

# Cognitive Science Graduate Program Guide

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## 1 USEFUL LINKS

Class Hour Schedules:	.....	<a href="#">Link</a>
Office of Graduate Education	1516 Peoples Ave [8:30AM-4:30PM]	<a href="#">Link</a>
Office of Graduate Education Forms	.....	<a href="#">Link</a>
Registrar Forms	.....	<a href="#">Link</a>
Rensselaer Catalog	.....	<a href="#">Link</a>
Academic Calendar	.....	<a href="#">Link</a>
Academic Regulations	.....	<a href="#">Link</a>
Course Descriptions	.....	<a href="#">Link</a>

Note that the requirements in this document emphasize those specific to the Cognitive Science Doctoral and Master’s programs. These requirements are in addition any general requirements of the Office of Graduate Education, which may be listed at:

<https://info.rpi.edu/graduate-education>.

## 2 M.S. REQUIREMENTS

The Master of Science in Cognitive Science requires the completion of coursework selected with the guidance of the Faculty Advisor as well as the completion of a Master’s Thesis or Master’s Project under the guidance of a Master’s Committee headed by the Faculty Advisor.

Applications for the Master of Science in Cognitive Science will be accepted from:

- Doctoral students in the Cognitive Science program whose Faculty Advisor recommends or requires the completion of a Master’s Thesis or a Master’s Project as a prequel to work towards a Doctoral Thesis. The Faculty Advisor requirement must be communicated to the student and the Graduate Program Director before the end of a student’s 3rd semester, and preferably by the 2nd semester.
- Doctoral students in other Rensselaer Doctoral programs who wish to work with Cognitive Science Faculty to acquire expertise in cognitive science research methods and domain theories which complement those in their home discipline.
- Rensselaer undergraduates admitted to the Cognitive Science "Co-Terminal program." For general information about the Co-Terminal program see: <https://info.rpi.edu/co-terminal>. For specific information, contact the HASS Graduate Program Administrator.

### 2.1 Types of Master’s Students

#### 2.1.1 M.S.: For Cognitive Science Doctoral Students

A Master’s degree is optional for doctoral students. Students may receive a Master’s degree in Cognitive Science providing the student completes the Cognitive Science coursework for the doctoral program and completes an approved Master’s Project or

Master's Thesis. The Master's degree may be awarded on the way to a Ph.D. or independently of the Ph.D.

### **2.1.2 M.S.: For Other Rensselaer Doctoral Students**

Students in other programs may wish to work with Cognitive Science Faculty to acquire expertise in cognitive science research methods and domain theories which complement those in their home discipline. This option is especially valuable for students who anticipate that their future research will touch on cognitive science theories or issues and might be greatly enriched by gaining an "insider's" perspective on the skills, theories, and techniques required for cognitive science research.

### **2.1.3 M.S.: Co-Terminal Students**

**CogSci Majors.** It is rare, but not unheard of, for Rensselaer undergraduates who are Cognitive Science majors to apply to the Co-Terminal program. Rensselaer Cognitive Science majors who are interested in pursuing a Ph.D. will be well-prepared to apply to Ph.D. programs in Cognitive Science at any major university in North America or Europe, including the Rensselaer Doctoral program.

**Rensselaer Students who are NOT CogSci Majors.** Rensselaer undergraduates who are not Cognitive Science majors but who have taken some coursework in Cognitive Science, Psychological Science, or Philosophy programs are encouraged to explore the Co-Terminal program in discussions with department Faculty and/or with the Graduate Program Director.

## **2.2 M.S.: Course and Credit Requirements**

In common with the Ph.D. program, all course selections are expected to be made in consultation with the faculty advisor (see Section 3.2). The typical number of credit hours for a M.S. in Cognitive Science is 30. All Master's students are expected to register for the weekly *Research Problems in Cognitive Science* seminar (COGS 696X) during each semester of the program and to register in their first year for the *Cognitive Science Professional Seminar* (COGS 696X).

## **2.3 Master's Project or Master's Thesis**

A Master's Project requires the investigation of an original research problem under the supervision of the student's Faculty Advisor and Master's Committee. The planned project should be agreed in advance with the Advisor and Committee. A written report is required and must receive a passing grade by the Advisor and Committee in order to complete the Master's Project. The Committee for a Master's Project is at the discretion of the Graduate Program Director (GPD), with no formal requirements on number and type of members. If Master's Project materials are to be archived in Rensselaer's library, although the term Master's Project may be used, the student must instead meet all the requirements below for a Master's Thesis.

