SUNY COLLEGE OF OPTOMETRY
GRADUATE CENTER
FOR VISION RESEARCH

Doctor of Philosophy (PhD) in Vision Science Student Handbook

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The Graduate Center for Vision Research (GCVR)

The Doctor of Philosophy (PhD) in Vision Science program is housed in the Graduate Center for Vision Research (GCVR) at SUNY College of Optometry. Students enrolled in the PhD program conduct original research across the many areas of vision science studies with our research faculty, from molecular biology and genetics, to clinical problems related to ocular disease and vision loss. This handbook provides information and details about the program. Any questions regarding the program can be directed to the Graduate Program Administrator or the Associate Dean for Graduate Studies and Research. The GCVR can be reached by phone at 212-938-5540, or in-person, located at 33 West 42nd Street, 17th Floor.

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Orientation

Students meet with the Associate Dean for Graduate Studies and Research and GCVR staff for orientation. During orientation, students will learn more about the policies and procedures, program requirements, registration for graduate courses, and will be given the opportunity to ask questions.

Additionally, students are provided with information regarding:

- Assignment of shared student office space, office keys, email and internet accounts
- Graduate Assistantships: Students receiving Graduate Assistantships will meet with Personnel Office staff to complete payroll forms and receive benefits information.
- Obtaining their Student ID Card: Students will report to the Media Center, 3rd floor to get a photo ID card. The photo ID must be presented to enter the building and must be worn at all times when at the College.

Graduate students are expected to be familiar with the SUNY Optometry Student Handbook, which provides information about SUNY Optometry policies and facilities, including grievance procedures.

Registration

To maintain full-time status, PhD students are generally required to register for 12 credits per academic semester. Students may add courses during the first two weeks of the semester and may withdraw from courses during the first four weeks of the semester. Prior to registration, students consult with their Graduate Research Advisor. In the first year, the Associate Dean for Graduate Studies and Research serves as such until a faculty member is selected later in the program. Once students have selected graduate course(s) to enroll in with their Graduate Research Advisor, the Graduate Program Administrator will register them. Students are responsible for checking to see that they have prerequisites for each course they register for. The Registrar is located in the Office of Student Affairs, 11th floor, and is responsible for maintaining the official transcript for each graduate student.

Curriculum Requirements

Completion of at least 80 credits is required to qualify for the PhD degree. The following courses are required:

- GM230- Introduction to Vision Science – Part I
- GM231- Introduction to Vision Science – Part II
- GM201- Introduction to Statistics and Statistical Computing
- GM219- Scientific Integrity and Ethics in Research

Students must pass five (5) seminars/tutorials at the GM200-level or above, in addition to the above courses.

Exemptions from required courses: A student may, on the basis of previous work, request an exemption either from a required course in the core curriculum, or from a required prerequisite or co-requisite that is needed for a core curriculum course or an options list seminar. Requests should be made by petition in writing to the Associate Dean for Graduate Studies and Research.

With approval from the student's Graduate Research Advisor and the Associate Dean for Graduate Studies and Research, a student may substitute one (1) of the five (5) additional seminars/tutorials with an academic, non-research course, such as an Independent Study. A complete syllabus for an Independent Study must be approved by the Associate Dean for Graduate Studies and Research before the course begins.

Students are required to register for GM245- Vision Science Journal Club for PhD Students, every semester, except during the final semester before submitting their dissertation.

Advanced Topics courses in the MS program may be taken for credit in the PhD program, only with the approval of the Associate Dean for Graduate Studies and Research

Students are required to register for at least 55 research credits over the entirety of their doctoral program.

Degree Program Requirements

1. Completion of the Doctoral Program curriculum requirements
2. A cumulative grade point average from course work, including research course work, of at least a 3.00.
3. Doctoral students are expected to attend the SIVR Colloquia and VisioNYC, presented each academic year, except during the final semester before submission of the dissertation.
4. Doctoral students are expected to give a minimum of one presentation at a national conference per year beginning in Year 3.

5. **Laboratory Rotations:** Doctoral students are required to complete a minimum of two lab rotations during the first year of the program, normally one during the Fall semester and a second in the Spring semester. At the beginning of the Fall semester, students will reach out to Graduate Faculty members to learn more about each faculty member's lab and their current research. The Fall lab rotation must be chosen no later than the end of September. During the rotations students develop technical laboratory skills needed for research. Students also gain experience interacting with a variety of researchers in different laboratory settings, which is critical to their selection of a Graduate Research Advisor. At the end of each lab rotation, the student's lab supervisor completes the Research Lab Rotation Evaluation Form, which is shared with the student and filed with the GCVR Office.

