

Summer 2021 Course
PSYC 403 20

Psychology Research Experience-Based Learning (REBL) Syllabus: Summer Bootcamp

In this course you will be introduced to research practices in psychology. Below, I outline the learning goals for this experience, the expectations that accompany these goals.

Learning Goals:

The learning goals for your REBL course draw on all of the learning goals of the undergraduate psychology program (see https://psychology.georgetown.edu/undergraduate/handbook#Learning_Goals). Much of the work will target Goal 2 – Epistemological Foundations – because students will learn firsthand about the methods psychologists use for generating knowledge. Each specific research experience will also impart Foundational Knowledge (Goal 1) about the area of scientific inquiry in which you are participating, the skills and perspectives necessary to apply the knowledge to everyday life (Goal 3), and the Values in Psychology (Goal 4) involved in the ethical practice of research. Specifically, REBL will expect students to demonstrate progress in the following learning goals:

- Epistemological Foundations
 - Appreciating and using tools of inquiry such as quantitative analysis, experimental design, and qualitative analysis;
 - Communicate scientific understanding in oral and written form;
 - Engage with psychological inquiry through activities that include using primary literature to develop understanding and independent hypotheses, design and conduct studies to test hypotheses, interpret data and evaluate hypotheses and place findings into the larger scientific area.
- Foundational Knowledge: We expect students in REBL to deepen their understanding of one or more of the following themes that characterize the study of Psychology:
 - Development of the discipline, including the historical and philosophical roots of psychology as well as the “edges” of current knowledge;
 - Development of the individual, including understanding theories and empirical findings that illuminate current thinking about human development, the interaction between heredity and environment, and aspects of human development and behavior that are similar or vary across cultural, ethnic, gender, geographic, or other boundaries.
 - The ecological context of human development, including the theories and empirical findings that inform current thinking about the effects of different contexts on human development, including relationships, family life, culture, institutions and legal/political systems.
 - The biological and physiological aspects of psychological life, including the various theories and empirical findings that describe the relationship between the mind and the brain; between the brain and behavior; and that inform current knowledge about the nature of thinking (cognition), memory, emotion, and behavior.
- Application of Psychology
 - Apply diverse facts and theories from the laboratory to social institutions to everyday life;
 - Develop an understanding of limits and possibilities regarding how psychological principles and evidence can contribute to social and policy issues;
 - Understand the limits of applicability (e.g., generalizability, cross-cultural translation) and the hazards of premature or uncritical application of psychological principles and evidence.
- Values in Psychology, including but not limited to:
 - Evaluate psychological explanations and recognize that such explanations are inherently complex;
 - Recognize the evolving and cumulative nature of psychological explanations;
 - Understand and articulate the tentative nature of psychological knowledge and limits of its methods;
 - Follow the APA Ethics Code in the treatment of human and nonhuman participants in the design, data collection, interpretation and reporting of psychological research.

Expectations:

You will be introduced to general principles of psychology research and will then rotate in two labs to gain some exposure to specific ongoing research projects in the department of Psychology/

- First, that you will complete training in different components of research. This will involve discussions about assigned readings and completion of online ethics training materials. We will also discuss how to complete a research journal.
- Second, that you will commit to learn as much as possible during your lab rotations. You will receive training and an introduction to data collection and collation methods. The rotation will provide an introduction to different lab settings and there may be opportunities to join a research lab when you start at Georgetown.
- Third, that you will take your research rotation seriously as a commitment to your intellectual development. Being a good scientist is very difficult – requiring knowledge of scientific concepts, familiarity with scientific techniques, and the ability to think creatively and critically at the same time about new ideas, study design, and data analysis. There is no shortcut to success in all of this. Just time and effort.
- Forth, that you will take your research rotation seriously as an important intellectual commitment. Your research is likely to use human resources: you will find that you are mentored by different people in your research and taking your research seriously is a sign of respect for the time and expertise they are devoting to you.
 - One marker of a serious research commitment is the quality of your weekly research journal. You will keep a research journal during your REBL rotations, and this journal should be orderly, detailed, and complete. It must document your work such that anyone could pick it up and reproduce what you had done. You will complete the research journal. I will review the journal and we will use it as the basis for group discussion.
- Fifth, that you will embrace your research rotation as an opportunity to be a member of a scientific community. Your research community may be local and/or dispersed around the world (check the literature!), so your project doesn't exist in isolation. Hence your responsibility isn't just to yourself: you are responsible to a much larger community, and the quality of your research will influence the work of others. Scientific communities flourish best as intellectual democracies where all members are needed to help each member advance on their own path – and to advance our progress toward our common goals. You'll learn both from what others teach to you as well as from what you teach to others.
- Fifth, that you will embrace this course as an opportunity to engage with science. In many course settings, you are rewarded for what you know – and thus most of your efforts are directed toward gaining knowledge. In research, knowledge is just the starting point, and you are rewarded for your ability to creatively build on that knowledge. You will start to learn practices to build that knowledge.

