How to Get into Research and the Neuroscience Capstone Workshop

Presented by the
Undergraduate Interdepartmental Program for Neuroscience

Agenda

- Biomedical Research Minor (Enika Tumanov)
- Undergraduate Research Center (Amy Than)
- Academic credit options for research
- Neuroscience major capstone requirement
- Additional Resources

Biomedical Research Minor

https://www.biomedresearchminor.ucla.edu/

UCLA Minor in Biomedical Research

Winter 2023

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Student Services Advisor

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What is The Minor in Biomedical Research?

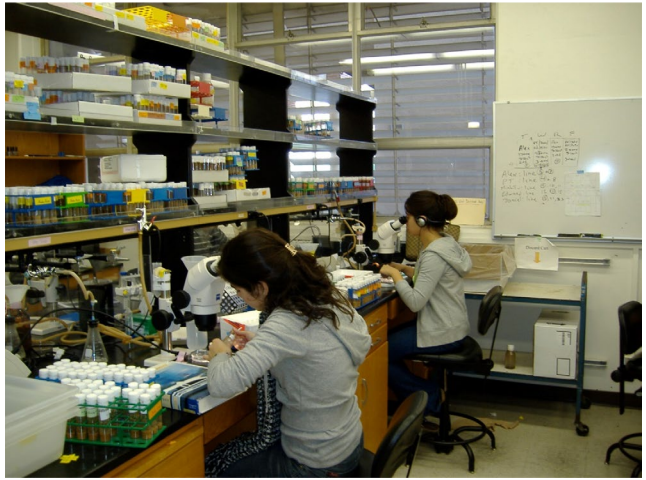
It is an interdepartmental minor intended to engage students early in …..

- laboratory experience
- (science) literature analysis
- presenting biomedical research

…..and train students in….

- the process of scientific research *AND*
- social issues facing science today

Benefits of the Minor



- Relevant experience for post-graduate study
- Intensive research training
- Potential to be published in academic journals
- Competitiveness for research awards and fellowships for advanced study
- Increased opportunities after graduation at academic or medical research institutes

What The Minor will provide You!

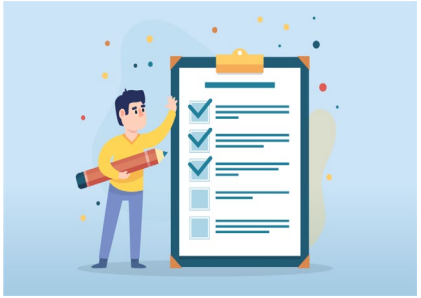
TRAINING AS A RESEARCH SCIENTISTS

INFORMED LAB PLACEMENT

UNDERGRADUATE RESEARCH COMMUNITY

INTEGRATION OF SOCIAL SCIENCES AND HUMANITIES

Eligibility for the Minor



- Must have a GPA of a 3.0
- You must have taken one of the following courses:
  - Biomedical Research 5HA
  - Biomedical Research 10H
  - Honors Collegium 70A
  - Molecular Cell and Development Biology 30H

(For more information of the course descriptions, please visit the UCLA Course Catalog)

- Apply to the minor (Available Fall, Winter and Spring). You can apply to the minor while taking an introductory course or have completed the course as well.
- Last opportunity to apply is Fall of your 3rd year and Winter quarter for Transfer students .
- You can be any major and apply to the minor.
- No prior research experience is required to apply to the BMD RES Minor.

Applying to the Biomedical Research Minor

- Go to: https://bruinlearn.ucla.edu/courses/150172
- Follow the directions indicated in the Website
- Applications open on the Monday of Week 4 and and close at 11:59 PM on Friday of Week #7

- Some applicants will be invited to interview, interviews will be held during Week 10 and Finals Week.
- If you are not admitted the first time you apply, you can re-apply again.

Contact Us

QUESTIONS?

Contact the Biomedical Research Minor
Student Services Advisor
Enika Tumanov / etumanov@lifesci.ucla.edu / 310.825.0237

bmdresminor@lifesci.ucla.edu
https://www.biomedresearchminor.ucla.edu/

Undergraduate Research Center

https://sciences.ugresearch.ucla.edu/

UCLA Undergraduate Education
Research Centers – Sciences

Getting into Research

For Life Science, Physical Science, & Engineering Research Disciplines

Meet the Undergraduate Research Centers (URCs)

The **Undergraduate Research Center – Sciences** is a resource center for all students interested in research and creative inquiry.