A Master's Thesis is a more formal version of the Master's Project requirement, with the advantage of creating an official thesis catalogued in the library. The following rules apply as of Fall 2021 and may be updated by the Office of Graduate Education. A Master's Thesis

committee must be formed in consultation with the GPD and approved in advance by the Office of Graduate Education. The committee must include three faculty members in Cognitive Science, including a committee chair or co-chair who is a tenure-track or tenured faculty member. The written Master's Thesis must be given to the advisor and committee members by a published Office of Graduate Education deadline, typically about 5 weeks before the end of classes in the semester of program completion. An oral presentation, termed a "defense" follows. In a traditional thesis defense, the entire committee must be present at the defense and will decide whether the student has passed the defense. Optionally, the defense may take the form of a program seminar or Institute seminar, in which case a presentation announcement must be posted publicly within the Cognitive Science department (electronically or by paper copy) at least two weeks prior to the date of the presentation, and a copy of the announcement must be included when the student submits the Record of Master's Thesis Presentation to the Office of Graduate Education. Again, the entire committee must be present at the defense and will decide whether the student passes the defense. Alternatively, a presentation may be given at a conference or symposium, in which case a copy of the announcement and schedule must be included when the student submits the Record of Master's Thesis & Oral Presentation to the Office of Graduate Education, and the committee chair or co-chairs must approve whether the defense is passed. The committee may require changes to the written Thesis, so updates must be made as the committee may require, with the updated document submitted to the Office of Graduate Education by a deadline shortly, perhaps a week and a half, after the deadline for the submission to the advisors. Specific deadlines are shown on the Institute's academic calendar. A Master's Thesis is subject to Institute-level formatting requirements, which have been stringently vetted by the Office of Graduate Education. Follow formatting requirements rigorously; see Rensselaer's [Preparation Manual for Dissertations and Theses](#). The Office of Graduate Education may require revisions to meet these requirements. The Office attempts to provide feedback with sufficient time for students to fix formatting requirements, but to avoid delay in graduation, it is important to follow the formatting guidelines and to make and submit corrections thoroughly and promptly, for the specific problems pointed out by the Office of Graduate Education and for any other formatting problems they may have overlooked.

#### **2.4 M.S.: Learning Outcomes**

The successful student in the Master of Science in Cognitive Science program will:

- (a) Cultivate a mentor-mentee relationship with a faculty member in that faculty's area of expertise.
- (b) Demonstrate mastery of the research literature most relevant to the investigated topic.
- (c) Demonstrate understanding of the methodological approaches most appropriate to the topic as well as the threats to the reliability and validity of these approaches.

- (d) Conduct some combination of problem analysis, data collection, data analysis, and/or modeling (as appropriate to the research question of interest) under the guidance of the Faculty advisor
- (e) Produce a Thesis or Project following the form and format expected by other researchers in the area of interest (in consultation with the Faculty Advisor)
- (f) Present and defend the thesis in an oral presentation that is open to the academic community

## 2.5 Leaving the Program

Doctoral students who will leave the Ph.D. program prior to completion of the doctorate may receive a Master's in Cognitive Science if all requirements of the Master's degree are fulfilled with the approval of the student's committee.

## 3 PH.D. REQUIREMENTS

### 3.1 Overview: Continuous, Annual, and Milestone Requirements

The Ph.D. in Cognitive Science is the highest professional degree awarded by the Rensselaer Department of Cognitive Science. With it students may advance to university teaching and research, and to careers in industrial or government research, with a solid foundation of knowledge and an ability to carry through original investigations in Cognitive Science.

