

NEU 101 Neuroscience for Life: From Sex to Society
Spring 2021
Tuesdays and Thursdays HE 102-104

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Office hours: 9-10am Mondays, 10-noon Wednesday and by appointment in Zoom (passcode "help")

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Textbook: There is no required textbook for this course. Resource material and readings will be provided through Canvas.

Online resources: Students may find the following Web sites useful in understanding the human brain and how it works.

General Neuroscience

<http://thebrain.mcgill.ca/>

<https://www.mayfieldclinic.com/PE-AnatBrain.htm>

<https://www.neuroscientificallychallenged.com/about>

<https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Know-Your-Brain>

<http://nba.uth.tmc.edu/neuroscience/>

Catalog description: A transdisciplinary course that covers the fundamental principles of neuroscience and their applications to critical and current issues in interpersonal relationships and society. Case studies will be drawn from a multitude of disciplines such as marketing, communications, political science, sports, law, and education. GENERAL EDUCATION: Individual & Society.



The General Education Program at Northern Kentucky University guides students to become independent learners, innovative thinkers, and responsible citizens. The program gives students a foundation of values, knowledge, and skills that will empower them to discover their personal potential, communicate effectively, work in diverse communities, and solve problems in a global society. Courses in the program will invite students to expand the life-long practice of asking questions, seeking new points of view, applying principles of reason, adjusting ideas in relation to new situations, and taking reflective action.

NEU 101 is designed to introduce students to the general principles of neuroscience and their application to current topics in society. Students will receive a fundamental understanding of how the brain processes information and responds to external stimuli and how that affects both interpersonal relationships and the way societies function (or not).

As part of the general education curriculum, all students in all NEU 101 sections will be directly assessed through written assignments, quizzes, class discussions, team projects, and exams.

General Education Student Learning Outcomes: In taking this course:

- A2: Students consider multiple perspectives when addressing an issue/problem.
- D3: Students understand how empirical methodologies are used to examine human behavior.
- E3: Students explain how personal choices impact the world.

This course supports Critical Thinking, Scientific and Quantitative Reasoning, and Personal Responsibility and Community program goals stated in the mission of the General Education Program.

Course Specific Student Learning Outcomes

- Students will be able to identify the major functional regions of the human brain related to language, the major senses, memory, emotion, and decision-making.
- Students will understand the application of neuroscience and neurobiology in multiple aspects of their daily lives.
- Students will be able to distinguish between the concepts of sex and gender and how they apply to the brain and behavior.
- Students will understand how brain structure and function changes during development and aging
- Students will be able to describe how an individual’s behavior impacts the larger community and how society can influence an individual’s behavior.

STUDENT PHILANTHROPY OUTCOMES: By participating in the Mayerson Student Philanthropy Project, students will learn more about civic engagement and gain awareness of social problems and nonprofit organizations in the community. They will also increase their knowledge of philanthropic processes, particularly grant seeking and grant making. Lastly, students will build upon their critical thinking, communication, leadership and other work-life skills.

The Mayerson Student Philanthropy Project was created in 1999 through a partnership between NKU and the Manuel D. and Rhoda Mayerson Foundation. This "learning by giving" approach provides funds to a number of classes each semester and allows students to experience philanthropy firsthand by being grant makers in the classroom. Students in each class research community problems and nonprofit organizations, evaluate and discuss them, and ultimately select nonprofits in which to invest the funds. The goals include engaging students more fully in the curriculum, teaching them about community problems and nonprofits, and encouraging them to be involved with nonprofit organizations in the future, as philanthropists, volunteers and staff. About 500 students take a Mayerson class each academic year. Together, they invest thousands of dollars in nonprofits, most of them in Northern Kentucky and Greater Cincinnati. The Mayerson project is managed by NKU's Scripps Howard Center for Civic Engagement. For more information, please visit the Scripps Howard Center for Civic Engagement website.

Course Schedule (subject to revision)

Date	Topic	Resources & readings
Jan. 12 th	Introduction to the course. Brain and Nervous System Basics	NINDS Web site Mayfield Clinic Web site
Jan. 14 th	Discuss Assigned Reading COVID-19 observations assigned.	Thinking Like a Dolphin
Jan. 19 th	Explanation of Mayerson Project. Altruism Discuss Assigned Reading Greater Cincinnati Foundation (Laura Menge; men-Gee (hard G; long E)	Mind, body and soul

Jan. 21 st	Mayerson research project explained Altruism	Mayerson pre-survey Discussion Bd. 1 st post due
Jan. 26 th	Finding a client; forming teams Sensation and perception Vision, hearing and pain	Mayerson Discussion Bd. Discussion Bd. Responses due
Jan. 28 th	Guest: Carolina Curran Neuroscience of art Neuroscience of color	Picasso and child prodigies Individ. Mayerson assignment
Feb. 2 nd	Neuroscience of persuasion Neuroscience of decision-making	Mayerson 1 st post due Rhetorical basics
Feb. 4 th	Neuroscience of emotions Finalize Mayerson teams and clients	Individ. COVID assignment
Feb. 9 th	Neuroscience of trauma Guest Lecture: Dr. Amanda Brown	
Feb. 11 th	Discuss COVID-19 behavioral intervention Exam Review	Exam#1 Study Guide

