

Student Guide to PSYC 300: Methods and Analyses Core Project

What is PSYC 300?

PSYC 300 (Methods and Analyses Core Project) is a research-based course in [the psychology curriculum](#). Students may enroll in PSYC 300 after completing PSYC 200 (with a grade of C- or better), and prospective majors are encouraged to do so as soon as possible after completing PSYC 200.

PSYC 300 is best conceptualized as a “how to” course. In other words, the focus of the work is on *how to put the principles that you learned in PSYC 200 into practice* in the pursuit of new scientific knowledge. This course will challenge you to read, think, and behave like a psychological scientist.

What should I expect to do while taking PSYC 300?

In PSYC 300, you will work closely with a psychology faculty member to conduct research in a sub-discipline of psychology (e.g., aging, clinical, cognitive, developmental, health, neuroscience, social, etc.). The major learning objectives of the course will be met through hands-on research activities within that sub-discipline, which may include literature reviews, study design and programming, data collection and analysis, and disseminating results through the creation and presentation of research posters and papers. Students across lab sections of PSYC 300 will also meet jointly to review, discuss, and deepen our collective understanding of general research topics (e.g., principles of research design, research ethics, working with community members) and to participate in colloquia with invited speakers. The course culminates in a department-wide research poster session in which PSYC 300 students will report the results of their project-based work during the semester.

As with all 1-unit courses at the University of Richmond, PSYC 300 students are expected to devote **10-14 hours per week** to course activities, including attending scheduled lab meetings and colloquia, completing assigned readings, working on assignments, and completing research-related tasks (e.g., data collection, scoring/coding, etc.). In addition to the **M and W 12:00-1:15pm time slots** that are reserved for this course, you should expect to work with your faculty mentor to identify **additional “lab hours,” during which you will be working in the lab** to complete research-related tasks. **NOTE: BECAUSE THIS IS A HANDS-ON COURSE, YOU WILL SPEND SIGNIFICANT TIME IN THE LAB.**

Am I required to take PSYC300?

Psychology majors are required to take PSYC 300 to fulfill the major requirements. Psychology minors (regardless of their date of UR enrollment) may take PSYC 300 to fulfill one of their elective courses for the minor (provided they have not yet taken PSYC 361), though they are not required to do so.

How does PSYC300 benefit me?

PSYC 300 is designed to increase the rigor of the psychology major and to further develop the methodological and analytical knowledge that you gain in PSYC 200. It does so by providing an opportunity for you to work closely with a faculty mentor in an intensive, research-based course that requires considerable “hands on” (or experiential) learning. Students who complete this course will be able to contribute to and evaluate scientific research with greater skill and confidence. And, for all students, regardless of their career plans, it is expected that PSYC 300 will foster your intellectual curiosity, creativity, critical thinking, sense of community and inclusivity, and skill in interpersonal communication, and better prepare you to excel in your post-college life.

For students who are planning to apply to graduate school in psychology or a closely related field, it may also be useful to conceive of PSYC 300 as a stepping-stone in your undergraduate psychology career. Completing at least one unit of PSYC 300 by your junior year may better position you to pursue a Summer Research Fellowship following your junior year, which in turn would lay the groundwork for completing a senior research project or honors thesis the following year. Your academic advisor would be happy to help in planning such a timeline for your undergraduate career.

How do I register for PSYC 300 (first time students)?

First-time PSYC300 students register for PSYC300 during the typical registration rotation but you will need to prepare by learning more about each lab.

1. Review the descriptions of the labs and faculty mentors that are open for registration (**see below**). Feel free to contact individual mentors to ask questions about their lab.
2. Create a ranked list of your lab/mentor preferences, including the CRN number. Just like with FYS, we recommend you have backups in case your preferred lab is full.
3. Register for a lab/mentor during your registration rotation. Note that additional registration slots will be reserved specifically for first years and sophomores.
4. If you were unable to register for a P300 slot during the registration period, please contact course coordinator Dr. Jane Berry (jberry@richmond.edu) for additional assistance.

I have a course conflict. Can I still register for PSYC 300?

No. PSYC 300 is scheduled for M and W, 12:00-1:15 p.m. During these hours, you will be expected to attend lab meetings and colloquia and to be present and available for other course-related work. So, it will not be possible to receive course conflict overrides.

Can I take PSYC 300 more than once?

Possibly. **With an instructor's permission**, you may repeat PSYC 300 for credit. You should contact your specific instructor for an override.

For psychology majors: If you did so, the second unit would count toward the major requirement for "three electives at the 300 or 400 level." Note though that no more than two units of 300-level research coursework (PSYC 300 and/or PSYC 361) may be applied to the major.

For psychology minors: If you did so, note that the second unit would not count toward your minor requirements. No more than one unit of 300-level research coursework (PSYC 300 and/or PSYC 361) may be applied to the minor.