Timeline

Week 1: Basic training

On canvas, you will be assigned basic topic readings on psychological research.

Topics

-Ethics training and Internal Review Board

CITI will take a few hours to complete, as there are quizzes to every section, and you have to complete each section's quiz with a passing score (70% or above). Here is the info on how to complete it:

1. Follow the link: <https://www.citiprogram.org/default.asp>
2. Create a username and password, answer registration questions (selecting Georgetown as your institution).
3. When you get to the CITI Course Enrollment Questions:

- Question 1: click on "Group 2: Social and Behavioral Research Investigators and Key Personnel."
- Question 2: Skip the second question (not applicable, it only applies to those working with lab animals)
- Question 3: Click Not at this time, thank you.
- 4. Continue with Georgetown as your institution.
- 5. Now you will be at your main page, and you'll see the "course" you've enrolled in. When you are ready to get started, click "Enter" (under Status).

- Working with human subjects
- Open Science Practices

Week 2: Lab tours

Readings: You will be assigned brief illustrative readings explaining ongoing projects for each lab.

This week you will spend each day touring different labs.

e.g. Tour Early Learning Project

- Introduction to Family Media Ecology Project
- Introduction to Bilingual Project

Week 3-5

Lab rotations.

Readings: You will be assigned lab specific readings to support your training.

You will spend 3 weeks in one lab

- You will go to the lab each day and learn specifics of that lab.
 - Each week you will attend **lab meeting** and team meetings. This is essential.
 - Some of this time will be spent reading the scientific literature relevant to your lab's research.
 - The remainder should be devoted to learning a particular technique specific to the lab. This work will include basic but essential research tasks, including but not limited to:
 - data entry/cleaning
 - recruitment, scheduling and managing participant-based research
 - learning to use a complex coding system
 - learning about data analysis;

Grading:

The REBL Summer boot camp course will be graded on a Pass/Fail basis. To pass, however, students must meet all expectations and engage with your REBL activity consistently.

Research Journal: Each student in REBL will keep a research journal. The journal serves two purposes: 1) to record the tasks the study does each day the student works on the REBL project. This recording should include a meticulous recounting of all the tasks and steps within tasks – from basic to high-level – the student completed and the length of time it took to complete that work; 2) to reflect on what the student learned that week about the topic under study or research more generally in doing the work. In this way, the research journal is both a log of the work completed and a reflection on the learning that took place during that work. Students should consult with faculty mentor on the best method for keeping a research journal; acceptable methods could include electronic tools such as ToggI or paper and pencil notebooks.

- Each day your will complete your research journal and each week we will meet for a review of your research journal.

Final presentation and written reflection. On the final day of class, each person will present their work summarizing the main things that they have learned on their lab project to the class. Each student will also write a written reflection.

The last page of this document is a signature form that defines your REBL project specifications and that requires the signatures of you, your mentor (both internal and external if appropriate), and the Director of Undergraduate

Studies in the Psychology Department. You are expected to make a sufficient number of copies of the signed form such that all signatories can be given a copy – and the Dean’s Office can receive a copy, too.