

Cognitive & Comparative Psychology (CCP) – CUNY PhD Training Handbook *Fall, 2022*

Mission Statement

The Cognitive and Comparative Psychology training area at CUNY is chiefly concerned with the study of cognitive and behavioral processes across the animal kingdom. Our basic belief is that a more complete understanding of psychological processes can often be achieved by considering such processes within an evolutionary context. In some cases, those processes will be highly specialized and in other cases they will be quite general, and we welcome analyses of the diversity of psychological processes by studying cognition and behavior at multiple levels of investigation with humans as well as with other animals.

Students and faculty in the CCP training area conduct research to understand the functions and mechanisms of cognition and behavior in human and non-human animals. We work on perception, memory, attention, creativity, concepts, learning, decision-making, language acquisition and processing, and communication across species. We take an integrative approach that combines cognitive, evolutionary, ecological, and comparative frameworks to answer fundamental questions about the proximate and ultimate causes of cognition and behavior. We use a variety of methods – observations, experiments in the field and the laboratory, neuroscience, and computational modelling. We prepare students for careers in academia (research and teaching), as well as in health, education, business, and industrial settings.

Program of Study

The CCP curriculum is a 5-year program. Students will engage in research every semester in the form of independent research or dissertation research. In addition, students will take other required courses in their first 2-3 years within the program. This will leave the final two years to research-only work leading up to the dissertation defense in the 5th year. Throughout their graduate careers students are encouraged, in addition to their formal course work, to participate in various conferences in their research area (both at CUNY and in their academic community, more broadly), to collaborate with their supervisors in writing papers for publication, and to apply for grants and/or fellowships (internal to CUNY or external). Also, it is important to realize that the program can guarantee, in one form or another, funding for up to 5 years. However, funding in year 6 or beyond is not guaranteed.

Initially, students will identify a supervisor, laboratory, and faculty advisory committee within their first year of study (the sooner the better). They will complete all their required coursework within the first 2-3 years, they will successfully defend their 1st Doctoral exam prior to the beginning of the spring semester of their 2nd year, they will successfully defend their 2nd Doctoral exam in their 3rd year, they will defend their Dissertation Proposal in their 4th year, and they will successfully defend their Dissertation in their 5th year. More detailed information concerning each of these milestones appears below. In addition, the GC webpage has a “Forms and Procedures” page (<https://www.gc.cuny.edu/psychology/forms-and-procedures>) that the

student and their supervisor will need to consult to complete all administrative requirements for each milestone. Some of these will require special forms to be completed and submitted to the Psychology PhD Executive Office at the GC. The student and their supervisor should notify the CCP Training Area Director once each milestone has been completed.

CCP Curriculum

All students enroll in PSYC 70500 Statistics I (3 cr) and PSYC 70600 Statistics II (3 cr); PSYC 79900 Ethics (3 cr, or its equivalent); PSYC 77100 Teaching of Psychology (3 cr); and PSYC 80102 CCP Colloquium (2 cr each semester for Years 1 and 2) for a total of 20 credits. There are two additional required core courses: PSYC 73800 Cognitive Psychology (3 cr), and PSYC 71600 Animal Behavior 1 (3 cr). Beyond the core requirements, students must take 3 elective courses (3 cr each), with at least 2 of these electives from within the CCP training area, and independent research courses each term (3 or 5 cr each) until they reach at least 60 credits. Elective courses are chosen through consultation between the student and the student's advisory committee. Course selection must be approved by the student's advisory committee.

CCP is a mentor-based and research-focused training area, so students are expected to enroll in Independent Research (PSYC 80200 for first-year students and PSYC 80206 otherwise) each semester until they have completed their credit requirement for Level III. Students are encouraged to take at least one independent research course with a faculty member who is not their primary advisor. Once a student has completed at least 60 credits, successfully passed their 1st and 2nd doctoral exams, and submitted their Dissertation Topic Proposal, they register for PSYC 90000 with their supervisor each term to continue work with their internal Dissertation committee on their Dissertation Proposal and, ultimately, their Dissertation. There are specific requirements, and it is the responsibility of the student and their supervisor to follow closely the guidelines posted on the Psychology PhD Program webpage (Forms and Procedures page) before scheduling the dissertation defense.

