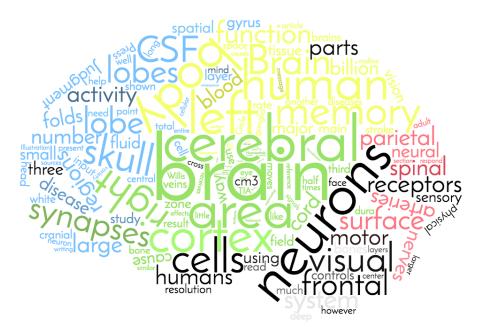
HESP 313: Neurobiology for Speech and Hearing Department of Hearing and Speech Sciences Syllabus

Instructor: Melissa Stockbridge, Room 0141BB Lefrak Email: mdstock@umd.edu Class time: Wednesday 6:00 – 8:15 pm Place: Art-Sociology Building, Room 3219 Office Hours: Lefrak 0141BB, By appointment Prerequisite: HESP305 and permission of department



This course will cover basic structure and function of the brain as it pertains to substrates of speech, language, and hearing.

Textbook (required): Pinel, J. P. (2007). A colorful introduction to the anatomy of the human brain: A brain and psychology coloring book. (2nd ed.) Allyn & Bacon. ISBN-13: 978-0205548743

ASHA Standard & Course Learning Outcomes and Goals:

Standard III-C: Students will demonstrate knowledge and basic human communication and swallowing processes, including their biological, neurological, acoustic, psychological, developmental, and linguistic cultural bases by:

- 1. Demonstrating the ability to analyze, synthesize, and evaluate information in the areas of basic human communication processes.
- 2. Specifying the anatomical characteristics and structures of the central nervous system, including the cerebrum, cerebellum, brainstem, spinal cord, diencephalon, and basal ganglia.
- 3. Summarizing the anatomical characteristics and structures of the peripheral nervous system, including the spinal nerves, the cranial nerves, and the autonomic nervous system.

- 4. Explaining the blood supply to the brain.
- 5. Summarizing how cerebrospinal fluid circulates throughout the brain.
- 6. Relating neurophysiologic processes to the production of typical communication and communication associated with progressive disease processes.

Standard III-D: Specifying etiologies and characteristics of neurologically-baseacquired language, speech, reading, writing, and cognitive disorders by:

- 1. Demonstrating the understanding of neurological basis of cognitive aspects of communication, including memory, learning, sequencing, problem-solving, and executive functioning.
- 2. Specifying knowledge of hearing, including the impact on speech and language.

Course Objectives:

At the end of this course, you should be able to demonstrate an appropriate introductory understanding of:

- 1. The cellular and molecular properties of the brain and how they develop.
- 2. Key structures and landmarks of the brain and peripheral nervous system.
- 3. Various ways the brain represents the outside world, including the visual system, auditory system, and somatosensory system.
- 4. Ways the brain directs and regulates automatic, gross, and fine motor movement.
- 5. The origins and present understanding of higher order processes for language, planning, critical thinking, and reasoning.
- 6. The origins and present understanding of the impacts of injuries and progressive neurological disease to the brain.

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Week	Date	Торіс	Homework			
1	5/24	Introduction to the course				
		Orienting to anatomy	Coloring: 1.1-1.2, 2.1-2.3			
		Cell structures	Coloring: 3.1-3.4			
2	5/31	Cellular communication	Coloring: 3.5-3.8			
		Early development	Coloring: 4.1-4.5			
3	6/7	Gross brain anatomy	Coloring: 5.1-5.4			
		Cerebral hemispheres	Coloring: 7.1-7.4			
4	6/14	Cortex & subcortex	Coloring: 7.5-7.8, 4.6			
		Visual system	Coloring: 8.1-8.2			
5	6/21	Auditory system	Coloring: 8.3-8.4			
		Memory	Coloring: 10.1-10.5			

Schedule of classes:

			Maguire et al., 2003
6	6/28	Language	Coloring: 12.1-12.3
			Hagoort et al., 2013
7	7/5	Exam 1	
		Reptilian brain & spinal cord	Coloring: 6.1-6.3
		Cranial nerves	Coloring: 1.3-1.6, 5.7
8	7/12	Diencephalon	Coloring: 6.4-6.6
		Bodily messenger systems	Coloring: 5.5, 5.6
9	7/19	Somatosensory system	Coloring: 8.5-8.7
		Motor system	Coloring: 9.1-9.4
10	7/26	Motor patterns	Coloring: 9.5-9.6
		Motivation	Coloring: 11.1-11.7
11	8/2	Critical thinking	Coloring: 12.4
		Social thinking	Coloring: 12.5
12	8/9	Exam 2	

Topic scheduling presented here is estimated, and may change slightly based on the pace of the class. Information related to homework, announcements, and assignments may be found on ELMS,

https://umd.instructure.com/courses/1220223.

Students are responsible for logging on frequently to check for announcements and access course materials.

Homework: Homework assignments are due at the start of the next class from when they are listed. The preferred method of submission is through ELMS. Homework completion will be checked and counted toward participation for the day it is due. *Homework will not be accepted late. Passing homework grades will require completion of the coloring portions of each reading assignment.*

In-class activities: Most classes will be a combination of a lecture and an activity. These activities may include working with partners/groups to practice a technique, reading and answering questions based on a provided article, participating in group discussions, etc. In many cases, these activities are structured around a handout of questions or specific steps. In some cases, in-class activities may involve the location and use of outside academic sources. Outside source(s) should be cited conforming to American Psychological Association style guidelines.

(see https://owl.english.purdue.edu/owl/resource/560/01/)

Handouts completed for in-class activities must be submitted online, via ELMS, by the end of the class period. *In-class activities will not be accepted late. Grades will be based on the completion of all sections of the activity as well as in-class engagement with peers on the topic(s).*

Grading:

Exams	70%
In-class assignments:	15%
Homework assignments:	15%

Expectations:

You are expected to come to class each day prepared to actively engage in discussion and other activities.

Contact: Please contact me by email regarding absences, to discuss DSS accommodations, to schedule meetings, or to ask questions. My email address is mdstock@umd.edu. In the event of inclement weather, school closing, or extended emergency closure, class content will be transitioned to an online format, with additional details provided by email.

- Laptops: Relevant laptop use in the classroom is permitted and expected for inclass activities. However, it is discouraged for note-taking. Laptop note-taking promotes transcription over processing the information, which is detrimental to your learning (Mueller & Oppenheimer, 2014)! The instructor reserves the right to revoke this permission on an individual or group basis at her discretion.
- *Collaboration:* You will be participating in many activities in collaboration with your peers. When working in groups, **all group members should be listed on any assignment/deliverable.** All listed members should make substantial material contribution to the work. You are encouraged to plan each group member's contribution upfront and describe the nature of each group member's contribution at the end of any major assignment/deliverable. Failure to disclose additional assistance received or additional peer participation, as well as failure to participate and engage fully in group efforts where one is credited, will be viewed as academic dishonesty.

Policies relevant to Undergraduate Courses are found here: http://ugst.umd.edu/courserelatedpolicies.html.

 Topics that are addressed in these various policies include academic integrity, student and instructor conduct, accessibility and accommodations, attendance and excused absences, grades and appeals, copyright and intellectual property.
You are responsible for independently reviewing and upholding these policies during this course.