6. **Selecting a Graduate Research Advisor:** Every doctoral student must have a Graduate Research Advisor, whose role is to help the student plan their course of study, to direct the student's doctoral thesis research, and assist in providing periodic assessments of the students' progress. The Graduate Research Advisor is selected by the student from a list of qualified graduate faculty and is normally one of supervisors of the student's first year lab rotations. A Graduate Research Advisor Selection Form must be filed with the GCVR Office no later than the Fall semester of a student's 2nd year. The Associate Dean for Graduate Studies and Research, or their designee, is the interim advisor to students who have not yet selected a Graduate Research Advisor. Students may change their Graduate Research Advisor with the consent of the Associate Dean for Graduate Studies and Research.

7. **Dissertation Committee:** Each student, in consultation with their Graduate Research Advisor, will select a Dissertation Committee. The Dissertation Committee must be formed within 6 months of selection of Graduate Research Advisor. The Dissertation Committee consists of the student's Graduate Research Advisor, and at least two (2) qualified graduate faculty members who have agreed to serve. With approval of the Associate Dean for Graduate Studies and Research, a student may choose a faculty member at the college who is not part of the graduate faculty, to serve on their Dissertation Committee. Since one role of the Dissertation Committee is to resolve any conflicts between the student and their Graduate Research Advisor, the advisor cannot be the chairperson of the committee. The Dissertation Committee must be formed prior to the Qualifying Examination. Students submit a Dissertation Committee Form for the Associate Dean for Graduate Studies and Research's Approval.

8. **Qualifying Examination:** The Qualifying Exam has two parts, consisting of (1) the submission of a written Dissertation Proposal to the Dissertation Research Committee, (2) followed by an oral defense of the proposal. Students are encouraged to submit their written Dissertation Proposal by the beginning of the third year. The Qualifying Exam must be completed by the end of the third year. Completion of the Qualifying Exam marks the official entry of a student into the dissertation research phase of their graduate career.

   The Dissertation Proposal takes the general form of a National Institutes of Health (NIH) National Research Service Award (NRSA) pre-doctoral fellowship application, which includes the following sections: (1) Specific Aims, (2) Background and Significance, (3) Preliminary Data, Materials, Methods, and a Timetable. After submission of the written proposal, the student will orally defend it in front of their Dissertation Committee. The committee may: (i) pass the proposal indicating that the detailed aims are sufficient for an acceptable doctoral thesis; (ii) conditionally pass the proposal calling for remedial changes; or (iii) fail the proposal. Failure of the Dissertation Proposal may result in a student's termination from the graduate program as determined by the Associate Dean for Graduate Studies and Research. The Dissertation Committee will complete the Qualifying Exam Report, detailing their decision to the Associate Dean for Graduate Studies and Research with a copy forwarded to the student.

9. **Dissertation Committee Progress Report:** Doctoral students are required to formally meet with their Dissertation Committee a minimum of every 6 months, after completion of the Qualifying Exam. However, a student can call a meeting of the Dissertation Committee at any time if they deem it necessary. Any changes to the aims of the project as detailed in the Dissertation Proposal should be provided to and approved by the Dissertation Committee at these meetings. At the meetings the committee will determine whether adequate progress has been made by the student and report this to the Associate Dean for Graduate Studies and Research by completing the Dissertation Committee Progress Report. At the last progress report meeting, the committee will certify that all aims proposed by the student have been completed and that the student can begin writing their dissertation.

10. **Annual Oral Presentations:** Each year in June, PhD students are required to make an oral presentation, which consists of a 12-minute slide presentation followed by a 5-minute question and answer period. The Annual Oral Presentations serve to assess students' proficiency in communicating the knowledge they have gained during their lab rotations or thesis research to an audience, much like at conferences such as ARVO (Association of Research in Vision and Ophthalmology) or VSS (Vision Sciences Society).

    Student's presentations should focus on a single problem. The goal is to concisely describe the problem studied, its significance, the methodology used, the results, and the conclusions drawn. First Year students should plan to discuss only one of the two rotation project. However, if the two research lab rotations were thematically related, then describing the unified problem and the approach taken in each rotation would be appropriate. All members of the Graduate Faculty attending the presentations will evaluate each student's performance using the Doctoral Student Oral Presentation Evaluation form. Based on these evaluations, students' Graduate Research Advisor will provide individual feedback to each of their students and submit a grade of Pass or Unsatisfactory, which will be recorded on the official graduate student transcript.

