Nuclear Engineering

The Department of Nuclear Engineering offers three graduate degree programs: the Master of Engineering (MEng), the Master of Science (MS), and the Doctor of Philosophy (PhD).

Master of Engineering (MEng)

In collaboration with other departments in the College of Engineering, Nuclear Engineering offers a one-year professional master's degree. The accelerated program is designed to develop professional engineering leaders who understand the technical, environmental, economic, and social issues involved in the design and operation of nuclear engineering devices, systems, and organizations. Prospective students will be engineers, typically with industrial experience, who aspire to substantially advance in their careers and ultimately to lead large, complex organizations, including governments.

Admission to the University

Uniform minimum requirements for admission

The following minimum requirements apply to all programs and will be verified by the Graduate Division:

1. A bachelor's degree or recognized equivalent from an accredited institution;
2. A minimum grade-point average of B or better (3.0);
3. If the applicant comes from a country or political entity (e.g. Quebec) where English is not the official language, adequate proficiency in English to do graduate work, as evidenced by a TOEFL score of at least 570 on the paper-and-pencil test, 230 on the computer-based test, 90 on the iBT test, or an IELTS Band score of at least 7 (note that individual programs may set higher levels for any of these); and
4. Enough undergraduate training to do graduate work in the given field.

Applicants who already hold a graduate degree

The Graduate Council views academic degrees as evidence of broad research training, not as vocational training certificates; therefore, applicants who already have academic graduate degrees should be able to take up new subject matter on a serious level without undertaking a graduate program, unless the fields are completely dissimilar.

Programs may consider students for an additional academic master's or professional master's degree if the additional degree is in a distinctly different field.

Applicants admitted to a doctoral program that requires a master's degree to be earned at Berkeley as a prerequisite (even though the applicant already has a master's degree from another institution in the same or a closely allied field of study) will be permitted to undertake the second master's degree, despite the overlap in field.

The Graduate Division will admit students for a second doctoral degree only if they meet the following guidelines:

1. Applicants with doctoral degrees may be admitted for an additional doctoral degree only if that degree program is in a general area of knowledge distinctly different from the field in which they earned their original degree. For example, a physics PhD could be admitted to a doctoral degree program in music or history; however, a student with a doctoral degree in mathematics would not be permitted to add a PhD in statistics.
2. Applicants who hold the PhD degree may be admitted to a professional doctorate or professional master's degree program if there is no duplication of training involved.

Applicants may only apply to one single degree program or one concurrent degree program per admission cycle.

Any applicant who was previously registered at Berkeley as a graduate student, no matter how briefly, must apply for readmission, not admission, even if the new application is to a different program.

Required documents for admissions applications

1. **Transcripts:** Upload unofficial transcripts with the application for the departmental initial review. Official transcripts of all college-level work will be required **if admitted**. Official transcripts must be in sealed envelopes as issued by the school(s) you have attended. Request a current transcript from every post-secondary school that you have attended, including community colleges, summer sessions, and extension programs.
   If you have attended Berkeley, upload unofficial transcript with the application for the departmental initial review. Official transcript with evidence of degree conferral ***will not*** be required if admitted.
2. **Letters of recommendation:** Applicants can request online letters of recommendation through the online application system. Hard copies of recommendation letters must be sent directly to the program, not the Graduate Division.
3. **Evidence of English language proficiency:** All applicants from countries in which the official language is not English are required to submit official evidence of English language proficiency. This requirement applies to applicants from Bangladesh, Burma, Nepal, India, Pakistan, Latin America, the Middle East, the People's Republic of China, Taiwan, Japan, Korea, Southeast Asia, and most European countries. However, applicants who, at the time of application, have already completed at least one year of full-time academic course work with grades of B or better at a U.S. university may submit an official transcript from the U.S. university to fulfill this requirement. The following courses will not fulfill this requirement: 1) courses in English as a Second Language, 2) courses conducted in a language other than English, 3) courses that will be completed after the application is submitted, and 4) courses of a non-academic nature. If applicants have previously been denied admission to Berkeley on the basis of their English language proficiency, they must submit new test scores that meet the current minimum from one of the standardized tests.

Admission to the Program

Admission to the graduate program in nuclear engineering is available to qualified individuals who have obtained a bachelor's degree from a recognized institution in one of the fields of engineering or the physical sciences. For all programs, required preparation in undergraduate coursework includes mathematics through partial differential equations and advanced analysis, nuclear reactions, and thermodynamics. Admission is granted on the basis of undergraduate and graduate records (if any), statement of purpose, record of work experience and professional activities, letters of recommendation, and the Graduate

Record Examination (GRE) and Test of English as a Foreign Language (TOEFL), if applicable.

