

## Spring 2021 Honors research in CBN (01:146:409) syllabus

**Credit:** a minimum of 3 credits (a minimum of 12-15 hours of lab research per week for 3 credits)

**Prerequisites:**

- Cumulative CBN GPA of 3.4
- Have completed one semester of Honors research
- Permission from the course coordinator

**Course coordinator:** Dr. Shu C. Hsu

**Email:** [hsu@biology.rutgers.edu](mailto:hsu@biology.rutgers.edu)

**Research credit application:**

Special permission numbers will be automatically given to students who have successfully completed one semester of Honors research and stay in the same laboratory to complete the second semester of Honors research.

In the event that in-person undergraduate research is not permitted on campus, literature search and/or remote data analysis under the mentorship of a Rutgers/RWJMS research laboratory will be permitted to fulfill the CBN research requirement.

**Spring research application deadline:** Feb 19, 2020

**Spring written Honors thesis submission deadline:** March 30, 2021

**Spring Honors thesis defense deadline:** April 12, 2020

**Course description:**

This is the second course of a two-semester research course sequence that aims to provide students a Honors thesis capstone experience: carrying out honors thesis research under the mentorship of a Rutgers/RWJMS research laboratory, complete a written Honors thesis and defend the Honors thesis in front of a three-faculty committee.

Students enrolled in CBN Honors research will be automatically switched to the CBN Honors track (Track B).

**Course learning goals:**

1. Master factual and conceptual knowledge in cell biology and neuroscience that will provide a solid foundation for success in advanced training and professional careers.
  - Familiar with scientific methodology to acquire research data.
  - Understand how to implement experiments correctly from laboratory protocols.
  - Understand how to troubleshoot and modify experimental procedures.
2. Develop an ability to summarize, integrate and organize information.
  - Know how to keep organized and update records of all experimental activities and observations.

- Know how to summarize, integrate and compare literature information relevant to the research project.
  - Know how to organize data and literature information to write comprehensible and accurate science reports.
  - Know how to communicate scientific findings effectively through oral presentation.
3. Use scientific reasoning to evaluate the potential for current research and new discoveries to improve our understanding of cell biology and neuroscience and its relevance to human health and to our society.
- Know how to formulate a workable hypothesis based on proposed research project.
  - Know how to analyze research and literature data in unbiased and quantitative manner.
  - Know how to draw supported conclusions from available research and literature data to prove or disprove research hypothesis and plan future directions.

### **Course format:**

#### Laboratory research:

- Students are expected to complete a minimum of 4-5 hours of laboratory research per week for each applied research credit. A minimum of 3 credits per semester is required.
- Once accepted into a laboratory, students should work out a mutually workable research schedule with their research mentors. It is recommended that students do not change that schedule without prior communication with their research mentors. Student research effort in the laboratory is part of a student's research grade.

#### Written Honors thesis:

- A minimum of thirty-page Honors thesis in the format of a scientific manuscript is due before or at the designated deadline.
- The Honors thesis must be submitted to the Honors thesis committee AND to the Canvas course "Assignments" site.
- Students should email their Honors theses to their committee members one week before their thesis defenses.

#### Honors thesis defense:

- Students should defend their theses in front of their honors thesis committees consisted of three faculty members. One committee member should be a CBN faculty.
- In the event that in-person thesis defense is not possible, students can defend their theses remotely via Zoom or Webex.
- Students should defend their theses before or by the assigned thesis defense deadline.

#### Honors thesis resources:

- At the Canvas course "Modules/Student resources" site, students can find
  - FAQs about laboratory etiquette
  - Honors thesis writing resources
  - Honors thesis defense resources
  - Honors thesis evaluation form packet

-Honors thesis completion timeline

### **Course grade:**

-Students' final Honors thesis grades will be determined by their honors thesis committees. Two to three days before the thesis defense, students should email the thesis title page and the learning goal assessment forms to their committee members. The grade ranking will be determined by the thesis committee as follows:

- A** = excellent research effort, oral defense and written thesis
- B+** = very good research effort, oral defense and written thesis
- B** = good research effort, oral defense and written thesis
- C+** = passable research effort, oral defense and written thesis
- C** = barely passable research effort, oral defense and written thesis
- D** = unsatisfactory research effort, oral defense and written thesis
- F** = unacceptable research effort, oral defense and written thesis

### **Course technical requirements:**

- A laptop capable of word processing and figure preparation to write the research progress report.
- Additional requirements may be needed per research mentor request.

### **Academic Integrity Policy:**

<http://academicintegrity.rutgers.edu/academic-integrity-policy>

Resources for Students:

<http://nbacademicintegrity.rutgers.edu/home-2/for-students/>

Violations include: cheating, fabrication, plagiarism, denying others access to information or material, and facilitating violations of academic integrity.

### **Student-Wellness Services:**

*Just In Case Web App*

<http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

*Counseling, ADAP & Psychiatric Services (CAPS)*

(848) 932-7884

17 Senior Street, New Brunswick, NJ 08901

[www.rhscaps.rutgers.edu/](http://www.rhscaps.rutgers.edu/)

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and

workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

***Crisis Intervention:***

<http://health.rutgers.edu/medical-counseling-services/counseling/crisis-intervention>

Report a Concern: <http://health.rutgers.edu/do-something-to-help>

***Violence Prevention & Victim Assistance (VPVA)***

(848) 932-1181

3 Bartlett Street, New Brunswick, NJ 08901

[www.vpva.rutgers.edu](http://www.vpva.rutgers.edu)

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

***Disability Services***

(848) 445-6800

Lucy Stone Hall, Suite A145, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854

/ <https://ods.rutgers.edu>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

***Scarlet Listeners***

(732) 247-5555

<http://www.scarletlisteners.com>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.