11. **Dissertation:** Completion of the written and oral dissertation are the final requirements of the PhD in Vision Science degree. The written dissertation must be submitted to all members of the dissertation committee at least three (3) weeks in advance of the scheduled Oral Dissertation Defense, giving the committee enough time to read it. Prior to the oral defense, the student, in consultation with their advisor, is required to choose a faculty member from an outside institution to join the Dissertation Committee. The outside faculty member is tasked with reading the dissertation, attending the oral defense, and evaluating the dissertation for approval with the other members of the dissertation committee.

    The oral defense itself must be scheduled at least a month in advance, to ensure sufficient time for the college community to be invited to attend. After the oral defense, the dissertation committee, including the outside committee member, will file the Doctoral Dissertation Approval Form with the GCVR office. This form will allow committee members to make recommendations to the student, including suggestions for revisions. The student will then have two (2) weeks to make the necessary revisions and submit a final copy to their committee. Once the final copy is approved, the Dissertation Cover Page will be signed by all committee members (including the outside committee member), indicating that the student has passed the requirements and the doctoral degree may be awarded. Approval of the dissertation by the committee members must be unanimous. The student will then submit a final copy of their written dissertation with the signed Dissertation Cover Page to the Associate Dean for Graduate Studies and Research.

    Suggested Written Dissertation Outline

    a. Title Page with Dissertation Committee Signatures
    b. Acknowledgments
    c. Dedication (if any)
    d. Abstract (300- 600 words)
    e. Table of Contents
    f. Introduction: The introduction lays out the rationale for the research. It provides a context within which the following chapters are integrated into parts of a single project. It would typically be between 6 and 20 pages long, possibly including a few figures.
    g. Chapters: If you are incorporating published papers, these can be substituted for the chapters. However, the dissertation must in some way demonstrate the candidate's own ability to write, think and contribute to science. This can be done through a general introduction and conclusion that are written by the candidate.
    h. Discussion: The discussion is the student's chance to speculate about the material that did not make it into any publication, but that they as an expert in the field would like to have recorded. The student may include unpublished data here or in additional chapter(s). The introduction and conclusion can be combined. This section can be of any length.
    i. Conclusion: The conclusion summarizes the student’s findings in the context of questions posed in the Introduction
    j. References
    k. Optional Appendices

Required Technical Formatting

- Single sided document
- Legible font in size 11 or 12 point
- 1.5-inch left margin and other 3 margins at 1-inch
- Double-spaced throughout
- Successive page numbers
  - Title page is page i, but the number is not shown
  - Number ii, iii, iv, through table of contents
  - Number 1, 2, 3… for all pages of the rest of the dissertation
- Start each chapter on a new page
- Paragraphs indented
- Quotes- single spaced
- Figures or figure legends embedded in the text
- Proper citations as applicable

Graduate Assistantships

Doctoral students awarded a Graduate Assistantship receive an annual stipend and a tuition waiver. Graduate students on a full assistantship are assigned various responsibilities as either a teaching assistant, research assistant, or general service assistant each semester. The graduate assistantship is awarded on an annual basis. Continuation of the assistantship is contingent upon annual reviews that include, in part, satisfactory performance of assigned assistantship obligations and maintenance of good academic standing as a full-time student in the Graduate Program.

Assistantship assignments are made before the start of each academic year. This assistantship is in the bargaining unit represented for purposes of collective negotiations by the Communications Workers of America Local 1104/ Graduate Student Employees Union (GSEU) and is covered by a collective bargaining agreement between the State University of New York (SUNY) and GSEU. Graduate Assistants are eligible to enroll in the health, dental and vision benefit plans. More information on these plans can be obtained at the website. For benefits and enrolment information, contact the Human Resources Office.

Graduation and Commencement

The doctoral degree is awarded two times a year, near the end of the Fall and Spring semesters. Students may attend the Commencement ceremony, held once a year at the end of the Spring semester, irrespective of when their degree was awarded. The GCVR and the Office of the Registrar shall examine the student's credentials and, if all the requirements have been completed, shall recommend that the student be awarded the degree of PhD in Vision Science contingent on the approval of the dissertation after the student's oral defense.

A student in the PhD program who must leave before completion of the degree requirements for any reason, including dismissal from the program, may submit a written request to the Associate Dean for Graduate Studies and Research to be considered for conferral of the Master's in Vision Science degree. This "terminal masters" is typically awarded only to students who have completed the PhD Core Curriculum and submitted a paper based on research conducted in the program, approved by the Associate Dean for Graduate Studies and Research.