The major (1) annual requirements, (2) continuous requirements, and (3) milestones in the Ph.D. program are:

- ANNUAL: Writing requirement
  - All Cognitive Science doctoral students are expected to write and encouraged to publish at least one paper each year.
  - This requirement may be fulfilled in a number of ways. Examples include:
    - \* Survey paper written for the graduate advisor,
    - \* 1<sup>st</sup> author paper submitted to a major research conference (there is no requirement that the paper be accepted),
    - \* 1<sup>st</sup> author paper submitted to a quality journal (there is no requirement that the paper be accepted)
    - \* Other major publication alternatives approved by the student's graduate advisor.
  - All such papers should be noted in the student's annual evaluation and registered with the Graduate Program Director (GPD).
- CONTINUOUS: Research Requirement
  - All students should be involved in research each semester, taking at least one research credit of *Readings in Cognitive Science* (COGS 6940), *Master's Project*

(COGS 6980 – generally only for a terminal, non-Thesis Master's degree), *Master's Thesis* (COGS 6990), or *Doctoral Thesis* (COGS 9990) each semester under supervision of their faculty advisor. For work on the *Research Qualifying Exam (RQE)*, students may register with their faculty advisor for 1-4 credits of COGS 6940 (Readings in Cognitive Science) and/or COGS 6990 (Master's Thesis – only for those students who expected to complete a M.S. on the way to the Ph.D. – see Section 2) each semester until this requirement is completed.

- ANNUAL: Presentation at the Wednesday Noon Speaker series
  - Each graduate student is expected to prepare and deliver at least one research talk each Academic Year to the Department's Wednesday Noon Speaker series. It is expected that newly-admitted students will provide overviews of a research area of interest to them whereas continuing students will provide a research presentation.

### 3.2 Ph.D.: Course and Credit Requirements

Course and research credits must be chosen with the advice and approval of the Cognitive Science advisor and must constitute a coherent plan of study reflecting the student's goals in obtaining a Ph.D. in Cognitive Science.

Students must complete a minimum of 72 credits of coursework and research beyond the undergraduate degree.

- Each semester the student is expected to register for 2 credits in the weekly *Research Problems in Cognitive Science*, Wednesday, lecture series.
- All students are expected to complete one semester of the *Professional Seminar (ProSem)*, typically in their 1<sup>st</sup> semester. This can be delayed by permission of the GPD and consent of the student's Advisor.
- No student should take more than 12 credits each semester. Exceptions need to be okayed by the Graduate Advisor and approved by the GPD.
- If the student has a prior M.S., a total of 48 credits beyond the M.S. must be taken, including at least 12 course credits and at least 24 research credits. At least two thirds of the course credits must be at the 6000 level. Up to one third of the course credits may be 4000 level.
- Students who complete the required credits before completing their thesis work will need to continue to register for research credits to maintain full-time status and will be expected to continue taking credits and participate in the weekly *Research Problems in Cognitive Science* series. (Exceptions may be made by the Graduate Program Director for students who have completed *all but dissertation* (ABD) and have moved out of the Troy area for purposes of professional employment.)

- MILESTONE: Research Qualifying Exam (see Section 4)
  - by end of the 4<sup>th</sup> semester, preferably by end of the 2<sup>nd</sup> or 3<sup>rd</sup> semester
  - Students enrolled in the M.S. program concurrently with the Ph.D. program are expected to complete the first milestone, the *Research Qualifying Exam*, as the first part of their M.S. Thesis.
- MILESTONE (optional): Completion of Master's Degree
  - optional – see Section 2 above
  - by end of the 4<sup>th</sup> semester
- MILESTONE: Candidacy Exam & Dissertation Proposal
  - if *no* Master's in CogSci from Rensselaer, by end of the 3<sup>rd</sup> year
  - if Master's in CogSci from Rensselaer, by end of the 4<sup>th</sup> year
- MILESTONE: Dissertation Defense
  - if *no* Master's in CogSci from Rensselaer, by end of the 4<sup>th</sup> year
  - if Master's in CogSci from Rensselaer, by end of the 5<sup>th</sup> year

#### 4 THE RESEARCH QUALIFYING EXAM (RQE) – (PH.D. STUDENTS)

The RQE will be supervised by a committee consisting of the advisor and at least two other faculty members. The membership of the committee is informal and does not have to be approved by the Office of Graduate Education.

- Counts towards the annual writing requirement.
- Counts towards the annual presentation requirement.

##### 4.1 RQE: Committee Membership and Responsibilities

The RQE committee's sole responsibility is to approve the student's proposal for the Research Qualifying Exam and whether the student passes or fails the exam. Being part of an RQE committee precedes the formation of the master's or doctoral committee and does NOT imply that the faculty member has been asked or has agreed to be on either of those committees. It is recommended (but not required) that the three-person RQE committee include members expected to be on the student's doctoral committee.<sup>1</sup>

##### 4.2 RQE Options

There are two options for the RQE; (a) an integrative review of the technical papers in a research area or (b) the publication of an original research paper.