Graduate Student Mentors are graduate students that host workshops and share about their journey in research to support and guide undergraduates.

Image Description: Graduate student mentors at the 2022 Major Blast Fair

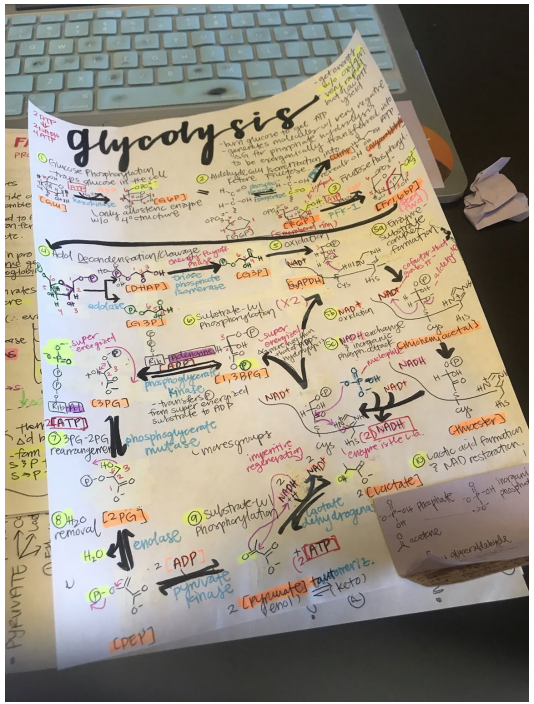
Meet the Graduate Student Mentor

Amy

Graduate Student Researcher
(Neuroscience Interdepartmental PhD. Program)

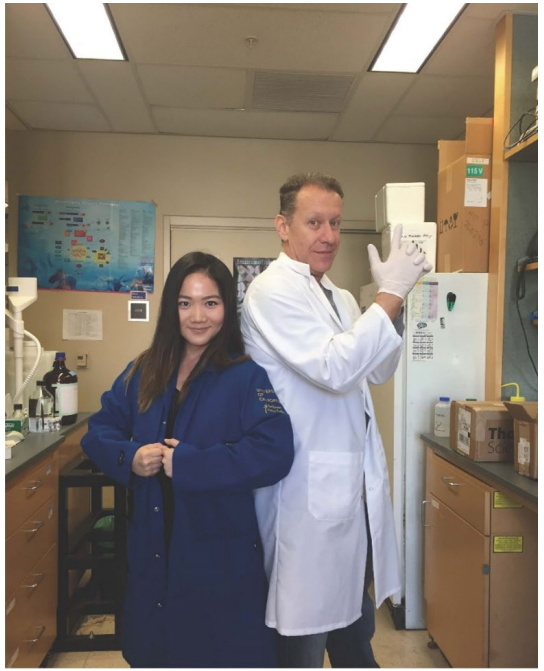
My journey as a Researcher

My journey as a Researcher

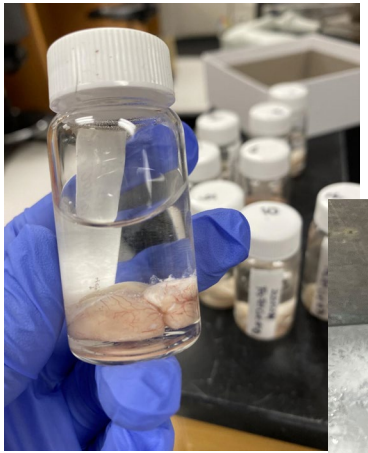


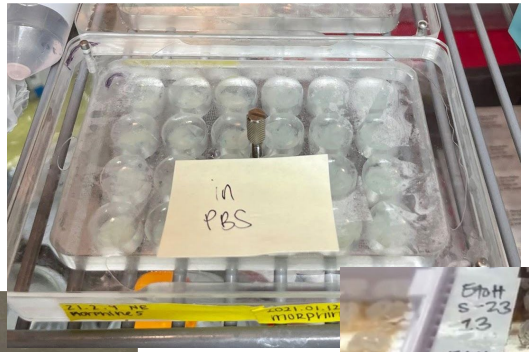
Undergraduate Research at UCLA

- Research in the sciences is usually done in a lab led by a principal investigator, or PI
  - PI = the faculty that runs a research project
  - Projects usually address a hypothesis, or scientific question
- Entry-level projects are usually smaller parts of a larger, ongoing project
- New students are usually supervised by a post-doctoral scholar or graduate student



