CHEMISTRY

Degree Requirements

Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (http://gradschool.psu.edu/graduate-education-policies/)

A minimum of 30 credits at the 400, 500, or 800 level is required, with at least 18 credits at the 500 and 600 level, combined. CHEM 431W, CHEM 450, CHEM 452, CHEM 457, CHEM 494, and CHEM 500 cannot be applied towards the M.S. degree requirements. Students who choose to complete a scholarly paper as the culminating experience must complete 18 credits at the 500 level. All candidates for advanced degrees must schedule CHEM 602, Supervised Experience in College Teaching, for at least 1 credit for at least one semester; however, this 1 credit cannot be counted towards the minimum credits required for the degree.

M.S. students must complete either a thesis or a scholarly paper as the culminating experience for the degree. Students who choose to write a thesis must defend the thesis at an oral examination. The thesis will be accomplished under the sponsorship of a faculty member, and the candidate must take 12 credits of CHEM 600 in conjunction with the thesis. A maximum of 6 credits of CHEM 600 may be awarded a quality grade. The thesis must be approved by a committee of at least three faculty members, one of whom will be the candidate's sponsor. The thesis must also be accepted by the head of the graduate program and the Graduate School, and the student must pass the thesis defense. A final oral examination will be administered by a committee consisting of the student's research preceptor and two other faculty members. This examination is scheduled after the M.S. thesis has been completed. Students who choose to complete a scholarly paper enroll in CHEM 589 (12 credits).

Examinations in analytical, biological, inorganic, organic, and physical chemistry will be given to all new students upon entrance in the fall semester. These exams cover subject matter at the level of the basic courses offered for the B.S. degree in Chemistry at Penn State. For certification as an M.S. student, proficiency in two areas is required. Such proficiency may be demonstrated either by (1) passing the area examination upon entrance, or (2) obtaining a grade-point equivalent of 3.0 in at least 3 credits of 500-level course work in the area. The courses used to fulfill this latter option will be designated by the graduate counseling committee. This course work must be completed successfully during the student's first two semesters of residence.

Doctor of Philosophy (Ph.D.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (http://gradschool.psu.edu/graduate-education-policies/)

Candidates for the Ph.D. degree in Chemistry must meet the following requirements established by the department faculty.

A Ph.D. student must take a minimum of five 3-credit courses in chemistry at the 400 or 500 level. The student's Ph.D. committee may require additional specific courses.

All candidates for advanced degrees must schedule CHEM 602, Supervised Experience in College Teaching, for at least 1 credit for at least one semester; however, this 1 credit cannot be counted towards the minimum credits required for the degree.

Examinations in analytical, biological, inorganic, organic, and physical chemistry will be given to all new students upon entrance in the fall semester. These exams cover subject matter at the level of the basic courses offered for the B.S. degree in Chemistry at Penn State. As a part of the requirements for certification as a Ph.D. student, each student will be expected to demonstrate proficiency in three areas of chemistry. Such proficiency may be demonstrated either by (a) passing the area examination upon entrance, or (b) obtaining a grade-point equivalent of 3.0 in at least 3 credits of 500-level course work in the area. The courses used to fulfill this latter option will be designated by the graduate counseling committee. This course work must be completed successfully during the student's first two semesters of residence.

In order to qualify for the oral comprehensive examination, a Ph.D. student must first obtain a grade of 3.0 or better on 4 credits of CHEM 500 (by writing the requisite number of seminar reports, proposals, and presenting in an area seminar).

A Ph.D. student must pass the oral comprehensive examination during his or her first two and one-half years of residency.

Every Ph.D. student shall present at least one area or department seminar during the course of residency.

A final oral examination based on a defense of the doctoral dissertation is required of all candidates. This exam is given as a formal public seminar with a subsequent closed meeting with the Ph.D. committee. To earn the Ph.D. degree, doctoral students must write a dissertation that is accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School, and the student must pass the final oral examination (the dissertation defense).