Special Note on Transfer Credits:

For students who enter the CCP program having taken prior graduate courses, some of those graduate courses may qualify for transfer credits. For example, if students have already taken the equivalent of our Stats 1 and 2 courses (either at one of the CUNY Colleges or at another university) they can request to be granted transfer credits exempting them from taking these courses while in the CCP PhD program. In addition, up to 1 or, in rare cases, 2 additional courses can be transferred as electives providing that they are relevant to the CCP program. In all cases, the student and the student's advisor should direct any course transfer requests to the CCP Training Area Director. In consultation with the CCP Executive Committee, the CCP Training Area Director may support the students petition for transfer credits. There are special forms that need to be completed and submitted (see the Forms and Procedures page on the CUNY Psychology PhD program webpage) for any transfer credits to take effect.

Example Path to degree

****bolded*** lines below represent program milestones

Academic Year One

- Take required core Cognitive Psychology course (73800)
- Take required core Animal Behavior I course (71600)
- Take required Statistics I (70500) and II (70600)
 - a. These statistics courses satisfy a GC requirement, and it is possible to take different statistics courses to satisfy the same requirement (discuss with your committee)
- Form advising committee consisting of a chair (your advisor) plus two other CCP faculty. Meet at the end of the first semester, and end of first year.
- Take two semesters of Independent Research (80200); this forms the basis of the 1st doctoral examination
- Take the CCP colloquium series course (80102)
- Advisable: a. Apply for NSF or NIH pre-doctoral fellowship b. Submit abstract for poster presentation at annual GC Psychology Research Day c. Have the majority of work for first doctoral exam finished so you can complete the exam in a timely fashion.

Academic Year Two

- **Pass the 1st doctoral examination before the completion of 45 credits, typically before the second semester of the second year (paper and oral defense)**
- Take Ethics (77100) and Teaching of Psychology (79900) a. These are GC requirements, and there may be other course options to satisfy these requirements (discuss with committee)
- Take two semesters of Advanced Independent Research (80206)
- Take CCP Colloquium series (80102)
- Take two CCP electives (consult with committee about other possible options)
- Establish topic for 2nd doctoral exam; create committee; create reading list
- Advisable: a. Prepare and submit paper (likely based on first year project) for publication. B. Apply for doctoral student research grant c. Submit abstract for poster presentation at a non-CUNY conference

Academic Year Three

- Move to **Level II status (completion of 45 credits and 1st doctoral examination)**
- Develop independent research project in consultation with 2nd doc committee (which can differ from the 1st doc committee)
- Take Advanced Independent Research each semester (80206)
- Take one additional CCP elective in either semester
- **Complete second doctoral exam (literature review or grant proposal & oral defense)**
- Advisable: a. Submit abstract for poster presentation at a non-CUNY conference b. Complete another research project and submit a paper for publication in a peer-reviewed journal

Academic Year Four

- **Move to Level III status (completion of 1st and 2nd doctoral examinations, coursework, and dissertation topic proposal), and register for Dissertation Supervision (90000)**
- Establish CUNY-internal dissertation committee (which can differ from the 1st and 2nd exam committees)
- **Submit dissertation proposal within 6 months of completing 2nd doctoral exam**
- Continue research project stemming from dissertation proposal
- Advisable:
 - a. Submit abstract for talk at a non-CUNY conference
 - b. Submit an additional manuscript for publication in a peer-reviewed journal
 - c. Assemble letters, CVs, website, and other material for job search
 - d. Apply for dissertation-year fellowship

Academic Year Five

- Complete research based on dissertation proposal
- Submit chapter(s) from dissertation to a journal
- Submit abstract for talk at a non-CUNY conference
- Begin search for faculty, post-doctoral, industry, non-profit, or other positions
- Complete doctoral dissertation committee (including external reader(s))
- **Complete, submit, and defend dissertation**
- **Deposit dissertation and attend commencement before September**

CCP learning goals

A student in Cognitive and Comparative Psychology (CCP) who has successfully achieved a doctorate in Psychology will show competencies in the domains of understanding, contributing to, and communicating scientific knowledge. In particular, a student will:

1. Demonstrate broad and specialized knowledge in the student's chosen area within Cognitive and Comparative Psychology, including the ability to:
 - a. Read and critically evaluate the research literature
 - b. Describe current and classic theories and findings within a specific sub-field, and explain how theories accommodate available findings
 - c. Design a study to address a major unresolved research problem
2. Demonstrate appropriate quantitative, observational, and computational skills for data generation (conducting studies) and data analysis.
3. Make an original contribution to the field.
4. Demonstrate abilities to explain theory and data in written and oral forms, including:

- a. Writing a journal-quality manuscript and submitting it for publication to a peer-reviewed journal
 - b. Delivering conference presentations
 - c. Giving an undergraduate lecture
 - d. Writing a grant application for external funding
 - e. Completing a doctoral dissertation
5. Interact effectively and collegially with others in the field and conform to the fundamentals of ethical research conduct.

