

Behavioral Neuroscience Syllabus
Psyc 325 Spring 2019
Sections 1 & 2

Lecture: Sec 1, TThF 9-9:50 AM Rm D224 Sci Bldg
Sec 2, TThF 10-10:50 AM Rm D224 Sci Bldg

Instructor: Dr. Heather Molenda-Figueira

Email: hmolenda@uwsp.edu, I will respond the same day to any emails sent before 8 PM.

Phone: 715-346-3960

Office Hours: M-W from 11 AM-12 PM and by appointment (email or phone), D241 Science Building

Teaching Philosophy: What I enjoy most about teaching is sharing my knowledge and excitement about Neuroscience and Bio/Physiological Psychology and encouraging students to want to learn more about this subject. Ultimately, I hope to inspire students to consider this field for their future career. To achieve this goal, there are several criteria that I deem essential to successful teaching, and these objectives drive my teaching method: 1) creating an environment for optimal learning, 2) establishing supportive personal interactions and availability, and 3) fostering critical thinking and presentation skills. My role is to guide students through the material, while at the same time making sure that they are active participants in the learning process. My class will be structured as a combination of lectures, active learning activities, and group work. My intention is to make the course material enjoyable, and easy to understand. It is my hope that you will find the material covered in this course interesting, and that you will be inspired to learn more about neural function in more advanced courses.

Interdisciplinary Studies Learning Outcomes:

- 1) Identify an issue or question related to the interdisciplinary course and describe what each discipline contributes to an understanding of that issue.**
 - Behavior originates with subtle changes in the brain. In this course, students will learn how changes in activity in particular areas of the brain, including release of neurotransmitters and hormones (biology) are associated with specific behaviors including movement, reproduction, language and sensory function (biology and psychology).
- 2) Explain the benefits of being able to combine these contributions.**
 - Students will gain an understanding how brain malfunction can lead to the development of psychological disorders (including drug abuse, schizophrenia, Alzheimer's and Parkinson's disease), and how knowledge of brain function can inform treatment courses for psychological disorders.

Course Learning Outcomes:

- Understand chemical, hormonal and electrical communication between neurons
- Become familiar with neuroanatomy and basic function of major brain structures

- Become familiar with methods used within the field of biopsychology including brain scans, cognitive tests and observational studies
- Gain an understanding of how the brain controls behaviors, including the neurotransmitters and hormones that are important for behaviors such as movement, reproduction and sensory perception
- Gain an understanding of how behavior can influence brain development and function
- Become familiar with the neurological changes associated with psychological disorders and treatment for these disorders

Course Resources:

Textbook: *Behavioral Neuroscience*, Breedlove & Watson, 8th Edition, Sinauer Associates Inc., 2017.

Useful Websites:

www.behavioralneuroscience8e.com

www.behavioralneuroscience8e.com/news

www.sinauer.com/ebooks

www.sfn.org

www.ncbi.nlm.nih.gov/sites/entrez (for research article searches)

www.nimh.nih.gov

Class Preparation: Please come to class having read the assigned chapters. This will provide you with some background on the material that will be covered in lecture and class activities, and also gives you an opportunity to make a list of concepts that you might find challenging. For exams and quizzes, you will not be required to know material that was not covered during lectures or class activities.

D2L: Please regularly check D2L for course materials. I will be posting the syllabus, exam study guides, lecture outlines and slides, and other activities and instructions on the site.

Concept Review Worksheets: At the end of each chapter's lecture session, time permitting, I will have you divide into small groups to complete Concept Review Worksheets. These worksheets will provide you with a review of the material covered in the lecture topic, as well as some questions prompting you to think further about the material. Time permitting, we will review the answers to the questions, and then you can keep the worksheets for exam preparation.

Exams: There are 5 exams, including the final. Exams will not be cumulative, and will be structured as a combination of multiple choice, fill-in and short answer questions covering lecture and activity material. Exam study guides will be posted to D2L approximately 1 week before the exam, and we will go over the answers to study guide questions during the class prior to the exam. You may only make up exams if you provide evidence of personal or medical emergencies. If this occurs, you must contact me prior to the exam, and you will have 5 days in which to complete the exam.

