

# Nuclear Engineering

Program Description	Type	Degree
Nuclear Engineering, B.S. ( <a href="https://coursecat.isu.edu/undergraduate/scienceengineering/nuclear-engineering/bs-nuclear-engineering/">https://coursecat.isu.edu/undergraduate/scienceengineering/nuclear-engineering/bs-nuclear-engineering/</a> )	Degree	B.S.
Health Physics, B.S. ( <a href="https://coursecat.isu.edu/undergraduate/scienceengineering/nuclear-engineering/bs-health-physics/">https://coursecat.isu.edu/undergraduate/scienceengineering/nuclear-engineering/bs-health-physics/</a> )	Degree	B.S.
Health Physics, A.S. ( <a href="https://coursecat.isu.edu/undergraduate/scienceengineering/nuclear-engineering/as-health-physics/">https://coursecat.isu.edu/undergraduate/scienceengineering/nuclear-engineering/as-health-physics/</a> )	Degree	A.S.

## Nuclear Engineering

ISU offers a B.S. degree in Nuclear Engineering and M.S. and Ph.D. degrees in Nuclear Science and Engineering. The field of nuclear engineering involves harnessing the energy of the atomic nucleus for many productive applications, such as electricity production in nuclear power plants and medical diagnostics and treatment using radiation from the nucleus. The B.S. degree coursework plan provides for development of a strong foundation in mathematics and the physical sciences in the first few semesters. Upon this foundation are built the key components of nuclear engineering: nuclear and radiation physics, radiation detection and measurement, reactor physics and kinetics, nuclear power production, and the nuclear fuel cycle.

The B.S. degree in nuclear engineering will prepare the student for work in industry, government, and university settings in areas such as nuclear facility operations and support, reactor design and development, radioactive waste management, and nuclear security and safeguards.

### Accreditation

The Bachelor of Science (B.S.) program in Nuclear Engineering (NE) is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org> (<http://www.abet.org/>).

### Educational Objectives for the Degree Program in Nuclear Engineering

- Our graduates will be active in the nuclear industry or related fields, making contributions to its advancement, either in industry, research, or academics.
- Our graduates will have a record of accomplishment in the nuclear industry.
- Our graduates will engage in lifelong learning, keeping abreast of advancements in their fields.

## Health Physics

ISU offers the A.S., B.S., and M.S. options in Health Physics. Health Physics, an applied science, is concerned with the protection of humans and their environment from the possible harmful effects of radiation while providing for its beneficial uses. Health Physics is a multi-disciplined profession that incorporates aspects of both the physical and biological sciences. The B.S. option in Health Physics will prepare the student for work in government, university, medical, or industrial settings dealing with such areas as operational radiation safety, regulatory issues, and environmental quality. Successful B.S. students receive a Bachelor of Science in Health Physics.

To declare a major in Health Physics, a student must have completed at least 24 semester hours and not be on probation. Declaration of major should be done as

soon as possible in the student's program. For further details, please consult staff of the Department of Nuclear Engineering and Health Physics.

### Accreditation

The Idaho State University Health Physics program is evaluated by periodically monitoring a series of programmatic outcomes that are used to indicate the extent to which our objectives are being accomplished and to provide information by which the program may be modified to optimize accomplishing these objectives.

### Educational Objectives for the Degree Program in Health Physics

The objective of the Idaho State University Health Physics program is to produce Health Physicists with:

- Fundamental technical knowledge,
- Strong written and verbal communication skills,
- Well-developed professional judgment with the capability to think critically,
- Capability for solving applied health physics problems,
- The ability to work independently, and
- A thorough understanding of professional ethics.

Students earning either undergraduate degree in the Health Physics program must complete 8 of the 9 University General Education Objectives (a minimum of 36 credits - see the General Education Requirements (<http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>) described in the Academic Information section of this catalog). Some of the courses listed as degree requirements will also satisfy or partially satisfy General Education Objectives, as noted.

### Faculty (<https://coursecat.isu.edu/undergraduate/scienceengineering/nuclear-engineering/faculty/>)

### Nuclear Engineering (NE) Courses (<http://coursecat.isu.edu/undergraduate/allcourses/ne/>)

### Health Physics (HPHY) Courses (<https://coursecat.isu.edu/undergraduate/allcourses/hphy/>)