

NROSCI 1004 1000-CLB (31097) Fall term 2022

Mondays 1:00-5:00PM, Room A146 Langley Hall

Instructor: Keri J. Fogle, Ph.D., Department of Neuroscience

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Office: 465 Crawford Hall

Office phone: 412-383-

Office hours: By appointment

Course Info

Course description: This laboratory course is “discovery-based,” which means that rather than following a predetermined procedure to a desired outcome, we will be developing scientific questions and the methods to answer them. We will analyze the results, learn to effectively communicate them, and propose the next round of questions our results have inspired. This course will utilize *Drosophila melanogaster*, which is well-known for its key role as a genetics model organism, but is also widely put to work in fundamental questions of neuroscience! Laboratory techniques used in this course will include *Drosophila* genetics, behavioral assays, microdissection, and fluorescence imaging. Using these techniques, we will complete two course modules dedicated to examining effects on learning and memory - one pharmacological and one genetics-based.

Learning objectives:

- Use fundamental techniques of *Drosophila* genetics and behavior to understand learning, memory, excitability, and other neurobiological phenomena
- Design and test original research questions based on existing scientific literature
- Clearly present scientific information and experimental results
- Develop, critique, and revise scientific ideas

Course structure: The course is roughly divided into three modules, each lasting 3-4 weeks:

1. Introductory material (*Drosophila* fundamentals, learning and memory in flies, common experimental techniques)
2. Pharmacological effects on learning
3. Genetic/mutational effects on learning

Course resources

No textbooks are required for this course. Required readings (reviews and research manuscripts) will be posted on Canvas at least one week in advance. Additionally, students will be required to use PubMed.gov to independently identify manuscripts relevant to their work and ideas.

Communication

My preferred form of communication is email: kjf38@pitt.edu

Announcements, information, course changes, and documents posted on Canvas are **REQUIRED** information for the course (unless otherwise indicated), **so please check Canvas often and pay attention to posted announcements**. Note: Canvas sends a LOT of messages/notifications etc., many of them automatic, which can make it easy to miss things. There are filters for some of these notifications, but don't block everything, as I do use Canvas announcements to communicate official class information.

Office hours: I won't be holding set office hours for this small course, so simply send an email (kjf38@pitt.edu) if you'd like to meet, and we'll find a time. Please be considerate if your plans change and you cannot keep the appointment, and let me know with as much advance notice as possible.

Assessments and grading

Class participation 10%

Lab Notebooks 10%

Lab Reports 20% (2)

Presentations 10% (2)

Research Proposal 20%

Grades will be determined based on the following ranges:

A+	97-100%		B+	87-89%		C+	77-79%		D+	67-69%		F	< 60%
A	93-96%		B	83-86%		C	73-76%		D	63-66%			
A-	90-92%		B-	80-82%		C-	70-72%		D-	60-62%			

If unanticipated circumstances (e.g., illness, death in the family) make it impossible for you to complete an assignment by its scheduled date and time, you must communicate with me BEFORE the due date/time. If you must miss a lab due to interviews or other professional activities, please let me know immediately so arrangements can be made to make up the work in a timely fashion.

No course materials of any kind, including slides, recorded lectures, and assessments, may be posted online to outside sites or given to/used by anyone other than students taking this course during this term. Assessment materials (e.g., lab reports, presentations, research proposals) may not be shared among students, posted, or otherwise made available anywhere, to anyone, at any time. Doing so is a breach of Pitt's academic integrity policy. Students violating this policy will be reported to the University of Pittsburgh. Consequences include, but are not limited to, receiving a score of zero on an affected assessment and failing the course. The University may also take further action at its discretion.

Course Technology

Canvas: All course materials (e.g., readings, exercises) and course-related information (e.g. schedules, announcements, changes to any aspect of the course during the term) will be made available on the Canvas site for this course.

Students will be required to research scientific literature using websites such as PubMed.gov.

You will be required to access these resources via the internet. If you do not have adequate resources or sufficiently stable internet access, you may contact the University for help. If you have technical issues, you may contact the [Pitt IT help desk](#).

Academic policies

Academic Integrity: Cheating/plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity, noted below, will be required to participate in the outlined procedural process as initiated by the instructor. A minimum sanction of a zero score for the quiz, exam or paper will be imposed. (For the full Academic Integrity policy, go to www.provost.pitt.edu/info/ai1.html.)

The integrity of the academic process requires fair and impartial evaluation on the part of faculty and honest academic conduct on the part of students. To this end, students are expected to conduct themselves at a high level of responsibility in the fulfillment of the course of their study. It is the corresponding responsibility of faculty to make clear to students those standards by which students will be evaluated, and the resources permissible for use by students during the course of their study and evaluation. The educational process is perceived as a joint faculty-student enterprise which will perform involve professional judgment by faculty and may involve – without penalty- reasoned exception by students to the data or views offered by faculty.

As a component of academic integrity expectations for this course, no course materials of any kind, including slides, recorded lectures, and assessments, may be posted online to outside sites or given to/used by anyone other than students taking this course during this term. You are not permitted to take screenshots of any materials, including assessments. Assessment materials (e.g., questions and answers) may not be shared among students, posted, or otherwise made available anywhere, at any time. Students violating this policy will be reported to the University of Pittsburgh as being in breach of academic integrity policies. Consequences include, but are not limited to, receiving a score of zero on an

affected assessment and/or failing the course. The University may also take further action at its discretion.

