POLYMER SCIENCE, PHD

Doctor of Philosophy in Polymer Science

An interdisciplinary program leading to the Doctor of Philosophy in Polymer Science is administered by the School of Polymer Science and Polymer Engineering. Graduates from the four main disciplines (chemistry, physics, biomaterials, and engineering) are guided into the appropriate courses of study and research in that field under the supervision of a faculty member. Students may be admitted directly to the Ph.D. program upon screening of their qualifications and recommendation by the Admission Committee.

In addition to satisfying the general requirements of the Graduate School, a student working toward the Doctor of Philosophy in Polymer Science must meet the following requirements:

- Complete a course of study prescribed by the student's advisory committee based on the committee's judgment of the student's background and on the result of any special examinations it might impose. This course will consist of a minimum of, but usually more than, 38 credits in graduate courses, or their equivalent, plus sufficient Ph.D. research credits to make a total of 90 credits (exclusive of Master of Science thesis credit).
- Attendance and participation in seminar-type discussions scheduled by the school.
- At least 18 credits of graduate course work and all dissertation credits must be completed at the University.

There is a university minimum residence time requiring one year, although graduate students starting with a B.S. or B.A. typically spend four years in residence.

Code	Title	Hours
Core Courses		
PLYS 601	Polymer Chemistry	4
PLYS 607	Seminar in Polymer Science I	1
PLYS 613	Polymer Science Laboratory	3
PLYS 631	Polymer Physics I	4
PLYS 632	Polymer Physics II	4
PLYS 674	Polymer Characterization	2
PLYS 685	Introduction to Biomacromolecules	2
Electives		
Select eighteen credits appropriate to the student's area of interest.		18
Doctoral Dissertation		
PLYS 899	Doctoral Dissertation	52
Total Hours		**90**

Seminars

Attendance at and participation in seminar-type discussions scheduled by the school is required.

Foreign Language Requirement

Satisfy the foreign language requirement for the doctoral degree by meeting the requirements of Plan C. This is satisfied with computer proficiency, which is met by completing PLYS 613 Polymer Science Laboratory as part of the core curriculum.

Three demonstrations of scholarship are required to complete the PhD in Polymer Science: 1) Passing an oral qualifying exam, 2) acceptance of a successful research proposal, and 3) passing an oral defense upon completion of a written research dissertation.

Oral qualifying exam

The oral qualifying exam begins with a presentation given by the student by the end of their third semester (not including summers) on the pertinent research literature and potential direction of research in their field of study. The student prepares a seminar for 3 faculty committee members from the School of Polymer Science and Polymer Engineering. Approximately 1 hour of questions and answers follows in a closed-door session. Students should prepare for answering fundamental questions on basic sciences and engineering and their literature review area.

Research Proposal

The research proposal involves oral presentation of a written document of length 2000-3000 words in text only, without counting captions or references, within the student's third year, to assess expertise and understanding in their research area, with the objective to significantly improve both the student's verbal communication and writing skills. Hypothesis, aims, methods, and preliminary results should be presented. The review committee consists of 3 faculty members within SPSPE (the advisor and 2 additional faculty members).

Dissertation and Oral Defense

The dissertation is a written document presenting the student's research and findings. The dissertation research is presented publicly to a committee of at least 5 graduate faculty members, with a makeup consistent with Graduate School rules. A closed-door oral examination of the dissertation follows.