

# Doctor of Philosophy in Nuclear Science and Engineering

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## 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 (only) statement of research interests, a one-page (only) statement of career interests, a resume, and at least 2 letters of reference along with their applications. In some special cases, a student with 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 Ph.D. program committee.

## General Requirements

The doctoral degree requires completion of at least 84 credits consisting of 32 credits for the master's degree, 18 credits of additional course work (at least 50% of the credits must be at 6600 level), 4 credits of graduate seminar and 32 credits of dissertation research. Six credits of core courses are required for each emphasis area. At least 9 of the 18 credits of course work must be in collateral areas as designated by the student's advisor. Additional dissertation research credits may be required by the student's dissertation committee.

## Program of Study

An advisor, a Graduate Faculty member from the student's parent department, will be identified for each student upon entering the program. The advisor will guide the student in establishing their program of course work and laboratory study based upon the student's background and research interest. The advisor 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 the first year, the student will take an 8-hour written, comprehensive qualifying examination covering the relevant information addressed in a nuclear engineering B.S. curriculum (including nuclear physics, reactor physics, reactor engineering, and nuclear fuel cycle). A student taking the comprehensive qualifying exam needs to be prepared to take an oral examination conducted by the examination committee. The oral exam needs to focus primarily on material in the written exam that was not adequately answered. However, the examination committee, at its discretion, may excuse a student from taking the oral examination if the student excels in the written examination. The student will be allowed two attempts to pass the comprehensive examination, and the second attempt must be within one-half year after the first attempt. The student will be admitted to candidacy upon passing the comprehensive qualifying examination.

A dissertation committee is formed with a minimum of 5 members consisting of a major professor, 2 members from the student's parent department, a member from another relevant department, and a Graduate Faculty Representative. The major advisor chairs the dissertation committee. Typically, within six months of passing the comprehensive qualifying examination, the candidate, with guidance from the major advisor, will satisfactorily complete an oral presentation and defense of a written proposal for dissertation research to the dissertation committee. The research and dissertation preparation must be conducted under the close supervision of the committee and must include at least one full year of work performed under Idaho State University graduate faculty. The candidate can submit the final dissertation any time after acceptance of the research proposal.

Dissertation approval requires a public presentation of the dissertation and a satisfactory oral defense to the dissertation committee. Doctoral oral examinations are open to all regular members of the faculty as observers. Further,

oral presentations are open to the public until questioning by the dissertation committee begins.