

PHD IN CHEMISTRY

The doctoral program in chemistry is designed to ensure that the student has the basic foundation of knowledge and is equipped with the tools necessary to perform independent research. The emphasis on research recognizes the power of original research to arouse the scientific curiosity of the student, to develop and stimulate creativity, and to encourage further discovery through independent study.

The doctoral program is divided into three stages for the typical student:

Stage 1 - The student develops a plan of study including establishing a set of prescribed courses to serve as the foundation for further training. A research director is also chosen.

Stage 2 - The student pursues research toward the dissertation, prepares a required formal research proposal, and undertakes a qualifying examination.

Stage 3 - The student is admitted to candidacy after successful completion of the qualifying examination requirement. The student then focuses efforts on research, publishing their results, and completion of the doctoral dissertation.

90 credit hours are required to earn the PhD.

Candidates for the doctor of philosophy degree must meet the following requirements:

- a. Each student, in conjunction with the director of graduate studies, the student's research director, and the student's advisory committee, will prepare a doctoral program proposal (plan of study) listing the courses and other requirements for the degree. Upon approval, the program proposal becomes the list of courses and other requirements for the degree. Students are required to take six or more 8000-level courses covering at least four different subdisciplines of chemistry as part of the plan of study.
 - b. Successful completion of a comprehensive qualifying examination for entry to doctoral candidacy.
 - c. Registration for chemistry colloquium is typically required each term.
 - d. Registration for research seminar is typically required each term the student is enrolled in graduate research.
 - e. Each student must satisfactorily complete two semesters of supervised, half-time teaching.
 - f. After admission to candidacy, each student is required to spend a minimum of two consecutive semesters in full-time study at The University of Toledo.
 - g. Dissertation research must be carried out primarily in laboratories of The University of Toledo.
 - h. Each candidate must demonstrate satisfactory performance on a comprehensive oral examination on his or her dissertation research, in addition to the public defense of the dissertation at a colloquium presentation.
 - i. Each student must register and successfully complete CHEM 8940.
- PLO 1. interpret publications in the literature from their research area
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- PLO 2. solve, with the appropriate mathematical techniques, and analyze any problem from the core areas of chemistry as well as the area of their concentration\\n
- PLO 3. conduct extensive new research via their design of experimental and/or theoretical techniques\\n
- PLO 4. describe data and results in both written and oral formats.