My Undergraduate Research



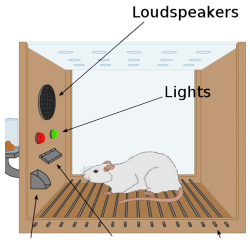


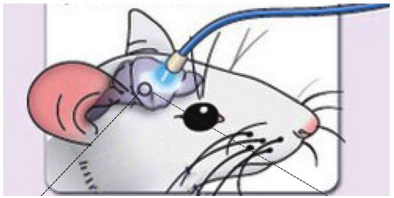
Outcomes of undergraduate research

- Contribute to the body of knowledge in your field
- Gain important skills and get hands-on experience outside of the classroom
- Enhance competitiveness for admission to graduate and professional schools, high-level employment
- Build meaningful relationships and receive mentorship from experts in your field
- Complete degree requirements, qualify for competitive scholarships & fellowships

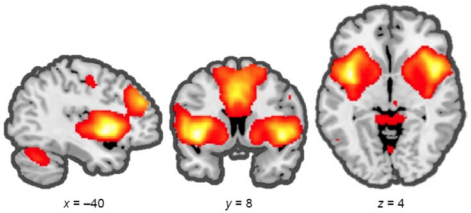
Outcomes of my undergraduate research

Behavioral Neuroscience (gap year)





Neuroimaging (PhD)



Research Project:
Social and Sensory Information Processing during Adolescence

When should I plan to start?

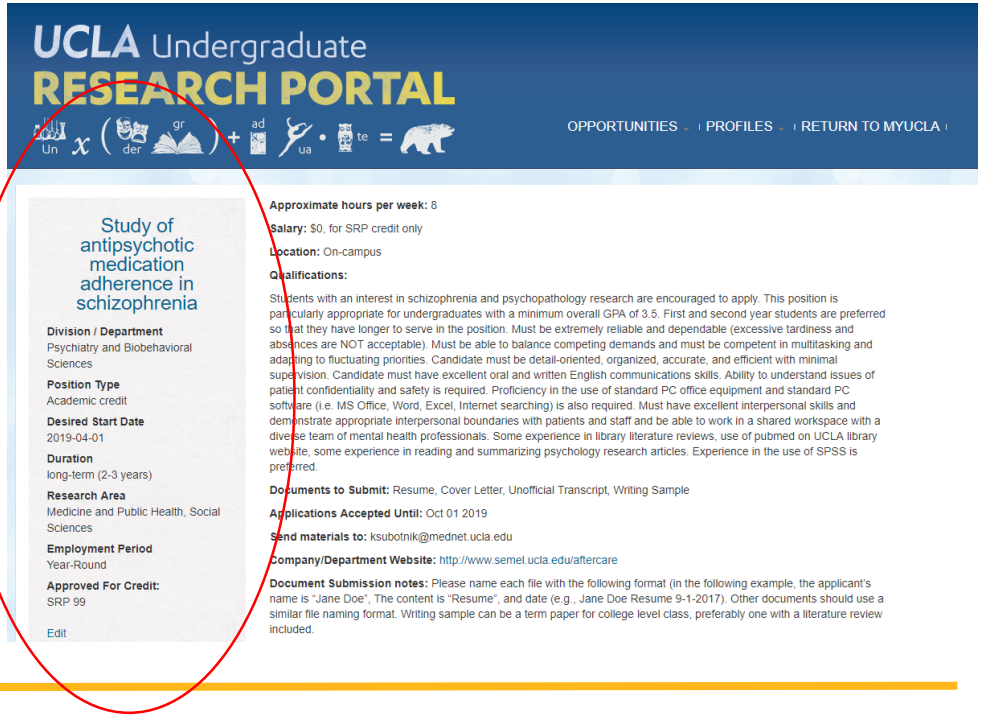
- 1st year admits in the summer or fall after your first year
  - Complete lower division courses and explore potential areas of interest
  - Adjust to the quarter system and build time-management skills
  - Look for research opportunities in the spring or summer
- Transfer students in the winter after your first quarter
  - Adjust to the quarter system
  - Look for research opportunities in the summer or fall

How do I find faculty to work with?

