

EXAMINATION REQUIREMENTS FOR THE PhD PROGRAM

Summary of Requirements:

Graduate Thesis Committee: Must be formed by middle of your second semester and at least one semester before taking the Oral Comprehensive Examination.

Oral Comprehensive Examination: Ph.D. candidates must attempt by the end of their sixth semester (must pass by end of seventh semester for students in the program prior to 2020).

Thesis Defense: Must be passed within five years of passing the Oral Comprehensive Examination.

Program Details:

Oral Comprehensive Exam and Thesis Proposal

The Oral Comprehensive Examination is your major examination and required for admission to candidacy for the doctoral degree. Students entering the PhD program with a BA or BS degree must pass the oral exam by the end of their seventh semester. Students entering with an MS degree must attempt the exam by the end of their 4th semester.

Students must form a Graduate Thesis Committee and have a program of study (POS) on file no later than their second semester. These events must precede the oral exam by at least one semester. Initially, this committee must have at least 3 members (at least 2 of these must be faculty from the Physics Department) including the thesis advisor. The Graduate School requires a membership of 5 faculty at the time of the Thesis Defense (see below). The student, in consultation with the committee, must submit a Program of Study to the Graduate Coordinator.

Students are required to complete the committee membership within 1 semester of admission to candidacy. The dept strongly urges that the committee be complete at the time of the Oral Exam.

The student must formally make a request to the Department Chair to schedule the Oral Comprehensive Exam and Thesis Proposal

The Department chair will establish an Oral Comprehensive Examination Committee for the candidate prior to the Oral Comprehensive Examination. This Committee has the responsibility of administering the Oral Examination. The committee will consist of four faculty members from the Department of Physics & Astronomy. In cases where the candidate's thesis advisor is from outside the Department, the advisor may serve as a non-voting member of the committee. Two of the physics faculty must be from the candidate's Graduate Thesis Committee (the thesis advisor and one other physics faculty if thesis advisor in the Department) and chosen by the student. The student sends the names of the two members they have chosen to the Chair when they make the formal request to schedule the exam. The other two Committee members will be appointed by the Chair (rotated through the Department's faculty and not from the same sub-area of physics as the proposed thesis research). The student shall also post an announcement of the Oral Exam at least one week prior to the presentation.

Prior to the Oral Examination, the candidate will prepare a written thesis proposal that emphasizes the physics content of the thesis project. This proposal is submitted to both the Graduate Thesis Committee and the candidate's Oral Comprehensive Examination Committee at least 2 weeks before the oral exam can be scheduled. The format must follow that of the Project Summary and Project Description sections of an NSF proposal *,See Instruction for NSF Style proposals for details.* , or NIH proposal (Updated link to be provided). **Upon submission of the thesis proposal, the candidate will also provide each of the Comprehensive Oral Examination Committee members with complete copies of 5 publications that the candidate believes are the 5 most important papers relevant to the proposed thesis topic.**

The oral comprehensive exam will consist of a **30-minute** public seminar given by the candidate that focuses on the thesis topic. The presentation will be followed by a question and answer period of up to **20 minutes** which will include questions from the audience. The time limits will be strictly enforced. This will be followed by a closed-door oral questioning of the student by the Oral Comprehensive Examination Committee. The closed-door session may not last longer *than 50 minutes and normally begins with* questions closely related to the physics content of the

seminar. The goal of the questions is to determine if the student's depth of knowledge of physics is adequate for the proposed thesis research. Thus, sequences of questions may cover a diverse range of topics in physics as deemed appropriate to the thesis topic by the Oral Comprehensive Examination Committee.

The pass/fail decision will be made by the Oral Comprehensive Examination Committee (i.e., by the four members from the Physics Department). Three positive votes are required for the student to pass. If the student fails, the Comprehensive Oral Examination Committee may recommend that the student be dismissed from the program or recommend that the student may retake the oral exam, but only for a second and final time. Any retake must occur within three months of the initial oral exam. In lieu of a second attempt or after a 2nd failure, the Thesis Committee may recommend that the student be allowed to finish a Master's Degree by the end of the following semester.

Extensions or variations to the Oral Comprehensive Examination timetable described above may be granted by the Physics Graduate Faculty only in exceptional hardship cases such as extended illness, leaves of absence, etc.

Thesis Defense

The final examination is an oral defense of the thesis and must be completed within five years of passing the Oral Comprehensive Examination. The final copy of the Thesis must be presented to the Thesis Committee, and an unbound hard copy placed in the Departmental office, at least two weeks prior to the defense. The current requirements for this examination are unchanged by this document. The Graduate School requires the following:

After the doctoral dissertation has been accepted by the candidate's advisory committee, the original copy shall be presented to the Graduate School. The candidate must then appear for final examination by an examining committee of no fewer than five members (usually the student's advisory committee) appointed by the Dean of the Graduate School upon recommendation of the major advisor. Other members of the faculty may attend and participate in the questioning, but only members of the committee may evaluate the student's performance.

The final examination, which is oral, is concerned with the subject of the dissertation and with the candidate's understanding of related matters important to a proficiency in the principal field

of study. The examination must demonstrate the candidate's mastery of the techniques of research and skill in organizing and presenting the material.

	Check List
Semester 1	<u>Expected Time Line</u> (Fall enrollment): Visit 5 faculty to discuss research
Semester 2 (4/15)	Form Graduate Thesis Committee
Semester 2 (4/15)	Establish Program of Study
Semester 2 (4/15)	Summer research proposal
Summer 1	Begin working in research group
Semester 5	Oral Comprehensive Exam (no later than 6 th semester)
Semester 9-10	Thesis Defense

Oral Comprehensive Exam Checklist

1. Discuss Oral Exam with Committee
2. Pick two Physics members of your Thesis Committee to be on your Oral Committee
3. Send these two names along with your request to schedule Oral Exam to
Departmental Chair
4. Write a proposal following guidelines
5. Submit proposal and 5 most important papers to Oral Exam Committee at least two weeks before Exam.