Assessment of Learning Goals

Each of the five principal learning goals are assessed across three major examinations taking place throughout a student's doctoral career. The following sections describe how each examination measures each of the learning goals. Each examination is assessed by a committee of faculty members assembled by the student.

First Doctoral Examination

The First doctoral exam is a **written exam and oral presentation** taken by the end of the student's third semester (and no later than the accrual of 45 credits). The student writes a publication-quality paper, preferably in APA style, and delivers a short (e.g., 20 minutes) presentation of the work to the committee.

There are two options for the paper, empirical paper OR review paper. Students discuss their choice of paper with their first doctoral committee. The scope of the project should be tailored so that it can be completed in the first year.

1. **Empirical paper option:** Conduct an empirical project that is approved by the student's advisory committee and address a question in the field. The extent of the project should be appropriate to the laboratory in which the research is being conducted. Complete an analysis of the results. Write a publication quality APA-style research paper.
 - a. Peer-reviewed publication is NOT a requirement for completing the first-doc. For example, students could write-up null results in the event that the outcome of the research project was not as expected
 - b. There is some flexibility in determining the nature of the research project, this should be done in consultation with the first doctoral examination committee, who will approve the project. For example, it may be permissible to analyze an existing data set as a means to test a novel theory.
2. **Review paper option:** Students have a choice of writing a publishable quality literature review aimed at critically assessing published research in any subfield of cognitive and comparative psychology. The topic of choice should be approved by the student's advisory committee.

Every portion of the writing of the exam must be original, even if existing data sets are used. The advisory committee that will grade the exam and determine whether the student has

passed or failed. **The first doctoral exam should be completed soon after the end of the first year and no later than the end of the first semester of the 2nd year.** If a student fails their written or oral 1st doc exam, they will be given one more opportunity to pass by the end of the 2nd year.

Learning goals assessed (1,3,4,5)

- Learning goals #1 and #3. To complete the First Examination, students spend at least one year reading and critically evaluating the literature (1.a), determining a specific research question that addresses a debate in the field (1.b), and then designing and conducting an experiment to test the research question (1.c).
- Learning goal #2. The successful completion of a first doctoral exam entails appropriate statistical analysis of collected or existing data.
- Learning goal #4. Students are required to produce a journal quality manuscript (4.a), and to give an oral presentation to communicate their findings (4.b).
- Learning goal #5. Students will form their committee in consultation with their primary advisor and have their proposed research approved by the Institutional Review Board in order to conduct the planned research. Students will meet periodically with their advisor and committee to assess their progress.

Special Note for Students Entering the Program with a MA or MS Degree:

The first doctoral exam will be based on new information collected from the time the student enters the PhD program. Thus, if students enter the program having already obtained an MA or MS degree (either from a CUNY college or another university), then their 1st doctoral exam will be based on new information. The empirical paper option for the 1st doctoral exam must be based on new data and the review paper option must be based on new material and literature since the student entered the PhD program.

Second Doctoral Examination

The Second Doctoral Exam is written in the student's fifth and sixth semester (third year). The Second Exam involves a **written exam and oral presentation**. There are two options for completing the 2nd doctoral exam, and the option taken by the student is discussed in consultation with the committee for the 2nd doctoral exam. The options are NRSA style grant OR literature review.

1. **NRSA style grant:** The student writes an NIH NRSA grant proposal (6 single-spaced pages in length) and follows NIH guidelines concerning supplementary materials; the student proposes at least two feasible new experiments. A grant proposal to another funding institution (e.g., NSF Graduate Research Fellowship Program) may be substituted for an NRSA proposal with the agreement of the student's advisor and committee.

2. **Literature Review:** The student writes an integrative literature review (which in the ideal case will serve as basis for the introduction to the student's thesis). The review is approximately 30-50 double-spaced pages using 12-point type and 1-inch margins.
Note: if the student's 1st doctoral exam was a review paper, then they must choose the Grant option for their 2nd doctoral exam.

The student orally presents and defends the material written for the Second Doctoral Exam. **The 2nd doctoral exam should be completed at the end of the 3rd year, and the student should move to level III at the beginning of their 4th year (e.g., complete 60 credits, submit Dissertation Topic Proposal, and register for Dissertation Supervision (90000))**

Learning goals assessed (1,3,4,5)

- Learning goals #1 and #3. The review portion of the second exam establishes the student's ability to summarize and critically evaluate a specific topic in depth (1.a, 1.b), and integrate their view of the topic within the broader scope of the literature. The grant proposal and experiment proposal sections establish the student's ability to identify an area in the literature where a contribution to new knowledge would be valuable, and to motivate an appropriate study that will fill the gap in knowledge.
- Learning goal #2. In performing the tasks of grant writing and proposing new experiments, students will demonstrate their ability to plan a strategy for data-handling and statistical analysis before conducting the experiments.
- Learning goal #4. Students are required to produce a journal quality review paper (4.a), and to give an oral presentation to communicate their findings (4.b), and to produce a grant proposal for external funding (4.d).
- Learning goal #5. The grant-writing requirements assess the student's ability to motivate their research to their peers.