- We recommend two options:
  1. Undergraduate Research Portal
  2. Contact faculty directly
- Note: some programs & internships may place you into a project with a faculty
  - Example: Biomedical Research Minor

Option 1: Undergraduate Research Portal

- MyUCLA Academics tab



Option 2: Contact Faculty Directly

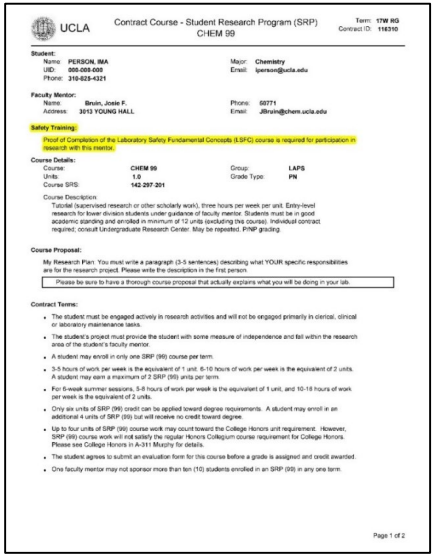
1. Visit Department Websites, start with the:
   - College of Letters and Science
     - Division of Life Sciences
     - Division of Physical Sciences
   - David Geffen School of Medicine
2. Browse faculty directories
3. Record contact information of faculty you want to work with

Option 2: Contact Faculty Directly

- Identify 5-10 faculty you want to work with
  - This process can be similar to applying for a job
  - The more faculty you plan to contact, the better your chances will be
- Record their email addresses
- Prepare a cover letter and CV
- Email them to set up a meeting

SRP 99 (Student Research Program)

- **SRP 99 contract courses**
  - 1-2 units of lower division credit with P/NP grading
  - 3-10 hours of work per week
  - Enrollment is quarterly
- **Why enroll** in an SRP-99?
  - Formalizes your research experience with a transcript notation
  - Easy way to earn units
  - Some departments require enrollment in SRP-99 before you can in an upper division research course
- Upper division version available through each department (198, 199 or equivalent)



UCLA

Contract Course - Student Research Program (SRP)
CHEM 99

Term: 17W RG
Contract ID: 116310

Student:
Name: PERSON, IMA
UID: 000-000-000
Phone: 310-825-4321
Major: Chemistry
Email: iperson@ucla.edu

Faculty Mentor:
Name: Bruin, Josie F.
Address: 3013 YOUNG HALL
Phone: 50771
Email: JBruin@chem.ucla.edu

Safety Training:
Proof of Completion of the Laboratory Safety Fundamental Concepts (LSFC) course is required for participation in research with this mentor.

Course Details:
Course: CHEM 99
Units: 1.0
Course SRS: 142-297-201
Group: LAPS
Grade Type: PN

Course Description:
Tutorial (supervised research or other scholarly work), three hours per week per unit. Entry-level research for lower division students under guidance of faculty mentor. Students must be in good academic standing and enrolled in minimum of 12 units (excluding this course). Individual contract required; consult Undergraduate Research Center. May be repeated. P/NP grading.

Course Proposal:
My Research Plan: You must write a paragraph (3-5 sentences) describing what YOUR specific responsibilities are for the research project. Please write the description in the first person.

Please be sure to have a thorough course proposal that actually explains what you will be doing in your lab.

Contract Terms:
- The student must be engaged actively in research activities and will not be engaged primarily in clerical, clinical or laboratory maintenance tasks.
- The student's project must provide the student with some measure of independence and fall within the research area of the student's faculty mentor.
- A student may enroll in only one SRP (99) course per term.
- 3-5 hours of work per week is the equivalent of 1 unit. 6-10 hours of work per week is the equivalent of 2 units. A student may earn a maximum of 2 SRP (99) units per term.
- For 5-week summer sessions, 5-6 hours of work per week is the equivalent of 1 unit, and 10-16 hours of work per week is the equivalent of 2 units.
- Only six units of SRP (99) credit can be applied toward degree requirements. A student may enroll in an additional 4 units of SRP (99) but will receive no credit toward degree.
- Up to four units of SRP (99) course work may count toward the College Honors unit requirement. However, SRP (99) course work will not satisfy the regular Honors Collegium course requirement for College Honors. Please see College Honors in A-311 Murphy for details.
- The student agrees to submit an evaluation form for this course before a grade is assigned and credit awarded.
- One faculty mentor may not sponsor more than ten (10) students enrolled in an SRP (99) in any one term.

