Doctor of Philosophy in Engineering and Applied Science

This interdisciplinary Ph.D. program is open to students in the Departments of Civil and Environmental Engineering, Electrical Engineering, Mechanical Engineering, Chemistry, Geosciences, Mathematics, and Physics. The program allows for a broad range of research topics in Engineering (Civil Engineering, Electrical Engineering, Environmental Engineering, Environmental Science and Management, Measurement and Control Engineering, and Mechanical Engineering), Chemistry (Biochemistry, Atmospheric, Environmental, Materials, Inorganic, Organic, Organometallic, and Physical Chemistry), Geosciences (Geology, Geochemistry, Environmental Geosciences), Mathematics (Applied Mathematics and Computational Mathematics), and Physics (Radiation Science, Accelerator Applications, and Applied Nuclear Physics).

Goals

• Prepare graduates to conduct and disseminate independent scholarly research.
• Prepare graduates for careers in academia, government, or industry.

Objectives

• Increase the knowledge of graduates in their specialized field: Chemistry, Engineering (all disciplines), Geosciences, Mathematics, and Physics.
• Enhance the ability of graduates to contribute to their chosen field.
• Enhance effective written and oral communication skills of graduates.

Admission Requirements

All applicants must meet Idaho State University Graduate School admission requirements for doctoral programs. Additionally, applicants must have attained a master’s degree in engineering, physics, chemistry, geosciences, mathematics, or a closely related field. Applicants must submit a one-page statement of research interests, a one-page statement of career interests, a resume, and at least 3 letters of reference along with their application. The approval of the chair of major department is required for admission. In some special cases, a student with an exceptional undergraduate academic record and aptitude for research but without an M.S. degree may be directly admitted to the Ph.D. program with the approval of the Department Chair of the student’s parent department.

General Requirements

The Ph.D. degree requires completion of at least 84 credits consisting of 30 credits for the M.S. degree, 18 credits of additional course work (at least 50% of the credits should be at 6000 level), 1-4 credits of graduate seminar and 32-35 credits of dissertation research. Additional dissertation research credits may be required by the student’s dissertation committee.

Program of Study

An advisory committee consisting of Idaho State University graduate faculty (a minimum of 2 from the student’s parent department and 1 from another relevant department) will be formed for each student upon entry into the program. The committee will guide the student in establishing his or her program of course work and laboratory study based upon the student’s background and research interest. The advisory committee has the responsibility of ensuring that the student has adequate knowledge to support research in his or her chosen area of interest.

At the end of 18 credits of course work, the student will take an 8-hour written, comprehensive qualifying examination covering relevant information within