Research Article Presentation: I will be introducing you to scientific research articles. We will go over the individual components and discuss how to work through the methodology of studies, data collection, results and interpretation of results, and how findings relate to greater issues in society. If the class is not familiar with conducting scientific literature searches, we will cover that as well. You will be assigned to groups of four and you will choose, out of a hat, a disorder that will be discussed in the course as the topic of your presentation. Each member of the group will then select a potential article to present, and the group must settle on a final article to present to the class. **Chosen articles are due to me by 4/5/18.** You will create a PowerPoint presentation of the background, methods, results, and conclusion of the study. The presentation is worth 50 points, 15 of which will be assigned by peer reviews of group members. So be sure to do an equal amount of work on this project!

Together with your partners, you will propose a follow-up experiment to that presented in the article, based on your knowledge gained over the course of the semester. The Follow-up Experiment is worth 50 points. Your paper will be graded on 1) accurate descriptions of symptoms and diagnosis of the chosen disorder, 2) clearly written original hypothesis, 3) description of appropriate methodology spanning biology and psychology used to investigate your research question, 4) good description of potential findings of your study, 5) the importance of approaching your research questions from both a biological and psychological perspective, and 6) appropriate use of APA style. The paper should be 6-8 pages in length. You will be provided with additional details and a grading rubric for this portion of the project as well. **Follow-up Experiment papers are due 5/3/18.**

I will allow at least 2 class periods during which you can meet together to work on the project as well as receive guidance from me on how to prepare your presentation. The biopsychology.com/news website lists current media reports of interesting findings in neuroscience, and they are organized according to the chapters of the textbook. This is a great resource for finding topics, and study summaries include study authors and/or the scientific journals in which the original studies were published. Dr. Breedlove has also now set up a Facebook page for your textbook, and frequently posts interesting new findings in the field. Other good resources for hot topics in Biopsych/Neuroscience include BrainBlog and EurekaAlert!-Biology.

Late Assignments: If assignments are turned in more than 2 days past the due date, I will begin deducting 5% of the grade for each additional day the assignment is late. Therefore, it is in your best interest to turn in your papers and presentations on time!

Grading: Grades will be based on your performance on 5 exams, a Research Article Presentation, Follow-up Experiment Paper and Class Participation. You will not be graded on in-class activities which will be used to solidify your understanding of course materials and encourage deeper thinking about class topics. You must arrive on time to class and also actively participate in class discussions to receive full credit for Class Participation. Remember, other students in class may have the same questions/ideas as you, so share them!

Exam 1	15%	75 pts
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Exam 2	15%	75 pts
Exam 3	15%	75 pts
Exam 4	15%	75 pts
Exam 5 Final	15%	75 pts
Research Article Presentation	10%	50 pts
Follow-up Experiment Paper	10%	50 pts
Class Participation	5%	25 pts
Total	100%	500 pts

Grading Scale:	Pts	Percentage
A	465 – 500	93%-100%
A-	450 – 464	90%-92%
B+	435 – 449	87%-89%
B	415 – 434	83%-86%
B-	400 – 414	80%-82%
C+	385 – 399	77%-79%
C	365 – 384	73%-76%
C-	350 – 364	70%-72%
D+	335 – 349	67%-69%
D	300 – 334	60%-66%
F	≤ 299	≤ 59%

Class Operation: It is essential that my classroom environment provide students with a level of comfort in which they feel free and are encouraged to ask questions and offer their individual perspectives on the topics at hand. I will use a variety of teaching techniques including standard lectures, videos, and hands-on activities where lecture knowledge is applied to group activity problems or scientific questions.

As an instructor, it is imperative that I get to know the students both as a population and individually. I will collect demographic information from each student and I encourage you to visit office hours during the course of the semester so that I can provide a comfortable atmosphere in which we can address any issues you may have with the class. These meetings will give me the opportunity to provide you with feedback on your progress and aid me in devising ways to assist you in areas in which they are struggling with class material. I will have an open door policy for further discussions of class material. I am committed to your success in this course.

It is also imperative that as a member of my class, you treat others with respect. We all come from different backgrounds, and hold different points of view. There may be topics within this course that many feel controversial. We must be open to all points of view as every individual has something important to contribute to our discussions. When working in groups, you each need to participate equally. Groups can only work successfully when all contribute.