Page 1 of 2

Image Description: SRP 99 Contract

Need help with your CV and cover letter?

- Resources to assist you with your written materials:
  - Career Center
  - Writing Center

UCLA Career Center

WRITING PROGRAMS
UNDERGRADUATE WRITING CENTER

Questions to ask when interviewing with a lab

- Who will be supervising & training me?
- How is the project structured?
- What techniques and equipment will I be using?
- What safety training(s) do I need to complete?
- What time commitment is expected?
- How many people are currently working in your lab?
- **Are hours flexible during exam season? (Remember, you are a student first!)**
- What literature can I read in preparation?

Finding a Research Opportunity: Recap

1. Undergraduate Research Portal
2. Contact Faculty Directly
    1. Browse department websites
    2. Record faculty contact information
    3. Prepare a cover letter and CV
    4. Email faculty

- Aim for at least 5-10 faculty to contact or opportunities to apply for

What can I do after I begin research?

- Conducting research opens the door for many opportunities
- Earn course credit
- Apply for research programs, fellowships, and scholarships
- Present your work at a conference
- Join a student organization/club

Undergraduate Research Week (May 2023)

- **Apply to participate by April 15**
- **Undergraduate Research & Creativity Showcase**
  - Recorded and live-streamed presentations and creative exhibits/multimedia
  - Virtual event hosted on the URW website
- **In-person and virtual departmental events across campus:** https://urweek.ugresearch.ucla.edu/