Feb. 16th MINI-BREAK NO CLASSES

Feb. 18th	Exam #1 <covers all content through Neuroscience of trauma>	
Feb. 23 rd	Mayerson Team Time Attend ONLY when your team is scheduled	
Feb. 25 th	Brain development, education, learning & memory	
March 2 nd	Neurodevelopment and language	
March 4 th	Neuroscience of sex and gender	
March 9 th	Neuroscience of families	
March 11 th	Neuroscience of aging	
March 16 th	Exam#2 Review	Exam#2 Study Guide
March 23rd	Exam#2 <from Brain Development to Aging>	
March 25 th	Mayerson Team Time <presentation practice> Attend ONLY when your team is scheduled	
March 30 th	Mayerson Team Time	

FREE DAY TO WORK WITH YOUR TEAM

April 1st MINI-BREAK; NO CLASSES

April 6 th	Decision-making: Mayerson non-profit	Mayerson Team presentations
April 8 th	Mayerson votes due	
April 13 th	Mayerson Team Time FREE DAY TO WORK ON TEAM REPORTS AND CLIENT PRODUCTS	
April 15 th	Neuroscience and social media	
April 20 th	Neuroscience of politics	Mayerson team report due
April 22 nd	Neuroscience of rivalries	
April 27 th	Neuroscience of crime and the law	Mayerson client product due
April 29 th	Neuroscience and marketing	

2:30-4:30PM TUESDAY, MAY 4TH FINAL COMPREHENSIVE EXAM

Assessments.

Online quizzes. There will be quizzes in the Canvas system to be completed outside of class time. Content will prepare students for the lecture exams.

Discussion board. We will use the Canvas Discussion board to elaborate on concepts covered in class and to give students an opportunity to share what they have learned about human behavior and the impact of individuals on society at large. There will also be a general Discussion Board for students to post questions about course content or assignments.

Written Assignments. All homework assignments must be turned in on their due date. Each assignment should clearly include the student's name and assignment title at the top of the first page. Written assignments must be typed in 12 point font, double-spaced and saved as a WORD document or .rtf file. Assignments will be submitted electronically to **Canvas**.

Team assignments: Neuroscience is transdisciplinary in nature. Teams will be formed to encourage broad-based discussion and analysis. Points earned on team assignments will be shared by all team members, **EXCEPT in cases where it is clearly documented that individual team members did not participate in any meaningful way.**

Individual effort on team assignments: Each student will have the opportunity to assess themselves and their fellow students, and those evaluations will be included in the final course grade.

Mayerson Student Philanthropy Project: Your major team project will be conducted under the auspices of the NKU Mayerson Student Philanthropy Project. There will be a pre- and post-project survey conducted by the Scripps Howard Center for Civic Engagement. In brief, you will work to identify a non-profit agency, school, or government agency whose mission closely aligns with the semester's funding

priorities. Near the end of the semester, **the class will award \$2,000 in REAL MONEY** to the project the class decides is most deserving.

Exams. There will be two exams covering material from each of the first two sections of the course. The final exam will be focused on the last portion of the class, but include general principles from all course material.

Electronic Document Policy: Unless prior permission is granted by the instructor, ALL assignments will be submitted electronically into the Canvas system. Once the due date has past, the instructor will download all submitted documents and notify students of problems with corrupt or missing files. After notification, students will have 24 hours to deliver an electronic or paper version of their completed assignment for grading. Students are responsible for checking the Canvas system maintenance schedule to insure they can upload their assignments during normal operating hours and for checking their NKU email account to see if they have been notified about technical problems with assignment submission.

Attendance Policies: Formal attendance will be taken according to university policy. Since a portion of your grade depends on active participation in class discussions and team projects, missing class will negatively affect your grade. Students presenting research at regional or national scientific conferences or traveling to events related to professional development may request special consideration regarding missed classes.

Final Grades: Your final grade will be based on the percentage of points earned during the semester. The grading scale used in this course will be as follows:

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+	67 – 69%
D	60 – 66%	F	< 60%		

Classroom Policies

- 1. Absolutely no eating and drinking in the classroom.**
- Students are required to read and abide by the University Honor Code and other requirements described in the Code of Student Rights & Responsibilities.
<https://inside.nku.edu/scra/information/students/rights-responsibilities.html>
- Students needing accommodations to improve accessibility should review the information and resources at the following website: <https://inside.nku.edu/osa.html>
- University policy states that grades cannot be provided to students over the phone or via email. Grades will be posted in your **Canvas Gradebook**, and final grades will be submitted to MyNKU.
- At a minimum, you should spend 3 hours study time for each hour of class time; therefore, you should be prepared to spend 12-15 hours per week on coursework for this class. This period includes reading, research, writing and revising.
- Disruptions: Behavior that disrupts student learning will not be tolerated. Loud personal conversations are particularly disruptive to other students who are focused on learning. **Using cell phones, laptops or tablet computers for any purpose not directly related to this course is unacceptable.**
- Please come to class on time, and be prepared to work for the entire class session. Be respectful of your classmates and collegial (i.e. supportive) of each other.