Dissertation Proposal

A dissertation proposal must be defended in the semester following the passing of the Second Doctoral Exam. The student must select an internal dissertation committee of at least 3 CUNY faculty members affiliated with the CCP program. An additional non-CCP faculty member may be added to the committee providing that they are on Doctoral Faculty through the Graduate Center. One of these committee members will be the dissertation supervisor. The proposal lays out the basic plan of the thesis in enough detail for the committee members to determine the feasibility of the project, the appropriateness of the proposed methods and scope, and the suitability of the research questions. The committee may recommend changes to improve the progress of the thesis work. Students are expected to continue to work closely with their supervisor and dissertation committee. The Dissertation Proposal should not be confused with the Dissertation Topic Proposal. The Topic Proposal is a 1-page document (see Forms and Procedures web page on the Psychology PhD program website) identifying the general topic and committee membership. The Dissertation Proposal, on the other hand, spells out the

general plan for the dissertation project. This document (e.g., up to 50 pages) could include the general introduction to the dissertation, along with the specific plan for experiments and data analyses.

Dissertation

The dissertation, or thesis, is expected to be completed no later than the end of the student's fifth year in the Psychology PhD Program. The thesis asks a coherent set of questions, and the expectation is that work described in the thesis would form the basis for 3 individual publishable papers in a peer-reviewed journal.

The thesis is formatted according to the [GC template](#). In general, it includes an introduction motivating the work, a series of empirical chapters, and a general discussion. If the student has already published three peer-reviewed manuscripts that will form the bulk of the thesis, these manuscripts may be inserted as the empirical chapters (formatted according to the [GC template](#)). In that case, it will be expected that the thesis has additional written material bridging those empirical chapters.

Dissertation Defense

Dissertation defenses are arranged once the dissertation committee has determined that the student is ready to defend their thesis. Defenses are open to the public. **In addition to the internal 3-member committee, the student should have at least one external reader outside of CUNY.** Readers are arranged in consultation with the dissertation supervisor, but special forms are to be submitted before a defense can be scheduled. The Psychology Executive Office will be contacted at least 1 month prior to any planned dissertation defense date, and all procedures must be followed prior to a date being set (see Forms and Procedures web page at the Psychology PhD program web site). Once all the documents have been appropriately submitted for scheduling the defense, then it can proceed. The defense will take the form of an approximately 30-minute presentation by the student, followed by questions from anyone attending the defense. The committee may ask some questions in public and others with only the student in the room.

Learning goals assessed (1, 2, 3, 4, and 5)

In order to have successfully completed the dissertation the student will have:

1. Designed an experimental or theoretical approach to an unresolved research problem in any area within cognitive or comparative psychology in humans or non-human animals. (1.a, b, c, & 3).
2. Identified and initiated a research design appropriate to that approach, including critical controls (1.c & 2).
3. Mastered the methodologies required for data collection (1.c & 2).

4. Organized and presented the research data effectively in both oral and written forms (4.a, b, e).
5. Published one or more first-author papers in peer-reviewed journals (4.a).
6. Effectively defended the thesis and displayed an understanding of the current state of research in areas cognate to the thesis topic (1.a, b, 4.e, & 5).

Additional Information

En Route MA Degree

Once a student completes 45 credits and successfully defends their 1st doctoral exam, they can apply for an en route Master's Degree. This degree is conferred by the Graduate Center. See more information on the Forms and Procedures page at the Psychology PhD program webpage (<https://www.gc.cuny.edu/psychology/forms-and-procedures>). Please note that this option only applies to students who have not already earned a Masters degree at the time of admission to the program.

Lab Rotations

Lab rotations are not formally required; however, they are possible and encouraged in consultation with a student's advisory committee. For example, a student may wish to gain expertise by learning a method, or exploring another research domain, in another laboratory. This can easily be accomplished by making arrangements to complete one of the independent research, or advanced independent research courses with a different faculty member in CCP.