In order to receive the Ph.D. in Nuclear Engineering, all students must successfully complete the following three milestones:

- Required coursework: major and minor requirements
- Departmental Exams: first year screening exams and the oral qualifying exam
- Dissertation

Curriculum

Courses Required

Major Field (6 Graduate Level Nuclear Engineering Electives)	
One Technical Minor Field Outside Nuclear Engineering (2-3 courses; 1 course must be graduate level)	
One Technical Minor Field Outside or in Nuclear Engineering (2-3 courses; 1 course must be graduate level)	

Departmental Exams:

Screening Exam

Students must pass a written screening exam during the first year in graduate study. This exam which is based on undergraduate thermodynamics, nuclear materials, heat transfer and fluid mechanics, nuclear physics, neutronics, radiaoactive waste management and fusion theory. Four of the seven areas must be passed in order the pass the exam. There are two chances to pass.

Oral Exam

After completion of the coursework for the Ph.D. the student takes the Oral Exam. The content of the exam is usually a presentation of the student's research and questions relating the coursework in the outside minor. The exam committee is composed of 4 faculty members (normally three from the department, and a non-departmental faculty member who represents an outside minor.)

Ph.D. Dissertation

A dissertation on a subject chosen by the candidate, bearing on the principal subject of the student's major study and demonstrating the candidate's ability to carry out independent investigation, must be completed and receive the approval of the dissertation committee and the dean of the Graduate Division. The committee consists of three members, including the instructor in charge of the dissertation and one member outside the candidate's department.

Master's students must choose between two degree plan options: Plan I or Plan II. Plan I requires at least **20 semester units** of upper division and graduate courses, **plus a thesis**. At least 8 of these units must be in 200 series courses in the student's major subject. Plan II requires at least **24 semester units** of upper division and graduate courses, followed by a **comprehensive final examination administered by the department**. At least 12 units must be in graduate courses in the student's major subject. In Nuclear Engineering, the "examination" takes the form of a project and presentation

Curriculum

Courses Required

Thesis: Approved study list of Nuclear Engineering Electives (8 graduate courses minimum)	20
Project Plan: Approved study list of Nuclear Engineering Electives (12 graduate courses minimum)	24

Both MS Plan I and Plan II are subject to the following:

i) Units for 298 (seminar) courses are not counted towards the degree.

ii) A Study plan approved by the major field adviser is required each semester.

iii) A maximum of 4 units of coursework from approved non-academic institutions or four units from another academic institution can be used, provided course was taken while in graduate standing and meets departmental approval.

iv) Units for graduate courses taken as an undergraduate are allowed if the units were in excess of units required to satisfy the BS degree requirements.

Noncourse Requirements

Plan I: Thesis (Requires thesis committee composed of three faculty.)

Plan II: Completion of a project culminating in a written report and an oral presentation before a committee of three faculty members or two faculty members and one approved non-university person. Approval by the professor in charge of the research project and the Chair of the Graduate Advisers is required.

All students must take at least 2 letter-grade NE courses during the first year as a graduate student.

Curriculum

Courses Required

ENGIN 295	Master of Engineering Capstone Integration	1
ENGIN 271	Engineering Leadership I	3
ENGIN 272	Engineering Leadership II	3
ENGIN 296MA	Master of Engineering Capstone Project	2
ENGIN 296MB	Master of Engineering Capstone Project	3

Nuclear Engineering Electives per concentration offerings: Fission Power Engineering; Power Plant Construction Management; Nuclear Fuel Cycles & Waste Management; Materials in Nuclear Technology; Risk, Safety & Systems Analysis; Beam & Accelerator Applications; Fusion Power Engineering; Homeland Security & Nonproliferation; Radiation & Health Physics

Nuclear Engineering

NUC ENG 201 Nuclear Reactions and Interactions of Radiation with Matter 4 Units
Interaction of gamma rays, neutrons, and charged particles with matter; nuclear structure and radioactive decay; cross sections and energetics of nuclear reactions; nuclear fission and the fission products; fission and fusion reactions as energy sources.
Rules & Requirements

Prerequisites: 101

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Norman

NUC ENG 204 Advanced Concepts in Radiation Detection and Measurements 3 Units
Advanced concepts in the detection of ionizing radiation relevant for basic and applied sciences, nuclear non-proliferation, and homeland security. Concepts of signal generation and processing with advantages and drawbacks of a range of detection technologies. Laboratory comprises experiments to compare conventional analog and advanced digital signal processing, information generation and processing, position-sensitive detection, tracking, and imaging modalities.
Rules & Requirements

Prerequisites: Graduate standing, 104 or similar course or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 4 hours of laboratory per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Vetter

