

# SENSORY SYSTEMS AND BEHAVIOR

## NSC383

*The neural processes driving behavior... the ones we understand, anyway*



All behaviors, from phototaxis by a bacterium to echolocation by bats, rely on the processing of sensory information. As behaviors become more complicated, so does the underlying neural processing. In this course we will look at how phylogenetically diverse groups organize sensory information in

mechanosensory, auditory, and electrosensory systems. We will also delve into higher order sensory processing responsible for complicated behaviors, such as auditory localization. Through these explorations you will become familiar with information encoding strategies utilized in driving animal behavior.

### Important Tidbits

Professor: Dr. Sprayberry



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Office Hours  
Open Door :W 3:00-4:30  
\*or\* by appointment

### Course Resources



Biology of Sensory Systems  
• Required text



On Canvas you will find:  
• Course Readings  
• Updated Schedule  
• Rubrics and Assignments

*This class is scheduled to meet 4 hours per week for discussion.*

## Course Objectives & Format

During this course you will

- Learn the basic principles of information encoding in sensory systems
- Learn behavioral tools for investigating sensory processing capability
- Practice and improve your data interpretation skills
- Develop your scientific analytical reading skills

- Practice your scientific communication skills

We will meet this learning goals through class discussion of course readings. Tuesdays of each week will focus on sensory physiology readings from your text, while Thursdays will focus on animal behavior papers from the primary literature.

## Course Components

**Preparation (17%):** Your ability to participate is dependent upon the quality of your preparation. I ask you to maintain a notebook (as described in the “Reading Guide”) and reflect on your notes via an online assessment *prior* to each class. Expectations and assessment of pre-lecture work is provided in the “Reading Guide”.

**Participation (14%):** You are expected to be in class and actively participate. Your participation grade will depend on attendance and my assessment of your in-class performance.

**Annotated Bibliography and Discussion:** You will lead one primary literature discussion this semester. You will prepare an annotated bibliography

as a companion to your discussion to provide you with sufficient intellectual background to serve as a resource for your peers. For more details refer to the rubric posted on Canvas.

**Reflections (40%):** In lieu of exams you will be asked to write four essays over the course of the semester that reflect on what we have learned. These will be focused on a specific content from class. A detailed rubric will be provided on Canvas.

**Video Project (15):** Your final project for this course is a micro-documentary focused on the sensory basis of a single behavior. This will be aimed at a general, rather than disciplinary, audience. A detailed rubric will be provided on Canvas.



### Grading Structure

A, 93-100%

A-, 90-92%

B+, 87-89%

B, 83-86%

B-, 80-82%

C+, 77-79%

C, 73-76%

C-, 70-72%

D, 60-69%

## Course Policies

**Communication:** Out of class communications will be through email. Ergo, you must check your email. I will typically respond to student emails within 1 business day, and expect the same from you.

**Academic Behavior:** All students should familiarize themselves with the College's Academic Behavior Code, which can be found at [www.muhsen.org.edu/main/aboutus/dean-academic/integrity](http://www.muhsen.org.edu/main/aboutus/dean-academic/integrity) or in your student handbook. Any violations of this code, including but not limited to plagiarism and academic dishonesty, will be dealt with according to Muhlenberg College's Code of Conduct.

**Attendance:** Attendance is critical in a seminar format course, and your participation grade is dependent upon your presence and participation in class.

**Students with Disabilities or Special Needs:** Students with disabilities requesting classroom or course accommodations must complete a multi-faceted application/ approval process through the Office of Disability Services prior to the development and implementation of an Accommodation Plan. Each Accommodation Plan is individually and collaboratively developed with the Directors or staff of the following Departments, as appropriate: Academic Resource Center, Office of Counseling Services, Student Health Services, and the Office of Disability Services. If you have not already done so, please contact the appropriate Department to have a dialogue regarding your academic needs and the recommended accommodations, auxiliary aides, and services.

*The contents of this syllabus are subject to change*