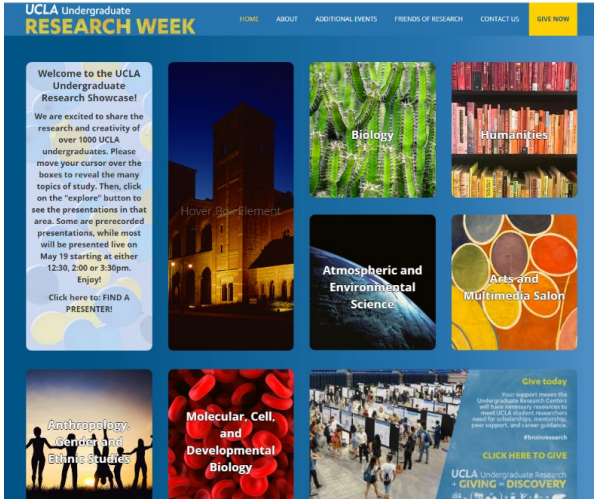


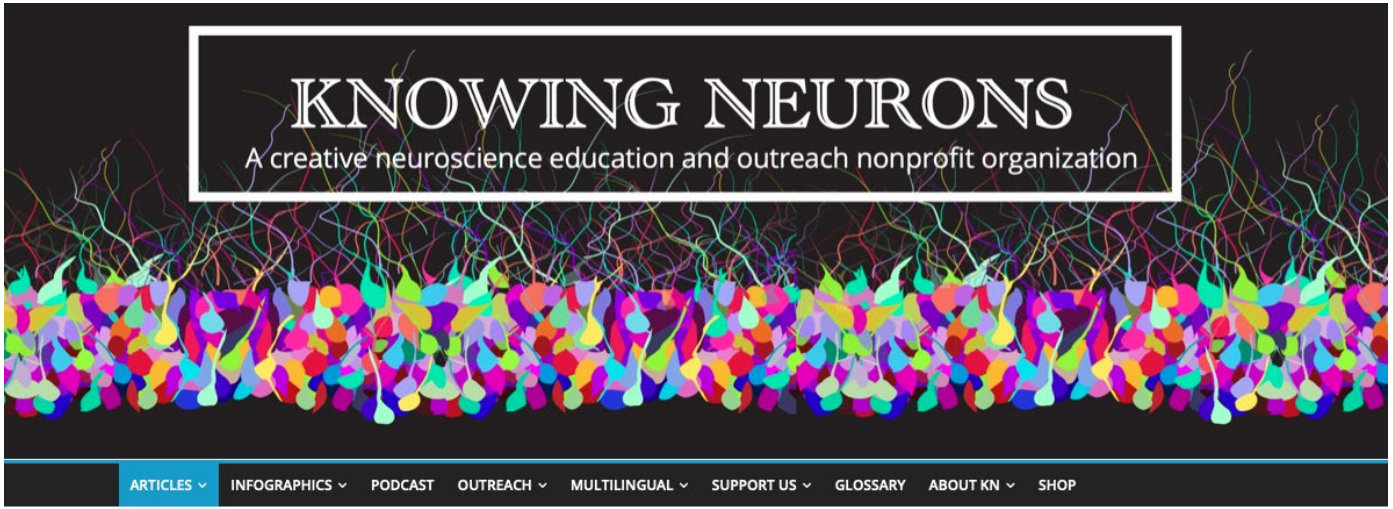
Image Description: Showcase website

Sign up for our mailing list

- Scan the QR code or sign up online at ***sciences.ugresearch.ucla.edu***
- Receive information on upcoming scholarships, programs, events, and resources

Email: urcsciences@college.ucla.edu
Website: science.ugresearch.ucla.edu
Facebook: @uclaurcsciences
Instagram: @ucla_urcsciences

More Neuroscience education resources



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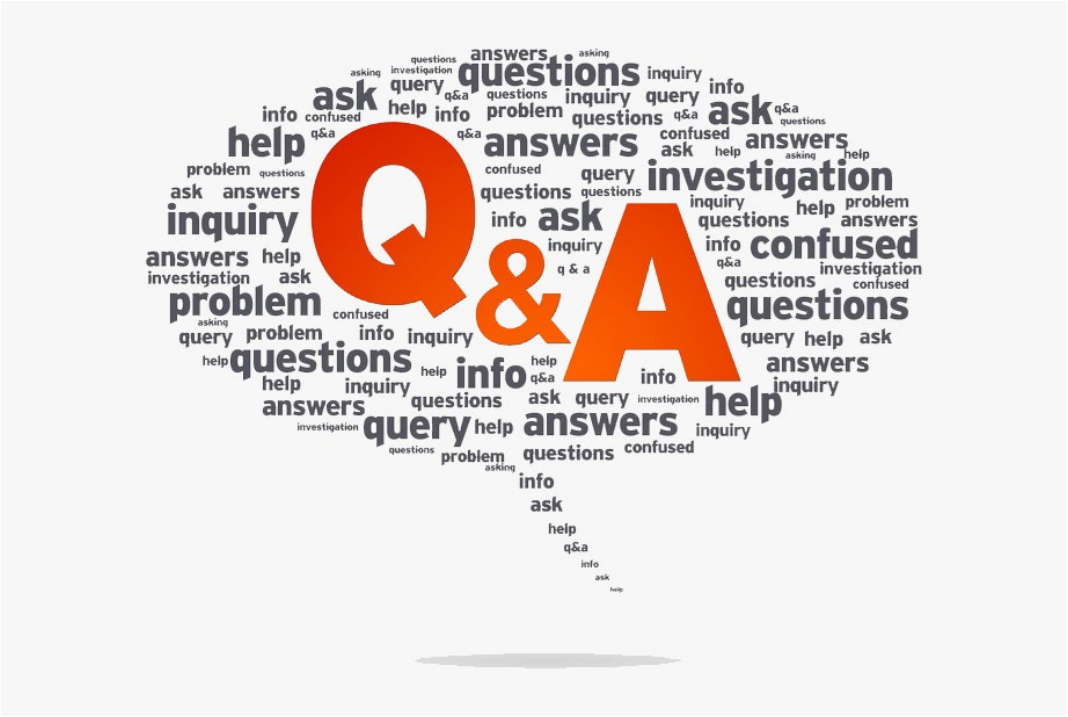
Undergraduate Education

Research Centers – Sciences



How do I get credit for working in a lab?

How to earn Academic Credit

- SRP-99 (URC-Sciences)
- Departmental 199's (Academic departments)
- Neuroscience 199A & B or 198A & B (major capstone)

How to earn Academic Credit

SRP-99

- Entry-Level experience
- 1-2 units of lower division credit
- Must be a full time student in good academic standing
- Pass/No Pass
- Create a contract on MyUCLA (can choose Neuroscience or the department your lab/PI is based in)
- Contracts are due to the Undergraduate Research Center-Sciences by Friday of Week 2 (via MyUCLA Message Center).