What is the difference between PSYC 300 and PSYC 361?

PSYC 300 (Methods and Analyses Core Project) and PSYC 361 (Independent Research) are similar in that both involve working closely with a psychology faculty member to conduct research and are situated at the 300-level of the curriculum. However, PSYC 300 is required for majors (whose date of first enrollment at UR was in Fall 2017 or later, including transfer students), whereas PSYC 361 is not. PSYC 300 is also a traditionally graded course, offered only as a 1-unit option, whereas PSYC 361 is offered only as pass/fail, with .5-unit and 1-unit options.

Where can I find out more about each lab?

Information about faculty members' labs and research programs are available on [the psychology website](#) and below.

What if I still have questions about PSYC 300?

If, after reviewing the information here, you still have a question about PSYC 300, you may email the Course Coordinator, Dr. Jane Berry (jberry@richmond.edu).

Faculty Research Lab Descriptions (Updated F2024) (in alphabetical order)

Berry Lab | [Dr. Jane Berry](#)

Since 2020, students in the Berry Lab have focused on questions related to support for the Black Lives Matter (BLM) movement. We are interested in who supports BLM and why, and whether support for BLM has changed over time. Our initial interest focused on age and race as predictors of BLM support, and has expanded to include beliefs about race, racism, color-blindness, white privilege, policing, Blue Lives Matter, All Lives Matter, Critical Race Theory, political affiliation, and more. Earlier work in the lab focused on ageism, stereotypes of aging, memory, and metacognitive aging; some of this work is ongoing. Our methods include in-person behavioral tests and online surveys, with quantitative and qualitative data collection. Students in the Berry Lab learn how to design their own research questions, interact with human research participants, collect and analyze quantitative and qualitative data, and share their results in the public domain, through presentations and/or publications. Through these activities, students gain an appreciation for the rigors and joys of “doing science.” The Berry Lab thrives as an inclusive community of collaborators who welcome diverse ideas and discourse.

[Beyond Categories Lab](#) | [Dr. Cindy Bukach](#) The Beyond Categories Lab explores the factors that influence the way the brain becomes specialized for categories, and what happens when expertise for categories fails to generalize. For example, we are currently investigating how racial bias and other-race effects emerge and transform with changes in experience, task demands, and context. The lab uses both behavioral and cognitive electrophysiology to identify the organization and timing of cognitive processes associated with categorization. This enables us to identify and target methods to ameliorate other-race bias. This research is important because categorization has a profound impact on how information is processed in the brain, which in turn influences how we perceive, interpret, and act upon that information. One of the specific aims of the Beyond Categories lab is to provide students with an opportunity to participate in neuroscience research. The lab is currently engaged in a multi-institutional effort to build a database of electrophysiology experiments and measures of individual difference in personality, experience, psychological and physical wellbeing that can be used to answer a variety of questions connecting brain and behavior. See [PursueERP.com](https://pursueerp.com) for more information.

Knouse Lab (KNAB) | [Dr. Laura Knouse](#)

The Knouse Lab investigates the cognitive, emotional, and behavioral processes that contribute to effective and ineffective self-regulation. In collaboration with Dr. Shweta Ware in computer science, our main ongoing project uses Ecological Momentary Assessment—where participants complete multiple short questionnaires per day on their cell phones—to understand how avoidant thoughts contribute to procrastination and gathers information from participants’ smartphones to better understand ADHD in daily life. Students working in the KNAB should be prepared to keep a comprehensive lab notebook, to accurately, professionally, and ethically conduct study sessions with participants at several regular times each week, and to fulfill their commitments to the work of the lab.

Kochel Lab | [Dr. Karen Kochel](#)

Interpersonal theories of developmental psychopathology posit that relationship disturbances have the potential to interfere with adaptive functioning. In the Child Developmental Science lab, Dr. Kochel study how interpersonal relationships influence - and are influenced by - indicators of psychological adjustment among children through emerging adults. In 2024-2025, Dr. Kochel and her students will work on *The UR Belonging Project*, a [multi-institutional, Howard Hughes Medical Institution \(HHMI\) grant-funded project](#). A key aim of this project is to learn about and improve UR students’ sense of belonging.

