively engage in thoughtful and intellectual discussions during the class period.

Grade Assignment:

Your final grade in the course will be based on a percentage of points based on the College of Charleston grading scheme:

<u>% of Total Points</u>	<u>Grade Earned</u>
93% and higher	A
90 – 92%	A-
87 – 89%	B+
83 – 86%	B
80 – 82%	B-
77 – 79%	C+
73 – 76%	C
70 – 72%	C-
67 – 69%	D+
63 – 66%	D
60 – 62%	D-
< 60%	F

SNAP Students/Special Accommodations/Athletes:

Students needing special accommodations should see the professor within the first week of class. If there is a student in this class who has a documented disability and has been approved to receive accommodations through the Center for Disability Services/SNAP (Students Needing Access Parity), please come and discuss this with me during my office hours.

College of Charleston Honor Code and Academic Integrity:

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance.

Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the Student Handbook at <http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

Academic Support Services—The Center for Student Learning

The CSL, located on the first floor of the library, offers a wide variety of tutoring and other academic resources that support many courses offered at the College. Services include walk-in tutoring, by appointment tutoring, study strategies appointments, Peer Academic Coaching (PAC), and Supplemental Instruction (SI). All services are described and all lab schedules are posted on the CSL website <http://csl.cofc.edu> , or call 843.953.5635 for information.

TENTATIVE SCHEDULE: The following schedule represents a tentative plan for the course.

	Date	Class activity	Additional Instructions
1	13 January	Course Introduction	
2	20 January	No Class – Martin Luther King holiday observed	
3	27 January	Journal Club Presentations	Submit PowerPoint of final presentation to DropBox
4	3 February	Cases in Neuroscience: Ethics	Bring your laptop to class
5	10 February	Cases in Neuroscience: Ethics	Bring your laptop to class
	14 February	ABSTRACT DEADLINE FOR TRAVEL AWARD	
6	17 February	Speaker: Dr. Carmela Reichel, MUSC Department of Neurosciences	Bring primary research papers to class. Presenting students: Submit presentation to Dropbox Other students: Bring journal article summary assignment
7	24 February	Cases in Neuroscience: Pre-clinical Studies Part I	Bring your laptop to class
8	2 March	Cases in Neuroscience: Pre-clinical Studies Part II	Bring your laptop to class
9	9 March	Speaker: TBD	Bring primary research papers to class. Presenting students: Submit presentation to Dropbox Other students: Bring journal article summary assignment
10	16 March	No Class – Spring Break	
11	23 March	Cases in Neuroscience: Translational Research in Neuroscience Part I	Bring your laptop to class
12	30 March	Cases in Neuroscience: Translational Research in Neuroscience Part II	Bring your laptop to class
13	6 April	Speaker: TBD	Bring primary research papers to class. Presenting students: Submit presentation to Dropbox Other students: Bring journal article summary assignment
14	13 April	Frontier's in Neuroscience	
15	20 April	Student Research Seminars	Submit PowerPoint of final presentation to DropBox
16	22 April	Student Research Seminars	

Important Dates:

February 14, SYNAPSE Abstract Deadline for Travel Awards

February 28, SYNAPSE Abstract Final Deadline and Registration Deadline

MUSC Frontier's in Neuroscience Research Day, Charleston, SC

March 28, 2020; SYNAPSE at Longwood University, Farmville, VA