How to earn Academic Credit

199's

- More advanced, independent and a greater time commitment
- Can earn a letter grade for 4 units of credit
- Requires a thesis at the end of the quarter
- Administered by the department of the faculty advisor/PI.
- Option for students who want to earn upper division credit for research, but are not yet ready to begin their Neuroscience capstone.

Neuroscience Major Capstone Requirement

Neuroscience Capstone Options

NEUROSC 199A/198A & NEUROSC 199B/198B

- Prerequisites: NEUROSC M101A & SRP 99 or 199 with same lab
- Contract course for 2 consecutive quarters
- Faculty sponsor must have an academic senate title
- Paperwork due Friday of Week 1
- 4 units each. Letter grade given at the end of Neuroscience 199B or 198B for 8 units.
- Only available in Fall, Winter, and Spring and must be taken in consecutive quarters

Neuroscience Capstone Options

What is the difference between NEUROSC 199A/B & NEUROSC 198A/B?

Both fulfill the neuroscience research capstone. However, NEUROSC 198A/B is for students pursuing departmental honors. If you are a part of the departmental honors program, this is the contract you will create and enroll in.

In addition to all of the requirements of a NEUROSC 199A contract, students completing NEUROSC 198A will be enrolled in an honors seminar, NEUROSC 191H in winter, and complete an honors thesis after NEUROSC 198B (requires a second faculty reader).

Neuroscience Capstone Options

How to Enroll

Step 1. Download Neuroscience 198A or 199A contract from MyUCLA.

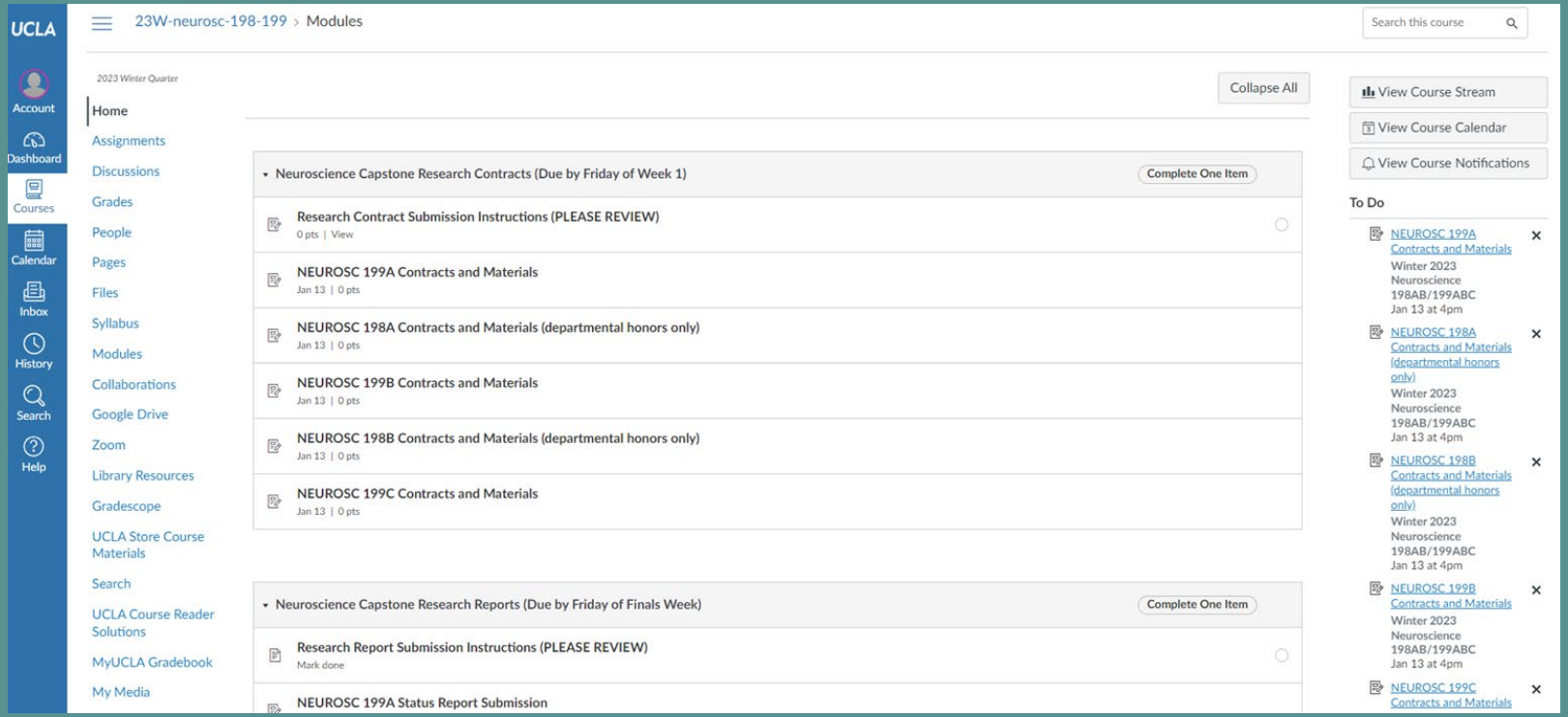
Step 2. Complete Supplemental Outline - 198A/199A Supplemental Outline Instructions