[Behavioral Neuroscience Lab](#) | [Dr. Kelly Lambert](#)

In general, behavioral neuroscience explores the connections among the brain, behavior and environment. In the UR behavioral neuroscience lab, we are interested in experience-based neuroplasticity--such as the neurobiological effects of parenting experience, enriched environments, and effort-based reward contingency training. We use various behavioral tasks with our rodent (rat) model; most behaviors are monitored with a computerized observational system. Additionally, endocrine assays are conducted on fecal samples to quantify targeted hormone levels and immunohistochemistry techniques are used for neural analyses. Various microscope-computer stations are provided in the lab to quantify stained neural tissue. Because our experimental model is the rat, students will be trained to handle

and care for laboratory rodents before commencing research. **Consequently, students need to be comfortable handling animals to conduct behavioral neuroscience research.**

Lowder Language Lab | [Dr. Matthew Lowder](#)

What's going on in your mind right now to allow you to comprehend the sentence you're reading? The primary focus of the Lowder Language Lab is to understand the cognitive processes involved in language comprehension. Students will learn how to use eyetracking technology, which allows researchers to monitor participants' eye movements as they read sentences or view other visual stimuli. Our eyetracking experiments are designed to uncover how language processing occurs on a millisecond-by-millisecond basis. Some of the questions our lab investigates include: What are the memory processes involved in language comprehension? How do we process figurative expressions? How can we best account for individual differences in reading behavior? To what extent does the language comprehension system predict upcoming linguistic input? In addition to learning eyetracking techniques, students may be involved in behavioral experiments (e.g., asking participants to rate the acceptability or plausibility of sentences), corpus linguistics (e.g., investigating how frequent certain words or sentences are in the English language), and administering cognitive tests.

Lundberg Lab | [Dr. Kristjen Lundberg](#)

The Lundberg Lab explores the answers to questions such as: How do social group-based disparities relate to our social thoughts, feelings, and behaviors? Why do people sometimes act in prejudiced ways even when they intend to be fair? And, most critically, how and why do status-related disparities (i.e., inequalities) exist and persist? The focus of our work in 2024-2025 will be *The UR Belonging Project*, one part of a larger [multi-institutional, Howard Hughes Medical Institution \(HHMI\) grant-funded project](#) on belonging, persistence, and success among historically underrepresented students in STEM disciplines. A key aim of this project is to learn about and improve UR students' sense of belonging.

Nonterah lab (The EQUITY Research Lab) | [Dr. Camilla Nonterah](#) *The EQUITY (Exploring Questions Underlying Inequities in Transplantation with You) Research lab* uses both qualitative and quantitative data collection methods such as interviews, focus groups, and surveys to address questions within the field of organ disease and transplants. Students in the lab will learn about health inequities, health equity, solid organ transplantation, intersectionality, and positive psychology. Questions typically addressed include: How do demographic factors such as race, gender, and age impact a patient's ability to access health services and treatment? How can we better identify patients who are at risk for not accessing health services? What interventions can we develop to help reduce health inequities? What scenarios impact public decision making around organ donation? What positive psychology constructs do transplant recipients use? How is forgiveness displayed among certain African cultures?

Peifer Lab | [Dr. Janelle S. Peifer](#)

How do traumatic experiences shape how we engage with ourselves, others, and the world? Our lab examines outgrowths of trauma, adverse and adaptive responses such as resilience, post-traumatic growth, and thriving. Taking a culturally-intersectional approach, those in the lab investigate the ways that our identity (e.g., race, socio-economic status, sexual identity, gender), psychosocial considerations (e.g., mental health, self-efficacy), and life experiences can inform short and long-term outcomes.

[Robbins Visual Cognition Lab](#) | [Dr. Arryn Robbins](#)

Consider for a moment that throughout your day you are performing countless searches for objects and information in your environment. From looking for a favorite shirt in the closet, scanning through a Google search for important information, or searching for a social media app on a smartphone. The Robbins Lab focuses on this mental task (and other aspects of visual cognition), where the visual stream meets with memory. PSYC 300 students will learn how to use eye tracking and conduct behavioral research to address questions such as: How is attention guided through the environment during search for items we have never seen before? How do your unique experiences influence the way you look for items and information? Dr. Robbins's lab also addresses research questions in applied domains of visual cognition. For example, we are currently investigating approaches to improve search performance for professional searchers (e.g., radiologists, search and rescue teams, airport baggage screeners). We also want to know if technologies like eye tracking and computational methods like machine learning can facilitate performance for professional searchers.

Self & Society Lab | [Dr. Adam Stanaland](#)

Research in the Self & Society Lab explores the interplay between individual functioning and broader social norms, systems, and structures. More specifically, we test how the “self” is shaped by social norms and systems (e.g., rigid gender norms, racial stereotypes) and how these individual-level processes affect decision-making at the policy level (e.g., political bigotry, anti-LGBTQ+ prejudice, anti-environmentalism). In the Self & Society lab, we take a lifespan approach, which means that we explore social psychological phenomena (i.e., among adults) as well as the developmental origins of these processes (i.e., among children and adolescents). In any given semester, PSYC 300 students in the Self & Society Lab are working on research spanning a diversity of methods (e.g., behavioral in-lab experiments, “big data” projects, and community-engaged work) that aims to improve the lives of a diversity of people.