UW-Stevens Point Classroom Policies

Using Electronic Devices: To maintain the integrity of in-class exams, the use of electronic devices will not be permitted during exams without prior documented approval from the Disability Services office or other pertinent offices on campus. This includes, but is not limited to, requests to use cellular or wireless network-enabled mobile devices for foreign language translation assistance. Students who are found using these devices will be dismissed and receive a zero for their exams. Other penalties will be considered under the misconduct policy. Moreover, students who arrive late to an exam will only be allowed to take it if they arrive before the first student finishes and leaves the room. After that point, requests to take exams will be declined unless they are consistent with the makeups policy.

Likewise, recording of lectures and taking of photos during class is not permitted without permission of the instructor.

UWSP Attendance Policy: Attend all your classes regularly. We do not have a system of permitted "cuts."

Students are expected to attend the first meeting of class, or have permission from the instructor or chair of the department to be absent. Those who do not attend the first one or two days of class may be required to drop the course if there are others who wish to add the course. **If required to drop the course, it is the student's responsibility to officially drop the course through the Registration & Records Office or on the web.**

If you enroll in a course and cannot begin attending until after classes have already started, you must first get permission from the department offering the course. Otherwise, you may be required to drop the course.

Your instructors will explain their specific attendance policies to you at the beginning of each course. Be sure to follow them. If you must be absent, tell your instructor why. If you can't reach your instructors in an emergency, visit the [Student Academic Advising Center](#), Room 103, SSC, or call them at 715-346-3361.

UWSP Rights and Responsibilities- Student Academic Standards and Disciplinary Procedures: UWSP values a safe, honest, respectful and inviting learning environment. In order to ensure that each student has the opportunity to succeed, we have developed a set of expectations for all students and instructors. This set of expectations is known as the *Rights and Responsibilities* document, and it is intended to help establish a positive leaning environment at UWSP. Click here/visit the site for more:

<https://www.uwsp.edu/stuaffairs/Documents/RightsRespons/rightsCommBillRights.pdf>

Academic integrity is central to the mission of higher education in general and UWSP in particular. Academic dishonesty (cheating, plagiarism, etc.) is taken very seriously. So don't do it!! The minimum penalty for a violation of academic integrity is a failure (zero) for the assignment. For more information, see the UWSP "Student Academic Standards and Disciplinary Procedures" section of the *Rights and Responsibilities document*, Chapter 14, and

can be accessed at the following site:

<http://www4.uwsp.edu/admin/stuaffairs/rights/rightsChap14.pdf>

Accommodations for Students with Disabilities: The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for student with disabilities. For more information about UWSP's policies, check here:

<http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/ADA/rightsADAPolicyInfo.pdf>

If you have a disability and require classroom and/or exam accommodations, please register with the Disability Services Office and then contact me at the beginning of the course. I am happy to help in any way that I can. For more information, please visit the Disability Services Office, located on the 6th floor of the Learning Resource Center (in the Library). You can also find more information on services provided at: <http://www4.uwsp.edu/special/disability/>

Title IX: Under several federal and state laws, and according to several university guidelines, I am required to report acts of a criminal or offensive nature. This includes acts of sexual harassment and assault, bias and hate crimes, illicit drug use, and acts of violence. Any disclosure or description of these incidents – both current and in the past – may be reported to the Dean of Students office (<http://www.uwsp.edu/dos/>) or the local authorities.

Emergency Preparedness: In the event of a medical emergency, call 911 or use the red emergency phone located outside of room D230. Offer assistance if trained and willing to do so. Guide emergency responders to victim.

In the event of a tornado warning, proceed to the lowest level interior room without window exposure or any of the hallways in the Science Building. Avoid wide-span rooms and buildings. For floor plans showing severe weather shelters, see www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.

In the event of a fire alarm, evacuate the building in a calm manner. Meet across the street in front of the Health Education Center (HEC). Notify instructor or emergency command personnel of any missing individuals.

Active Shooter – Run/Escape, Hide, Fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Follow instructions of emergency responders.

For details on all emergency response plans at UW-Stevens Point See UW-Stevens Point, please view the Emergency Management Plan at www.uwsp.edu/rmgt.