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<sup>1</sup> Please note that committee membership for the Doctoral Dissertation is not determined until sometime after the RQE is completed.

#### 4.2.1 Integrative Review

The advisor, preliminary committee, and student prepare a list of 15-25 technical papers in the research area. The student must read and understand these papers, and provide an integrative review (not an annotated bibliography<sup>2</sup>) of this body of work. These criteria are met by successfully completing two standard scholarly vehicles, a written paper and an oral presentation/exam.

#### 4.2.2 Original Research Paper

Alternatively, in consultation with the advisor the student may elect to write a research paper with the goal of submitting that paper to a professional conference or journal. The student would be first author on this paper and take the lead in writing. In addition to the written paper, an oral presentation/exam is also required.

Both options require an iterative process of writing, reviewing, and rewriting with the first rounds between the student and advisor. The documents submitted to the advisor should be polished work, not the student's first draft. The advisor will review and provide feedback on no more than two iterations. The paper will then be sent, by the Advisor, to the committee.

On their 1<sup>st</sup> round, the committee may (a) make a preliminary approval, (b) decide that the work does not meet scholarly criteria, or (c) return the paper to the student for improvements and another iteration. It is expected that many, if not most, first round papers will fall into category c and will be returned to the student for further work. On the 2<sup>nd</sup> round, the committee may (a) approve the paper or (b) decide that the work does not meet scholarly criteria. On either round, if the committee decides a the student may progress to the Oral Exam or if the committee decides b the case will be forwarded to the GPD. Note that on either round, for an acceptable paper [category "(a)" above] the committee may make suggestions for improvements that do not require another round of reading and review. Also note that the committee's decision on paper quality is absolute, regardless of whether or not the RQE work has been accepted for publication by a conference or journal.

#### 4.2.3 RQE: Oral Exam

After approval by the committee, the student will prepare for a public presentation and oral examination, with someone other than the research advisor chairing the exam. The presentation should be timed not to exceed 30 min. *Points of information* may be raised during the presentation as needed, but questions of substance will be deferred until after the 30 min presentation. After a period of questions by the committee and the audience, the committee will meet in private to discuss and vote on whether the student passes or fails. It is expected that normally the Oral Exam will be part of the *Research Problems in Cognitive Science* Wednesday seminar presentations.

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<sup>2</sup> If you do NOT understand the difference between an "annotated bibliography" and an "integrative review" be sure to discuss this point with your graduate advisor!



#### 4.2.4 RQE: Registration

For work on the *Research Qualifying Exam (RQE)* students may register with their faculty advisor for 1-4 credits of COGS 6940 (Readings in Cognitive Science) and/or, if the student is pursuing a Master's Thesis (not Master's Project) 1-4 credits of COGS 6990, for each semester until this requirement is completed.

#### 4.2.5 RQE: Timeline

Note that it is the responsibility of the student to keep the Graduate Program Director (GPD) apprised of the status of each of these steps.

- The three-person committee (including advisor) should be formed during the first semester of the student's Ph.D. program. With the advice and consent of the GPD, the committee members may be from any department at Rensselaer with up to one member being outside of Rensselaer.
- The preliminary reading list should be approved by the advisor, with input from the two committee members, by the end of the first month of the student's 2<sup>nd</sup> semester.
- The initial review and paper should be submitted to the graduate advisor by the end of the student's 2<sup>nd</sup> semester in the graduate program.
- Approval by the Advisor and the Committee of the paper (see Written paper above) should be completed by the end of the student's 3<sup>rd</sup> semester.
- The Oral Exam must be completed prior to the end of the 4<sup>th</sup> semester.
- Failure to complete any of these steps in a timely manner shall result in review headed by the GPD in consultation with the Advisor and Department Head, with a report being forwarded to the HASS Associate Dean for Graduate Studies.

#### 4.2.6 RQE: Changes or Amendments

Any changes or amendments to this policy for individual students must be approved by the Advisor, GPD, and Department Head, in consultation with the HASS Associate Dean for Graduate Studies.