Step 3. Fill out Faculty Sponsor Form (different forms for 199A/B and 198A/B)

Step 4. Get Faculty mentor to sign BOTH the MyUCLA contract and a faculty sponsor form.

***Submit all documents as a single PDF by **4pm Friday of Week 1** to the Bruin Learn website.*

Quick Glance at the Bruin Learn Site!



Neuroscience Capstone Options

Laboratory Methods

(1) NEUROSC/PSYCH M116A or PSYCH 116B (offered every quarter and over the summer)

- Pre-requisites: NEUROSC M101A, M101B (NEUROSC M101B can be taken concurrently)

(2) Additional major elective from any elective category

- Students who choose this option must take a total of 4 upper division electives.

Neuroscience Capstone Options

Project Brainstorm Capstone (NEUROSC 192BX)

- Project Brainstorm is a two-quarter outreach and research project offered to Juniors and Seniors in which you have an opportunity to develop teaching lessons on Neuroscience that you present to local K-12 students. Capstone students also develop a research project and present at Neuroscience Poster Day.

- Project Brainstorm meets Thursdays, 9:00 am – 11:50 am in both the Winter and Spring quarters.

- If you are interested in doing Project Brainstorm over two quarters to fulfill the Neuroscience Major Capstone Requirement, please download and submit the application when it becomes available in Fall Quarter.

Questions? Contact Dr. Babiec at babiec@ucla.edu

Neuroscience Capstone Options

DOPA-Team (NEUROSC C177 & 192CX)

- Successful applicants will enroll in two sequential courses: NEUROSC C177 ‘Drugs of Abuse: Translational Neurobiology’ in winter quarter and NEUROSC 192CX ‘Drug Abuse and Society: Conveying Concepts to High School’ in spring quarter

- Students will be given the opportunity to choose a drug category and translate the academic knowledge acquired in C177 into an age-appropriate and interactive presentation and hands-on activity for high school students.

- Students will be required to present findings at the annual Neuroscience Poster Day.

Questions? Contact Dr. Romero at raromer@ucla.edu.

Additional Resources

Additional Resources

- Undergraduate Neuroscience Weekly Emails & Website
  - Check for new position openings
- Biomedical Research Minor
- NUS Lab Placement Fair
  - End of the quarter
- Neuroscience 23rd Annual Poster Day
  - Always the month of May

Zoom Drop - In Hours for Capstone & Contract Questions

Jaclyn

- Wednesdays & Fridays from 2:00 - 3:00 p.m.
- Zoom Link: https://ucla.zoom.us/j/92010241489?pwd=MTUzeVNDaFY0MGtKMFZCY0NVRCtsZz09
- Log-In Information:
  - Meeting ID: 920 1024 1489
  - Passcode: Neuro1!

Aftin

- Tuesdays from 9:00 - 11:00 a.m.
- Zoom Link: https://uclahs.zoom.us/j/99081164475?pwd=ZFJFTGpHbzhHYzEyV3VJb2xtTVV6Zz09
- Log-In Information:
  - Meeting ID: 990 8116 4475
  - Passcode: NeuroW22

Questions?