

CHEMISTRY

DOCTOR OF PHILOSOPHY (PH.D.)

PROGRAM DESCRIPTION:

Estimated average time to complete the Ph.D. in Materials Chemistry is five years beyond the bachelor's (assuming ACS-approved degree in chemistry) or three years beyond a master's (assuming equivalent to M.S. in Chemistry at USD).

The heart of the Graduate Program lies in laboratory research leading to the publication of a thesis or dissertation. Graduate students have the opportunity to pursue collaborative research at other universities and national laboratories and also present their research findings at a variety of regional and national meetings.

ADMISSION REQUIREMENTS:

Applicants must meet the admission requirements of the Graduate School and specific requirements of the Chemistry program. Graduate School requirements can be accessed online at www.usd.edu/grad.

Full acceptance into this program requires an acceptable major in chemistry with an undergraduate GPA of 3.0 or higher, and satisfaction of such additional requirements as may be stipulated in order to provide a course background equivalent to that of an ACS-approved undergraduate major.

While most students entering the graduate program in the Department of Chemistry have an undergraduate degree in chemistry, admission on a provisional basis may be extended to students with other backgrounds, provided their records indicate the ability to complete the program successfully.

FINANCIAL SUPPORT:

Graduate assistantships are available (\$20,000 - \$30,000) on a competitive basis. Applications for assistantships are available from the Department of Chemistry. Awarding of assistantships is based on:

- Availability
- Ability to communicate well in oral/written English
- Satisfactory performance in course work and research

APPLICATION DEADLINE:

Priority: April 15

GETTING STARTED:

Prospective graduate students may apply through the Graduate School at www.usd.edu/grad/how-to-apply.cfm.

The Graduate School forwards completed applications to the appropriate academic department for review. The department will then recommend the admission status of the applicant to the Dean of the Graduate School, who will make the final decision on admission.

PH.D. PROGRAM REQUIREMENTS:

- Ph.D. candidates will earn a master's in chemistry either prior to starting the Ph.D. program, or will earn a M.S. enroute to the degree
- Required coursework (see back page)
- Participation in Graduate Seminar (CHEM 790) is required, and will include attendance at weekly research seminars and a minimum of two presentations made by the Ph.D. candidate
- The Ph.D. candidate will pass four cumulative examinations
- The Ph.D. candidate is required to publish (or have been accepted for publication) the results of his or her dissertation research in a peer-reviewed journal with national or international circulation
- The Ph.D. candidate will be required to write and defend a dissertation

FOR MORE INFORMATION:

For more information, please visit www.usd.edu/grad or contact:

University of South Dakota
Department of Chemistry
Phone: 605-677-5487
Fax: 605-677-6397
chemistry@usd.edu

University of South Dakota
Graduate School
Phone: 605-677-6240
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grad@usd.edu
www.usd.edu/grad



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PROGRAM REQUIREMENTS

Doctor of Philosophy in Materials Chemistry: Total credit hours: 82*

*Students who enter the Ph.D. program with a baccalaureate degree will need to complete 82 credits and will earn M.S. degree en route to the Ph.D. degree.

*Students who have a masters (assuming equivalent to USD) will need to obtain suitable credits to complete their elective coursework, graduate seminar, and dissertation research as indicated in the tables below.

Required Master's Chemistry Core Coursework:

Course	Course Title	Credit Hours
CHEM 726	Advanced Organic Chemistry	4
CHEM 730	Advanced Analytical Chemistry	3
CHEM 744	Advanced Physical Chemistry	4
CHEM 752	Advanced Inorganic Chemistry	3
CHEM 790	Graduate Seminar in Chemistry	4
CHEM 798	Thesis Research in Chemistry	6

Total Credit Hours: 24

Elective* Coursework:

Course	Course Title	Credit Hours
CHEM 521	Spectroscopic Analysis	3
CHEM 526	Polymer Chemistry	3
CHEM 720	Synthesis and Characterization of Nano Structured Materials	3
CHEM 721	Applications of Nano-Structured Materials	3
CHEM 722	Solid State Chemistry and Crystallography	3
CHEM 723	Luminescence Spectroscopy of Materials	3
CHEM 724	Electrochemistry	3
PHYS 539	Solid State Physics (C)	3 to 4

Total Credit Hours: 12

*12 credit hours from courses above are required of all doctoral students. Note: students must choose Solid State Physics or Solid State Chemistry, but may not count both toward their program of study.

In addition, students must complete the following requirements for their Ph.D. program:

Course	Course Title	Credit Hours
CHEM 790	Graduate Seminar in Chemistry	6
CHEM 898D	Dissertation Research	40



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