## 5 MILESTONE: PH.D. CANDIDACY EXAM & DISSERTATION PROPOSAL

- When
  - if *no* Master's in CogSci from Rensselaer, by end of the 3<sup>rd</sup> year
  - if Master's in CogSci from Rensselaer, by end of the 4<sup>th</sup> year

For CogSci, the candidacy exam is the dissertation proposal. Working with his or her advisor, the student spends the third year (Ph.D. only) or fourth year (M.S./Ph.D.) developing a detailed understanding of the chosen research area, and preparing a research proposal. It is expected that a student will schedule a Candidacy Exam near the end of year 3 (Ph.D. only) or the end of year 4 (M.S./Ph.D.). The Candidacy Exam is an oral

exam focusing on a thesis proposal and administered by the student's doctoral committee. The student begins by presenting the thesis proposal and then is questioned by the committee. Other faculty may attend the exam, but do not vote on whether the student passes the exam. Faculty members not on the committee should make their intention to attend the exam known early so that a copy of the dissertation proposal can be given to them.

### **5.1 Ph.D. Year 4 and Beyond: Research Completion and Defense**

After the candidacy exam has been passed, the student must complete the proposed research, write the dissertation, and defend the dissertation, all under the supervision of the student's advisor. Throughout this time, the student should continue to discuss progress and results with committee members to reduce the possibility of "surprises" during the defense. (At the end of this document, please see "Table 1 – Planning Timeline for Completion of Ph.D. Dissertation.")

The dissertation defense is an oral examination that includes a presentation by the student of the major results in the dissertation. A student's doctoral committee establishes the specific format for this examination. The presentation of research results by the student is open to the public.

The defense should take place at least one year after the candidacy exam, in order to allow time to incorporate feedback from the candidacy exam. Students who wish to take the defense less than one year after the candidacy must contact the Graduate Program Director for approval.

The student is responsible for making sure that the dissertation is prepared according to Office of Graduate Education regulations. The [Thesis Writing Manual](#) defines these regulations.

### **5.2 Ph.D.: Choosing a Doctoral Committee**

The Ph.D. thesis is supervised by a single faculty advisor and overseen by a doctoral committee with at least four members. All doctoral committees must include: (a) One chair who must be a RPI tenured/tenure-track faculty member from within Cognitive Science. Non-tenure track faculty may serve as co-chair only; (b) Two committee members who are either tenured, tenure-track, or non-tenure track (lecturers, senior lecturers, and professors of practice) from within Cognitive Science; and (c) One outside member who can be a faculty member from another department at RPI, an individual from another institution, or a scholar in a discipline appropriate to the student's dissertation.

Students are encouraged to choose an outside member who is not a member of the RPI faculty.

Students may choose more than four members for their committee, if they wish. After students have chosen the members of their committee, they must fill out a Nomination of Doctoral Committee form. Students must get all committee members to sign the form,

and the Doctoral Committee must be approved by the Office of Graduate Education before the Candidacy Exam is scheduled.

For any committee members who are not RPI faculty members, you will also need:

1. The committee member's curriculum vitae, including a current mailing address. This must be included with the nomination of doctoral committee form.
2. A letter from the Graduate Program Director. The student's advisor must send a draft letter to the GPD and Graduate Program Administrator detailing the qualifications and suitability of the proposed committee member for your Ph.D. research topic. The GPA will work with the GPD on the letter and ask for clarifications as needed.

After the form is complete, including original signatures of the committee members, it must be delivered to the Graduate Program Administrator. The GPA will have the Graduate Program Director sign it. After the form has been signed, the GPA will put a copy in the student's file and send the original to the Office of Graduate Education.

Any changes made to the doctoral committee after the initial approval of this form by OGE must be requested by the student's Graduate Program Director, via memo, to the GPA, who will then submit the request to OGE.

If a member of a student's committee retires or otherwise leaves Rensselaer before the student's graduation, the person may continue to count as one of the full-time committee members if

1. The student graduates no more than one year after the professor's retirement, and
2. The Graduate Program Director requests an extension from the Graduate School.

## **6 MENTORING GUIDELINES AND RESPONSIBILITIES**

This is an outline of the interconnected responsibilities of students, program faculty, Committee Chair or Co-Chairs, Committee Members, and the Graduate Program Director at each stage of the student's passage through the graduate program. Clearly, every situation is different, and many mentoring practices cannot, or should not, be standardized. However, these guidelines provide a basis for all parties responsible for student success.

