

UNIVERSITY OF FLORIDA
COLLEGE OF MEDICINE SYLLABUS
NEUROSCIENCE

GMS6029 Journal Club – Neurobiology of Cognition (1 credit)

Semester: Spring 2023

Delivery Format: in person

Instructor Name: Barry Setlow, PhD

Time: Tuesday, 230-330 pm

Room Number: L1-101

Phone Number: 352-294-5203

Email Address: setlow@ufl.edu

Office Hours: By request

Graduate Assistant: None

Preferred Course Communications: Email

Prerequisites: Doctoral Students

Purpose and Outcome:

This journal club is intended for all PhD and master's students interested in expanding their understanding of the neurobiology of cognition, including learning, memory, and executive functions. As cognition can only be assessed with behavior, all journal articles being discussed will include behavioral variables (either human or model systems) integrated with neurobiological assessment.

Course Overview:

Cognition refers to the mental processes that are involved in gaining knowledge, comprehension, and action execution. Such processes include but are not limited to perception, attention, memory, and decision making. How does the brain support these diverse and critical functions? How can we study the neurobiological processes critical for cognitive functions in humans and in animal models? What are the latest techniques that are being used to dissect circuits critical for specific aspects of cognition and to evaluate how such circuits change in age and disease? Such are the questions that we be reviewed, discussed, and vigorously debated in this course. Each student will select recent and seminal papers and will lead at least one class in an overview of design, key findings, and implications of the paper. Presentations will be followed by class discussions. Students will be expected to read the weekly articles carefully and engage fully in discussions.

Relation to Program Outcomes:

This journal club is designed to: i) provide a current understanding of neurobiological mechanisms that support different forms of cognition, ii) introduce where key gaps in knowledge exist in the field, and iii) provide an overview of concepts regarding how to critically evaluate

and interpret human and animal experimental designs that integrate behavior with neurobiological assessment. Such concepts are part of a fundamental knowledge base for learners pursuing graduate degrees in neuroscience.

Course Objectives and/or Goals:

Upon completion of this course, students will have a critical perspective on how cognition is experimentally assessed in human and model systems, and on key methods used to link behavior with neurobiological mechanisms. Students will be exposed to key methodologies in neuroscience such as optogenetics, neuroimaging, calcium imaging, and *in vivo* electrophysiology.

Instructional Methods:

This course will be held synchronously. For student presentations, students will select from a reading list or choose their own article in consultation with the course directors. This selection must occur a minimum of two weeks prior to the assigned presentation date. The following journals are suggested for selection of articles that are high impact and sufficiently multi-dimensional to sustain a vigorous discussion.

Science
Nature
Cell
Nature Neuroscience
Neuron
Proceedings of the National Academy of Sciences
Current Biology
eLife
The Journal of Neuroscience

Students will prepare a Powerpoint presentation that reflects critical aspects of the paper. At a minimum, this presentation will include (i) sufficient introduction and background material to enable students to appreciate the significance of the study and hypothesis being tested; (ii) the figures from the paper as well as supplemental materials (which are expected to be read by all learners); (iii) authors conclusions; (iv) critical evaluation and discussion points. All students will be expected to engage in discussion throughout the presentation, with discussions being moderated by the course director.

In addition to your own presentation, you are expected to actively engage in the course throughout the semester. This means both reading the weekly article and being prepared to discuss and evaluate its impact, experimental methods, and conclusions.

Description of Course Content:

Topical Outline/Course Schedule

Week	Date(s)	Topic(s)	Presenter	Readings
1	January 10	Introduction to Neurobiology of Cognition	Setlow	None
2	January 17	Student Paper Presentation		As assigned
3	January 24	Student Paper Presentation (note Zoom format)		As assigned
4	January 31	Student Paper Presentation		As assigned
5	February 7	Student Paper Presentation		As assigned
6	February 14	Student Paper Presentation		As assigned
7	February 21	Student Paper Presentation		As assigned
8	February 28	Student Paper Presentation		As assigned
9	March 7	Student Paper Presentation		As assigned
10	March 14	Student Paper Presentation (Spring break – TBD)		As assigned
11	March 21	Student Paper Presentation		As assigned
12	March 28	Student Paper Presentation		As assigned
13	April 4	Student Paper Presentation		As assigned
14	April 11	Student Paper Presentation		As assigned
15	April 18	Student Paper Presentation		As assigned
16	April 25	Student Paper Presentation (if no class over Spring break)		As assigned

Course Materials and Technology:

The reading list will be posted in the Canvas in the beginning of the semester.

For technical support for this class, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- [UF eLearning](#)

Academic Requirements and Grading:

Assignments:

Attendance is mandatory. Each student is expected to present at least one paper during the semester as described above and actively participate in the discussion every week. Dates for student presenters will be selected by the instructor during the first week of the semester. Students must confirm their paper for presentation with course instructor two weeks prior to their presentation.

Grading:

Satisfactory/Unsatisfactory. Grades will be determined based on class attendance, student presentation and participation in paper discussions.

More information on UF grading policy may be found at:

<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades>

Exam Policy:

There are no examinations. All grading will be based on paper presentation, class attendance and participation.

Policy Related to Make up Exams or Other Work

Please note: Any requests for make-ups due to technical issues must be accompanied by the UF Computing help desk (<http://helpdesk.ufl.edu/>) correspondence. You MUST e-mail us within 24 hours of the technical difficulty if you wish to request a make-up.

For excused absences, students will be required to write a summary (minimum one-page, single-spaced) that critically evaluates the journal article being discussed. It must include a i) hypothesis being tested; ii) summary of findings; iii) summary of authors conclusions and iv) critical evaluation of the paper's conclusions and impact.

Policy Related to Required Class Attendance:

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Excused absences must be consistent with university policies in the Graduate Catalog (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>). Additional information can be found here:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Student Expectations, Roles, and Opportunities for Input:

Class attendance will be assessed from active participation in all of these sessions, as well as class preparedness. Students are encouraged to ask questions in class and email instructors with suggestions and questions.

Expectations Regarding Course Behavior:

Students are expected to be active in discussion and debate. In all cases, learners are expected to do so while being respectful both the instructors and fellow students in the class. Examples of expectations include muting or turning off cell phones, sound effects originating from laptops or tablets, or other behaviors that might be disruptive to the flow of the classroom.

Communication Guidelines:

Communication guidelines are expected to follow the Netiquette guidelines, which can be found in <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

Academic Integrity:

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

<http://gradschool.ufl.edu/students/introduction.html>

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

Online Faculty Course Evaluation Process:

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at

<https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Policy Related to Guests Attending Class:

All guests wishing to participate in any portion of the class requires Instructor's permission.

Support Services:

Accommodations for Students with Disabilities:

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health:

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at UF Health is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at UF Health offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: <https://shcc.ufl.edu/>
- UF Health Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32698, ufhealth.org/emergency-room-trauma-center.
- University Police Department: Visit police.ufl.edu/ or call 352-392-1111 (or 9-1-1 for emergencies).
- Crisis intervention is always available 24/7 from:

Alachua County Crisis Center:

(352) 264-6789

<http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

Academic Resources

E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services career.ufl.edu/.

Library Support: cms.uflib.ufl.edu/ ask various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall 352-392-2010 or to make an appointment 352 392-6420.
General study skills and tutoring. teachingcenter.ufl.edu/

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. writing.ufl.edu/writing-studio/

Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

On-Line Students Complaints: distance.ufl.edu/student-complaint-process