Course Schedule

Date	Topic	Readings/Homework	In Class Activities
1/22	Introduction to course and expectations		
1/24	Ch. 1 Lecture: Behavioral Neuroscience	Ch. 1	
1/25	Ch. 2 Lecture: Functional Neuroanatomy Part 1	Ch. 2	
1/29	Ch. 2 Lecture: Functional Neuroanatomy Part 2	Ch. 2	Neuroanatomy CRW
1/31	Ch. 3 Lecture: Neurophysiology Part 1	Ch. 3	
2/1	Ch. 3 Lecture: Neurophysiology Part 2	Ch. 3	Neural signaling CRW, Diagramming transmission
2/5	Exam 1 Review	Exam 1 study guide	Bring your questions!
2/7	Exam 1: Ch 1-3		
2/8	Ch. 4 Lecture: Chemistry of Behavior Part 1	Ch. 4	
2/12	Ch. 4 Lecture: Chemistry of Behavior Part 2	Ch. 4	Families of Neurotransmitters Tutorial
2/14	Ch. 5 Lecture: Hormones and the Brain Part 1	Ch. 5	
2/15	Ch. 5 Lecture: Hormones and the Brain Part 2	Ch. 5	Hormones CRW
2/19	Journal Article Presentation Instruction and Group Assignment		
2/21	Ch. 7 Lecture: Life-Span Development of Brain Pt. 1	Ch. 7	
2/22	Ch. 7 Lecture: Life-Span Development of Brain Pt. 2	Ch. 7	Development CRW
2/26	Exam 2 Review	Exam 2 study guide	Bring your questions!
2/28	Exam 2: Ch 4, 5 & 7		
3/1	Ch. 8 Lecture: Sensory Processing, Touch, Pain Part 1	Ch. 8	
3/5	Ch. 8 Lecture: Sensory Processing, Touch Pain Part 2	Ch. 8	Senses CRW, Marble touch demonstration
3/7	Work with Group on Presentations		
3/8	Ch. 9 Lecture: Hearing, Taste & Smell	Ch. 9	Localization of sound demo,
3/12	Ch. 9 Lecture: Hearing, Taste & Smell;	Ch. 9	Hearing, Taste and Smell CRW
3/14	Ch. 10 Lecture: Vision Part 1	Ch. 10	Optical illusions
3/15	Ch. 10 Lecture: Vision Part 2	Ch. 10	Optical illusions, Case Studies, Vision CRW
3/16-24	NO CLASS-SPRING BREAK		

3/26	Exam 3 Review	Exam 3 study guide	Bring your questions!
3/28	Exam 3: Ch 8-10		
3/29	Work with Group on Presentations		
4/2	Ch. 11 Lecture: Motor Control Part 1	Ch. 11	
4/4	Ch. 11 Lecture: Motor Control Part 2	Ch. 11	CRW, Case Studies: You give the diagnosis
4/5	Ch. 12 Lecture: Sex: Evol., Hormonal & Neural Bases Part 1	Ch. 12	Journal articles for presentations due!
4/9	Ch. 12 Lecture: Sex: Evol., Hormonal & Neural Bases Part 2	Ch. 12	Sexual Behavior CRW
4/11	Ch. 14 Lecture: Biological Rhythms, Sleep & Dreaming Part 1	Ch. 14	
4/12	Ch. 14 Lecture: Biological Rhythms, Sleep & Dreaming Part 2	Ch. 14	Narcoleptic dogs video, Biorhythms CRW
4/16	Catch-up Day		
4/18	Exam 4 Review	Exam 4 study guide	Bring your questions!
4/19	Exam 4: Ch 11-14		
4/23	Work with Group on Presentations/Papers		
4/25	Ch. 15 Lecture: Emotions, Aggression, Stress	Ch. 15	Fear and Stress Response tutorials, CRW
4/26	Ch. 16 Lecture: Psychopathology	Ch. 16	CRW, Case Studies: You give the diagnosis
4/30	Ch. 19 Lecture: Language	Ch. 19	CRW, Case Studies: You give the diagnosis
5/2	Catch-up Day		
5/3	Journal Article Presentations Groups 1-3		Follow-up Experiment Paper Due!
5/7	Journal Article Presentations Groups 4-6		
5/9	Journal Article Presentations Groups 7-9		
5/10	Final Exam Review	Final study guide	Bring your questions!
5/13	Final Exam: Ch 15, 16 & 19 (Sec 1) 8-10 AM Rm D224 Sci		
5/14	Final Exam: Ch 15, 16 & 19 (Sec 2) 10:15 AM-12:15 PM Rm D224 Sci		