Taking Non-CCP Electives

Students are strongly encouraged to register for CCP electives, as these courses will likely be most germane to their topics of study. Occasionally, a student may decide in consultation with their committee that a different elective should be taken in place of one of the CCP electives. This decision is made by the student's committee with approval from the CCP training area director. However, at least 2 of the 3 electives must be from the CCP program. Taking more than 3 electives is permissible.

Forming an advisory committee

Students should form an advisory committee as soon as possible in their first year, typically within the first month. The advisory committee will consist of the primary advisor, along with at least 2 other CCP members. Additional GC faculty can also be invited to join the committee. The committee should meet with the student at the end of the first semester and first year to discuss student progress. After the first year, the committee should meet at least once per year to discuss student progress. Typically, the yearly meetings could also occur at the same time the committee meets for an examination (e.g., first doc, second doc, etc.). The composition of the committee may change flexibly across the years as the student's research program comes

into focus. In particular, the faculty members serving on the student's 1st doc, 2nd doc, and dissertation committees may be the same or different.

Funding

As noted above, the PhD program can guarantee, in one form or another, funding for up to 5 years. Students admitted to the CCP program within the Psychology PhD program are generally admitted with one of two types of funding packages from the CUNY Graduate Center. One of these is called a Tuition Fellowship (TF) and the other is called a Graduate Center Fellowship (GCF). Both funding packages last 5 years. See the Graduate Center web page for more detailed information on both of these types of awards (<https://www.gc.cuny.edu/fellowships-and-financial-aid/doctoral-student-funding/prospective-doctoral-student-funding>).

Tuition Fellowship: For the TF, the CUNY Graduate Center pays the student's tuition costs only. For non-international students, the Graduate Center will pay the student's tuition at the in-state tuition rate after the 1st year. Thus, it is assumed that the non-international student will establish New York residency within the first year of study. If non-international students fail to establish residency prior to the start of their 2nd year they will be responsible for the difference between in-state and out-of-state tuition. See the Psychology Department webpage for more information on this. For international students, the Graduate Center will pay for the student's tuition each year at the foreign student rate (i.e., their complete tuition costs each year).

Graduate Center Fellowship: For the GCF, the CUNY Graduate Center pays the student's tuition costs and provides a stipend for 5 years. Again, it is assumed that the student will establish NY residency in their first year of the program. The stipend amount is currently (Fall, 2022) set at \$27,115 per academic year. In addition, students are eligible to purchase low-cost NYSHIP health insurance. During Years 2, 3, and 4 of the GCF students are expected to teach undergraduate courses at one of the CUNY colleges according to a "Teaching Graduate Assistant B (Grad B)." Importantly, the Executive Officer of the Psychology PhD program arranges for teaching placements at one of the colleges. The chair of the Psychology Department at that college arranges for specific teaching assignments. Note: Every effort is made to place the student at the College location of their faculty mentor and lab. However, it is possible for a student on a GCF to be assigned to teach at a different location from where their lab is located. In Year 5 of the GCF, the student is assigned to be a Writing Across the Curriculum (WAC) Fellow at one of the CUNY colleges.

All students entering the CCP PhD program are funded through one of these funding packages. This is determined by the CCP Graduate Admissions Committee at the time the student enters the program. However, for those funded with a TF every effort is made to provide students with additional College-based funding. This can take the form of Graduate Assistant A, B, C, or D awards at one of the CUNY colleges. The salary schedules for each of these awards is located

at the PSC-CUNY website (<https://psc-cuny.org/Graduate-Assistants-Salary-Schedules>). The specific salary awarded to the student is entirely up to the Chair of the Psychology Department at the CUNY college, in question, and the Dean of that college, but that salary amount conforms to the PSC-CUNY salary schedule appropriate for the relevant Graduate Assistant line (e.g., A, B, etc). Every effort is made to provide College-based Graduate Assistant funding for 5 years, but that is re-evaluated each year. The other source of funding that students are free to explore is through Adjunct Teaching at one of the CUNY Colleges. The current Adjunct Teaching salary rate is also listed on the PSC-CUNY web page (<https://psc-cuny.org/content/adjunct-and-hourly-professorial-rates>). Finally, an additional source of funding may be through individual faculty members' grants, where there is a possibility that students could be hired as research assistants.

Graduate Center Dissertation Fellowship: In the student's 4th year, they are encouraged to apply for a 5th year Provost's Dissertation Fellowship (<https://www.gc.cuny.edu/fellowships-and-financial-aid/doctoral-student-funding/current-doctoral-student-funding>). This is a highly competitive program run through the GC Provost's office, and is especially designed for students at Level III who are looking to complete writing their dissertation and defending it during their 5th year. The award is currently worth up to \$25,000, and it carries no teaching or WAC obligations.