### **6.1 General Responsibilities**

#### **PROGRAM (PROGRAM FACULTY, UNDER THE LEADERSHIP OF THE GPD):**

- Make program guidelines, timelines, and procedures for completion of degree requirements explicit and available to the student and the program faculty.
- Provide annual assessments of all full-time students in the program; set up mechanisms to provide feedback to students on their progress. Maintain records on attrition and time to degree.

- Supervise advising so that all students have a faculty adviser who is aware of program requirements and available on campus.
- Recognize that students are apprentice scholars, teachers, and researchers, and support them accordingly; inform students of opportunities for research and professional development.
- Provide oversight for and advice on grant applications to maximize the positive impacts on the professional development of the student.
- Develop a community within the program and create opportunities for faculty and students to come together to discuss common issues—academic, ethical, pedagogical, professional—and to present their work to colleagues.
- Ensure that all students are aware of funding opportunities, especially external sponsorship (e.g., training grants) and fellowships.

**FACULTY ADVISOR (ACADEMIC OR RESEARCH):**

- Know program and university guidelines and requirements.
- Be available for consultation. Initiate contact with students. Attend program colloquia and social events.
- Seek support for students through research grants; advise students on seeking and writing proposals for external fellowships and research support.
- Respect students' ideas and abilities. Encourage students to become intellectually independent.
- Transmit the skills, norms, and ethical values of the discipline to students; recognize that faculty members are often role models for graduate students.
- Provide opportunities for students' intellectual and professional development. In particular, facilitate student publishing opportunities.
- Be mindful of the advisor's position of authority, and do not enter into relationships with students outside of the scope of their role as students. See Rensselaer's Faculty Handbook and Employee Handbook for Institute policy on relationships between faculty and students.

**STUDENT:**

- Be committed to a high standard of excellence and integrity in all graduate work; follow the guidelines for academic integrity in the Rensselaer Handbook of Student Rights and Responsibilities.
- Know program guidelines and expectations.
- Learn independently when possible; seek guidance when needed. Respect faculty members' time.
- Learn to manage time so that all responsibilities are met.

- Seek funding to supplement institutional and faculty sources of support.
- Participate in program colloquia and other events.
- Respect the interpersonal boundaries set by the advisor and other professors.

## **6.2 Coursework**

### **PROGRAM (PROGRAM FACULTY, UNDER THE LEADERSHIP OF THE GPD):**

- Publish accurate course descriptions.
- Provide the courses needed to fulfill university and program requirements so that students can complete coursework in a timely manner.
- Work with the department head and deans to manage faculty leaves so that adequate course offerings are available.
- Periodically assess the content and workload of graduate courses.

### **FACULTY ADVISOR OR COURSE INSTRUCTOR:**

- Know the sequence of courses that students must take to progress through the program satisfactorily.
- Recognize that graduate students often look to faculty members as role models for their own teaching.
- Conduct classes in a way that encourages students to learn creatively, independently, and rigorously.
- Indicate clearly how all work will be evaluated.
- Return all graded work promptly.

### **STUDENT:**

- Work closely with a faculty adviser to develop a Plan of Study that provides the necessary grounding in the field to allow timely progression to the dissertation stage.
- Attend classes regularly and work industriously.
- Complete all assignments honestly and in a timely fashion, working independently when expected or in teams when appropriate.

## **6.3 Examinations**

### **PROGRAM (PROGRAM FACULTY, UNDER THE LEADERSHIP OF THE GPD):**

- Provide broad general guidelines for exam preparation.
- Inform students early in their graduate careers of the number and kinds of examinations they will be expected to take.
- Ensure that the examinations are fair from year to year, both in developing and in evaluating them.
- Set up procedures so that examinations are evaluated and returned in a timely manner.

**FACULTY ADVISOR (ACADEMIC OR RESEARCH):**

- Work closely with students to develop appropriate methods to prepare for examinations and help them draw up realistic reading lists as necessary.

**STUDENT:**

- Maintain acceptable progress toward the degree by taking the Research Qualifying Exam and scheduling the Candidacy Exam (dissertation proposal defense), as soon as possible.
- Block out the necessary amount of time for sufficient preparation for examinations and stick to the schedule.
- Work with peer study groups to prepare for examinations or with individual faculty members to plan a course of reading as appropriate.

