

# RESEARCH THESIS IN CBN I

01:146:410 (FALL)

## Course Description:

This course is part of a 2-semester sequence intended for CBN students in their senior year who wish to produce a research thesis in the fields of cell biology or neuroscience, but are not enrolled in the CBN Honors program. The course sequence involves research plus preparation of a written thesis draft (Fall semester), and research plus preparation of a final written thesis and an oral defense (Spring semester). The course is offered every year through a Canvas site, and it satisfies departmental learning goals.

## Prerequisites:

- Research in CBN 01:146:307-308 (2 semesters, 6 credits). Other research experience may be acceptable as a substitute.
- Permission of the course coordinator and the research mentor. The mentor must agree to sponsor the student and supervise the preparation of a written thesis and oral defense.

**Course coordinator:** Prof. Gabriella D’Arcangelo ([darcangelo@dls.rutgers.edu](mailto:darcangelo@dls.rutgers.edu))

## Fall Course Specific Learning Goals:

By the end of the semester you will be able to:

1. Summarize background information that led to your project: put your project in a context, what is the larger problem addressed by your study?
2. State clearly the purpose of your specific research project and the underlying hypothesis: what are you trying to do? how is your work going to help solve the larger problem?
3. Describe the experimental approach to address the problem or test the hypothesis related to your project: what type of experiments are you planning to do, and in what order?
4. Collect and analyze experimental data: perform experiments (if possible), collect images or data, plot the data and conduct statistical analysis
5. Interpret the results appropriately: what do your results demonstrate or suggest? what are their limitations?

## **Assignments:**

Your first assignment, the Thesis Proposal is due September 30. For this assignment you will meet specific learning goals 1-3 and lay the foundation for your second assignment, the Thesis Draft. The Draft is due November 30, and it will address all the course's specific learning goals, expanding and refining on the previous goals 1-3 and adding new goals 4-5. The Thesis Draft will be reviewed by your mentor who will also provide feedback. You may be asked to revise your Draft based on feedback, and submit a revised version by December 15.

In addition to these assignments you are expected to conduct 10-15 hours of research/week (in person or remote) according to your mentor's or supervisor's instructions, and participate in class activities. Class participation will consist of posting your own research updates, Thesis Proposal and Draft in a Discussion board, comment on other students' postings, and participate in bi-weekly synchronous sessions. These sessions (schedule to be determined) will be a chance for you to ask questions, discuss problems and obtain feedback from myself or your classmates. Research update postings can consist of brief written material (with bullet points), graphic representations of concepts or experiments (slides or drawings), or personal videos describing the research activity.

## **Schedule of activities:**

Every week: perform research and maintain a good record of the research activity

Every 2 weeks: post research updates, reply to others' postings, and log in to synchronous sessions

September: work on your Thesis Proposal and submit by Sept 30.

October: discuss your own and other students' Proposals, use feedback to start working on Thesis Draft

November: work on your Thesis Draft and submit by Nov 30.

December: discuss your own and other students' Drafts, consider mentor's feedback and revise (if requested) by Dec 15.

## **Grading**

Thesis Proposal (20%)

Thesis Draft (30%)

Class Participation (30%)

Research Activities (20%)

Each graded component will be scored according to a rubric (see course site in Canvas)

**Academic Integrity Policy:**

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

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.