Email Communication Policy: Each student is issued a University e-mail address (username@pitt.edu) upon admittance. This e-mail address may be used by the University for official communication with students. Students are expected to read e-mail sent to this account on a regular basis. Failure to read and react to University communications in a timely manner does not absolve the student from knowing and complying with the content of the communications. The University provides an e-mail forwarding service that allows students to read their e-mail via other service providers. Students that choose to forward their e-mail from their pitt.edu address to another address do so at their own risk. If e-mail is lost as a result of forwarding, it does not absolve the student from responding to official communications sent to their University e-mail address. To forward e-mail sent to your University account, go to <http://accounts.pitt.edu>, log into your account, click on **Edit Forwarding Addresses**, and follow the instructions on the page. Be sure to log out of your account when you have finished.

Disability Services: If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services (DRS), 140 William Pitt Union, (412) 648-7890, drsrecep@pitt.edu, (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Health and Safety Statement: In the midst of this pandemic, it is extremely important that you abide by public health regulations and University of Pittsburgh health standards and guidelines. While on campus, based on community transmission levels, the University may dictate that you must wear a face covering both your nose and mouth at all times and comply with physical distancing requirements; other requirements may be added by the University during the semester. These rules have been developed to protect the health and safety of all community members. Failure to comply with these requirements will result in you not being permitted to attend class in person and could result in a Student Conduct violation. For the most up-to-date information and guidance, please visit coronavirus.pitt.edu and check your Pitt email for updates before each class.

Accessibility: The Canvas LMS platform was built using the most modern HTML and CSS technologies, and is committed to W3C's Web Accessibility Initiative and Section 508 guidelines. Specific details regarding individual feature compliance are documented and updated regularly.

Diversity and Inclusion: The University of Pittsburgh does not tolerate any form of discrimination, harassment, or retaliation based on disability, race, color, religion, national origin, ancestry, genetic information, marital status, familial status, sex, age, sexual orientation, veteran status or gender identity or other factors as stated in the University's Title IX policy. The University is committed to taking prompt action to end a hostile environment that interferes with the University's mission.

I ask that everyone in the class strive to help ensure that other members of this class can learn in a supportive and respectful environment. If there are instances of the aforementioned issues, please contact the Title IX Coordinator, by calling 412-648-7860, or e-mailing titleixcoordinator@pitt.edu. Reports can also be filed online:

<https://www.diversity.pitt.edu/civil-rights-title-ix-compliance/make-report/report-form>

You may also choose to report this to a faculty/staff member; they are required to communicate this to the University's Office of Diversity and Inclusion. If you wish to maintain complete confidentiality, you may also contact the University Counseling Center (412-648-7930).

Copyright Notice: These materials may be protected by copyright. United States copyright law, 17 USC section 101, et seq., in addition to University policy and procedures, prohibit unauthorized duplication or retransmission of course materials. See [Library of Congress Copyright Office](#) and the [University Copyright Policy](#)

Statement on Classroom Recording: To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use. This is true of both in-person instruction and remote instruction. **IMPORTANT: Any Zoom class sessions that are recorded will be posted on Canvas so students may view them asynchronously.**

Gender Inclusive Language Statement (from Pitt GSWS): Language is gender-inclusive and non-sexist when we use words that affirm and respect how people describe, express, and experience their gender. Just as sexist language excludes women's experiences, non-gender-inclusive language excludes the experiences of individuals whose identities may not fit the gender binary, and/or who may not identify with the sex they were assigned at birth. Identities including trans, intersex, and genderqueer reflect personal descriptions, expressions, and experiences. Gender-inclusive/non-sexist language acknowledges people of any

gender (for example, first year student versus freshman, chair versus chairman, humankind versus mankind, etc.). It also affirms non-binary gender identifications, and recognizes the difference between biological sex and gender expression. Students, faculty, and staff may share their preferred pronouns and names, and these gender identities and gender expressions should be honored.

Take Care of Yourself: Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep, and taking time to relax. Despite what you might hear, using your time to take care of yourself will actually help you achieve your academic goals more than spending too much time studying. All of us benefit from support and guidance during times of struggle. There are many helpful resources available at Pitt. An important part of the college experience is learning how to ask for help. Take the time to learn about all that's available and take advantage of it. Ask for support sooner rather than later – this always helps. If you or anyone you know experiences any academic stress, difficult life events, or difficult feelings like anxiety or depression, we strongly encourage you to seek support. Consider reaching out to a friend, faculty, or family member you trust for assistance connecting to the support that can help.

The University Counseling Center is here for you: call 412-648-7930 and visit their website.

If you or someone you know is feeling suicidal, call someone immediately, day or night:

- University Counseling Center (UCC): 412 648-7930
- University Counseling Center Mental Health Crisis Response: 412-648-7930 x1
- Resolve Crisis Network: 888-796-8226 (888-7-YOU-CAN)

If the situation is life threatening, call the Police:

- On-campus: Pitt Police: 412-268-2121
- Off-campus: 911