Required Research Training

All graduate students are required to be trained in research protocols, scientific integrity, and ethics. The Associate Dean for Graduate Studies and Research has determined that this requirement may be met in part by successful completion of the Collaborative IRB Training Initiative (CITI) web-based training program. The SUNY College of Optometry offers access to the CITI program to all SUNY College of Optometry students. Students can register for CITI certification by proceeding to their webpage. As appropriate, graduate students also receive training in biosafety and Biological Research Facility (BRF) requirements.

Graduate Student Travel Support

Graduate students may request support from the GCVR for a maximum of two (2) scientific conferences per year at which they are presenting as first or second author. A maximum of $750 for travel/lodging/registration costs may be reimbursed per conference. To be eligible for intramural travel support, students must first apply for any extramural funding sources available for the meeting they are attending. Travel reimbursement will be contingent on availability of funds. A Graduate Student Travel Funds Request Form should be submitted in advance for approval by the Associate Dean for Graduate Studies and Research.

SUNY Open Access Repository (SOAR) and Dissertation

SOAR is a digital repository tool used by the College to collect, preserve, and distribute completed Master's Theses and Doctoral Dissertations. It facilitates digital preservation and scholarly communication while promoting open access. Upon receiving approval for graduation, students complete the Thesis/Dissertation Submission Form. On the form, students can request a bound, physical copy of their thesis/dissertation, at no cost.

Doctoral Student Sample Plan of Study

YEAR 1

Fall Semester
GM230- Proseminar: Intro to Vision Science Part I (6 credits)
GM215- Predissertation Research Lab Rotation (5 credits)
GM245- Vision Science Journal Club for PhD Students (1 credit)
Attendance at VisioNYC and SIVR Colloquia

Spring Semester
GM231- Proseminar: Intro to Vision Science Part II (6 credits)
GM215- Predissertation Research Lab Rotation (5 credits)
GM245 – Vision Science Journal Club for PhD Students (1 credit)
Attendance at VisioNYC and SIVR Colloquia

YEAR 2

Summer Session
Annual Oral Presentations
GM219- Scientific Integrity and Ethics in Research (1 credit)
GM201- Introduction to Statistics and Statistical Computing (2 credits)
GM215 – Predissertation Research (9 credits)

Fall Semester
GM215- Predissertation Research (7 credits)
GM200-level or above tutorial/seminar (2 credits)
GM200-level or above tutorial/seminar (2 credits)
GM245- Vision Science Journal Club for PhD Students (1 credit)
Selection of a Graduate Research Advisor
Attendance at VisioNYC and SIVR Colloquia

Spring Semester
GM215 – Predissertation Research (7 credits)
GM200-level or above tutorial/seminar (2 credits)
GM200-level or above tutorial/seminar (2 credits)
GM245- Vision Science Journal Club for PhD Students (1 credit)
Attendance at VisioNYC and SIVR Colloquia
Formation of Dissertation Committee

YEAR 3

Summer Session
Annual Oral Presentations
GM215 – Predissertation Research (12 credits)

Fall Semester
GM200-level or above tutorial/seminar (2 credits)
GM215- Predissertation Research (9 credits)
GM245- Vision Science Journal Club for PhD Students (1 credit)
Qualifying Exam
Attendance at VisioNYC and SIVR Colloquia

Spring Semester
GM215 – Predissertation Research (11 credits)
GM245 – Vision Science Journal Club for PhD Students (1 credit)
Bi-Annual Meeting with Dissertation Committee
Attendance at VisioNYC and SIVR Colloquia

YEAR 4

Summer Session
Annual Oral Presentations
GM401- Dissertation Research (12 credits)

Fall Semester
GM401- Dissertation Research (11 credits)
GM245 – Vision Science Journal Club for PhD Students (1 credit)
Bi-Annual Meeting with Dissertation Committee
Attendance at VisioNYC and SIVR Colloquia

Spring Semester
GM401- Dissertation Research (11 credits)
GM245 – Vision Science Journal Club for PhD Students (1 credit)
Bi-Annual Meeting with Dissertation Committee
Attendance at VisioNYC and SIVR Colloquia

YEAR 5

Summer Session
Annual Oral Presentations
GM401- Dissertation Research (12 credits)

Fall Semester
GM401- Dissertation Research (11 credits)
GM245- Vision Science Journal Club for PhD Students (1 credit)
Schedule Oral Dissertation Defense
Attendance at VisioNYC and SIVR Colloquia

Spring Semester
GM401- Dissertation Research (12 credits)
Dissertation Defense, written and oral