

CHEMISTRY, PHD

Degree Requirements

The Doctor of Philosophy in Chemistry is granted for high scholarly achievement in analytical, inorganic, organic, physical or biochemistry. Students with either a baccalaureate or master's degree may be admitted to the program. They must satisfy the following requirements to receive the degree:

- Complete a course of study designed in consultation with an advisor or advisory committee. This consists of the completion of at least 90 credits beyond the baccalaureate degree, including 24 credits of appropriate coursework.
- Complete monthly cumulative exam requirement.
- Complete oral exam requirement.
- Complete seminar requirement.
- Defend dissertation in an oral examination.
- Complete all general requirements for the doctor of philosophy degree.

Admission Requirements

In addition to submission of the graduate application and official transcripts applicants must submit three letters of recommendation, statement of purpose, and resume.

Review of applicants for fall enrollment begins February 1 and October 1 for spring enrollment. The application package must be complete for review to occur.

The core courses are:

Biochemistry

Code	Title	Hours
CHEM 501	Biochemistry Lecture I	3
CHEM 502	Biochemistry Lecture II	3
CHEM 506	Biochemistry of Gene Expression	3
CHEM 715	Special Topics: Biochemistry	1-3
CHEM 720	Advanced Biochemical Techniques	3
CHEM 722	Enzymatic Reactions	3
CHEM 726	Advanced Metabolism	3

Organic

Code	Title	Hours
CHEM 670	Spectroscopic Identification of Organic Compounds	3
CHEM 683	Mechanistic & Synthetic Organic Chemistry I	3
CHEM 684	Mechanistic & Synthetic Organic Chemistry II	3
CHEM 740	Physical Organic Chemistry	3
CHEM 750	Advanced Synthetic Organic Chemistry	3

Inorganic

Code	Title	Hours
CHEM 572	Advanced Inorganic Chemistry	3
CHEM 619	Transition-Metal Organometallics	3
CHEM 620	Main Group Organometallics	3
CHEM 629	Physical Inorganic Chemistry	3

CHEM 631	Metals in Medicine	3
CHEM 645	X-Ray Crystallography	3
CHEM 679	Inorganic Polymers	3
CHEM 724	Bioinorganic Chemistry	3

Analytical

Code	Title	Hours
CHEM 641	Spectral Methods	3
CHEM 645	X-Ray Crystallography	3
CHEM 670	Spectroscopic Identification of Organic Compounds	3
CHEM 640	Chemical Separations	3
CHEM 715	Special Topics: Biochemistry	1-3

Physical

Code	Title	Hours
CHEM 610	Basic Quantum Chemistry	3
CHEM 611	Spectroscopy	3
CHEM 635	Thermodynamics & Statistical Thermodynamics	3
CHEM 636	Chemical Kinetics	3

Graduate school requirements state that no graduate credit may be given for 500 level courses taken previously at the 400 level, without approval of the Dean of Graduate Studies and Research. Additional information on this subject is contained in the General Bulletin.

A total of twenty-four (24) semester hours of graduate courses should be completed by the end of their 2nd year (24 months) in the Ph.D. program. Of these, 12 credits should be in the student's major division. In addition, the student must take a minimum of 9 core course credits distributed over at least two divisions in the department other than your major division. The remaining 3 credits are met by taking an elective.

A doctoral candidate should register for dissertation research (CHEM 899) each semester.