**6.4 Dissertation/Research****PROGRAM (PROGRAM FACULTY, UNDER THE LEADERSHIP OF THE GPD):**

- Help students find a faculty member to Chair and/or Co-Chair their dissertation committee.
- See that committee members and students work together amicably so that students may complete degrees expeditiously.
- Treat students as apprentice researchers and teachers, whose efforts require guidance and supervision by qualified faculty.

**RESEARCH ADVISOR (COMMITTEE CHAIR AND CO-CHAIR):**

- Help students create appropriate dissertation committees.
- Work collaboratively with any committee Co-Chair.
- Work with the student to develop a suitable topic on a problem that the student has participated in defining.
- Provide students with a full range of experiences possible in an academic setting to ensure that they will be prepared to succeed professionally.
- Teach students the research methodologies and the library and field skills that will enable them to become capable, independent scholars.
- Help students to understand the ethical implications of the research in which they are engaged, and provide them with the appropriate professional, federal, and university guidelines that govern its conduct.
- Discuss collaborative issues such as ownership and sharing of data and laboratory notebooks, attribution of contributions to the research, and policies on patents and copyrights. Acknowledge students' contributions fairly.
- View students as apprentice researchers, not as technicians.

- Recognize that providing fellowship or assistantship support to students does not entitle faculty members to ask students to perform personal or other nonacademic services.
- Read and comment on submitted proposals and chapters promptly.

**DISSERTATION COMMITTEE MEMBERS:**

- Attend committee meetings and defenses when scheduled.
- Provide guidance on the content and structure of the Research Qualifying Exam and dissertation proposal.
- Read and comment on submitted proposals and chapters promptly.

**STUDENT:**

- Conduct research honestly and report it accurately. Acknowledge the contributions of others. Maintain accurate research records.
- Know and adhere to relevant professional research guidelines.
- Adhere to established timetables and work to complete the degree in a timely manner. Keep advisor and program director informed of results and progress toward the degree.
- Respect the adviser's desire for confidentiality concerning research that has not yet been reported.
- Acknowledge that faculty members have a responsibility to maintain high scholarly standards; be open to suggestions for revising or rethinking research issues.

**6.5 Professional Development****PROGRAM (PROGRAM FACULTY, UNDER THE LEADERSHIP OF THE GPD):**

- Keep records on placement of graduate students and continue to track students after graduation.
- Facilitate activities addressing training students to prepare for job search.
- Inform students of the wide range of nonacademic professional opportunities and how to prepare for such careers.

**COMMITTEE CHAIR, CO-CHAIR, AND DISSERTATION COMMITTEE MEMBERS:**

- Help students find positions when they complete their degrees.
- Give students advice on the range of career opportunities available and on how to prepare for such careers.
- Facilitate students' networking at conferences.
- When providing references for students, do so promptly and thoughtfully.
- Advise students on preparation of proposals for professional conferences and manuscripts for publication.

- Help students develop the necessary writing and analytic skills to enable them to publish their research results.

**STUDENT:**

- Participate actively in academic conferences.
- Prepare and submit articles for publication.
- Give faculty members adequate advance notice when requesting letters of recommendation.
- Take advantage of the workshops and services offered to assist in the job search.
- If employed as a teaching assistant, maintain a teaching portfolio to document teaching activities.
- Join appropriate professional organizations.
- Be aware of and prepare for a broad range of career opportunities, both academic and nonacademic.

**7 PLANNING TIMELINE FOR COMPLETION OF THE PH.D.**

The following table is for guidance purposes only. It defines faculty expectations in the Cognitive Science Department. However, it is not a contract. You need to work closely with your Graduate Advisor to define their expectations for your timetable.

Keep in mind that the Ph.D. Dissertation is a research project. Research cannot be produced on a clockwork schedule. You should expect delays, iterations, additional analyses, additional experiments. The goal of the Dissertation in the Cognitive Science Department is not simply to pass a hurdle, but to demonstrate your ability to produce professional quality research that represents an intellectual contribution to your research community, and which will be presented to your research community via a high quality journal and/or conference presentation.

Get your Candidacy Exam done quickly, then likewise try to be well ahead of schedule for your Dissertation Oral Defense. Delays happen, but falling behind schedule for the Candidacy Exam and Dissertation Oral Defense can create problems of student status and of funding, and can signal potential career difficulties.



