CHEMISTRY (PH.D.)

Doctor of Philosophy. Major in Chemistry.

The student will enroll for at least 33 credit hours in courses. All students will obtain two credits in CHEM 5010. In addition, sufficient credit hours of research will be completed to meet a total minimum registration requirement of 78 credits.

The student is encouraged to take courses in related fields, e.g., mathematics, physics, chemical engineering, geochemistry, computer science, electronics, or biochemistry. This work can be designated as the minor or supporting field on the study program.

All Ph.D. candidates are required to participate in seminars (CHEM 5010) while in residence, even though not formally registered for credit in this course. Registration may be for zero credit.

Cumulative examinations are general examinations in the student's field of specialization to judge the breadth of knowledge gained by the student from courses, lectures, and the literature, as well as the ability to use this knowledge in the solution of a variety of problems. Once started, a student must continue to take these examinations each time they are offered whenever the student is in residence and is eligible. If a given examination is not taken, a failing grade is received. Examinations are approximately three hours in length and are given four times each semester and, in exceptional cases, during the summer session. Normally, students will take examinations only in the chosen area of concentration, but they may elect to take them in other areas of chemistry. The student must obtain an average grade of 50% in eight examinations to continue in the Ph.D. program.

Shortly after completing the final cumulative examination, Ph.D. students are required to submit a written proposal on their doctoral research project and defend it at an oral examination by their graduate committee (CHEM 5900). The proposal will be limited to a maximum of 5,000 words, excluding the bibliography, and will consist of a statement of the proposed doctoral research problem, an in-depth discussion of the relevant literature, a listing of the major research objectives, a summary of the proposed experimental work plan, and an appropriate bibliography.

Please see General Requirements for Graduate Students in Chemistry (https://www.uidaho.edu/-/media/UIdaho-Responsive/Files/sci/chem/graduate/generalrequirementsanddepartmentalpoliciesforgraduatestudentsinchemistry.pdf?la=en&hash=A8ACCBE76A132285973DA95219B99890EA090149) for details and program requirements on earning the PhD in Chemistry degree.

1. The student will be able to conduct independent research that makes a significant contribution to the chosen chemical field.
2. The student will be able to effectively design and carry out experiments and/or theoretical studies leading to new insights or practical, applicable results.
3. The student will be able to identify new research avenues and devise effective strategies for pursuing these opportunities.
4. The student will be able to demonstrate a deep working knowledge of the principles, techniques, and concepts of contemporary chemistry.
5. The student will demonstrate a thorough familiarity with the chemical literature.
6. The student will understand and practice the ethical conduct of research.
7. The student will be aware of, and prepared for, career opportunities with an advanced degree in chemistry.
8. The student will communicate scientific principles, including their own results, to knowledgeable, but not necessarily expert, audiences.
9. The student will be able to educate students interested in chemical sciences.
10. The student will be able to communicate clearly and effectively within and across disciplinary lines.