**Table 1** – Planning Timeline for Completion of the Ph.D.: **NOTE that “things change.” Be sure to refer to the Academic Calendar for OGE’s dissertation submission deadlines for the semester you expect to complete your thesis.**

Step/Milestone	Completion Time		Comments
	M.S./Ph.D. Track	Ph.D.-only Track	
Research Qualifying Exam (RQE)	Paper to advisor by end of 2nd semester; Paper approved by advisor and committee by end of 3rd semester; Completion of oral exam no later than end of 4th semester	Paper to advisor by end of 2nd semester; Paper approved by advisor and committee by end of 3rd semester; Completion of oral exam no later than end of 4th semester	Integrative Review or Original Research Paper; Requires Department approval
Nomination of Master's Thesis Committee	By end of 5th semester	N/A	Requires Department and OGE approval
Completion of Master's Project/ Thesis	By end of 6th semester (3rd year)	N/A	Project Requires Department approval; Thesis requires Department and OGE approval
Nomination of Doctoral Committee	7th semester	5th semester	Requires Department and OGE approval <u>prior to</u> Candidacy Exam
Candidacy Exam (Dissertation Proposal Defense) approved by Advisor (may be written or oral)	7th semester	5th semester	Advisor may take several weeks to return comments, and the candidate should plan accordingly. Candidates must incorporate suggested edits.
Candidacy Exam (Dissertation Proposal Defense) approved by Dissertation Committee & OGE	By end of 8th semester (4th year)	By end of 6th semester (3rd year)	Requires Doctoral Committee and OGE approval. Deadline one year before the Dissertation Oral Defense (exceptions require Graduate Program Director approval and may create problems with OGE).
Dissertation draft to Advisor; Comments from Advisor; rewrites by the Candidate	9th semester	7th semester	Candidate should expect a minimum of one and maximum of two iterations between Advisor and Candidate. Advisor may allow more than two iterations before sending paper to committee, but this is not recommended. Candidate should verify expectations with their advisor. Advisor may take several weeks to return comments, and revision given comments could take a busy one or more months, so the candidate should plan accordingly.

Step/Milestone	Completion Time		Comments
	M.S./Ph.D. Track	Ph.D.-only Track	
Final Dissertation draft to Advisor	~10 weeks prior to dissertation submission deadline	~ 10 weeks prior to dissertation submission deadline	Advisor will need time to approve the final draft before it is sent to the Committee.
Final Dissertation draft to Committee (following advisor approval)	~8 weeks prior to the dissertation submission deadline	~8 weeks prior to the dissertation submission deadline	A complete draft of the dissertation must be sent to the Committee at least 2 weeks prior to the oral defense. Please note though that individual committee member's schedules could vary, and it is the Candidate's responsibility to check in with each committee member to ensure that each one has the time available to read the dissertation.
Comments from the Committee to the Candidate	Suggested changes may be substantial. Candidates are strongly advised to discuss their dissertation with each committee member <u>before</u> their oral defense.		
Dissertation Oral Defense	~6 weeks prior to the dissertation submission deadline	~6 weeks prior to the dissertation submission deadline	All Committee members must be present at the defense.
Post-Dissertation Defense Edits (if applicable)	If the defense is successful, then the Committee will suggest changes to the manuscript. (Most dissertations require changes post-defense before the Committee will provide final approval.) Some or all Committee members may want to reread the changed parts prior to signing the Dissertation Form, or sometimes the Committee members may tell the Advisor that they do not need to reread the manuscript and are agreeable to sign once the Advisor approves of the edits.		
Dissertation to Advisor with changes incorporated	~4 weeks prior to the dissertation submission deadline	~4 weeks prior to the dissertation submission deadline	All changes and the final dissertation must be approved by the Advisor <u>before</u> submission to OGE. Dissertation submission to OGE (and degree clearance/ graduation) may be delayed if edits take longer than expected.
Dissertation approved by advisor or sent back to candidate for more changes	~2-3 weeks prior to the dissertation submission deadline	~2-3 weeks prior to the dissertation submission deadline	
Final Dissertation due to Advisor	~1 week prior to OGE's submission deadline	~1 week prior to OGE's submission deadline	
Final Dissertation due to OGE	By end of 10th semester (5th year); refer to the Academic Calendar for actual submission deadline	By end of 8th semester (4th year); refer to the Academic Calendar for actual submission deadline	Requires Doctoral Committee and OGE approval