NUC ENG 220 Irradiation Effects in Nuclear Materials 3 Units
Physical aspects and computer simulation of radiation damage in metals. Void swelling and irradiation creep. Mechanical analysis of structures under irradiation. Sputtering, blistering, and hydrogen behavior in fusion reactor materials.
Rules & Requirements

Prerequisites: 120 or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Wirth

NUC ENG 221 Corrosion in Nuclear Power Systems 3 Units
Structural metals in nuclear power plants; properties and fabrication of Zircaloy; aqueous corrosion of reactor components; structural integrity of reactor components under combined mechanical loading, neutron irradiation, and chemical environment.
Rules & Requirements

Prerequisites: 120, Materials Science and Mineral Engineering 112 recommended

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Wirth

NUC ENG 224 Safety Assessment for Geological Disposal of Radioactive Wastes 3 Units
Multi-barrier concept; groundwater hydrology, mathematical modeling of mass transport in heterogeneous media, source term for far-field model; near-field chemical environment, radionuclide release from waste solids, modeling of radionuclide transport in the near field, effect of temperature on repository performance, effect of water flow, effect of geochemical conditions, effect of engineered barrier alteration; overall performance assessment, performance index, uncertainty associated with assessment, regulation and standards.
Rules & Requirements

Prerequisites: 124 or upper division course in differential equations

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Ahn

NUC ENG 225 The Nuclear Fuel Cycle 3 Units
This course is intended for graduate students interested in acquiring a foundation in nuclear fuel cycle with topics ranging from nuclear-fuel reprocessing to waste treatment and final disposal. The emphasis is on the relationship between nuclear-power utilization and its environmental impacts. The goal is for graduate engineering students to gain sufficient understanding in how nuclear-power utilization affects the environment, so that they are better prepared to design an advanced system that would result in minimized environmental impact. The lectures will consist of two parts. The first half includes mathematical models for individual processes in a fuel cycle, such as nuclear fuel reprocessing, waste solidification, repository performance, and nuclear transmutation in a nuclear reactor. In the second half, these individual models are integrated, which enables students to evaluate environmental impact of a fuel cycle.
Rules & Requirements

Prerequisites: Graduate standing or consent of instructor; 124 and 150 are recommended

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Ahn

NUC ENG 230 Analytical Methods for Non-Proliferation 4 Units
Use of nuclear measurement techniques to detect clandestine movement and/or possession of nuclear materials by third parties. Nuclear detection, forensics, signatures, and active passive interrogation methodologies will be explored. Techniques currently deployed for arms control and treaty verification will be discussed. Emphasis will be placed on common elements of detection technology from the viewpoint of resolution of threat signatures from false positives due to naturally occurring radioactive material. Laboratory will involve experiments conducted in the Nucleonics Laboratory featuring passive and active neutron signals, gamma ray detection, fission neutron multiplicity, and U and Pu isotopic identification and age determination. Students should be familiar with alpha, beta, gamma, and neutron radiation and basic concepts of nuclear fission.
Rules & Requirements

Prerequisites: 101, PHYSICS 7C, or equivalent course in nuclear physics

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 3 hours of laboratory per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Morse

NUC ENG 250 Nuclear Reactor Theory 4 Units
Fission characteristics; neutron chain reactions, neutron transport and diffusion theory; reactor kinetics; multigroup methods, fast and thermal spectrum calculations, inhomogeneous reactor design, effects of poisons and fuel depletion.
Rules & Requirements

Prerequisites: 101, 150; Engineering 117 recommended

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Summer: 6 weeks - 10 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Greenspan

NUC ENG 255 Numerical Simulation in Radiation Transport 3 Units
Computational methods used to analyze nuclear reactor systems described by various differential, integral, and integro-differential equations. Numerical methods include finite difference, finite elements, discrete ordinates, and Monte Carlo. Examples from neutron and photon transport, heat transfer, and thermal hydraulics. An overview of optimization techniques for solving the resulting discrete equations on vector and parallel computer systems.
Rules & Requirements

Prerequisites: 150

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Vujic

NUC ENG 260 Thermal Aspects of Nuclear Reactors 4 Units
Fluid dynamics and heat transfer; thermal and hydraulic analysis of nuclear reactors; two-phase flow and boiling; compressible flow; stress analysis; energy conversion methods.
Rules & Requirements

Prerequisites: Mechanical Engineering 106 and 109 or Chemical Engineering 150B

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Peterson

NUC ENG 265 Design Analysis of Nuclear Reactors 3 Units
Principles and techniques of economic analysis to determine capital and operating costs; fuel management and fuel cycle optimization; thermal limits on reactor performance, thermal converters, and fast breeders; control and transient problems; reactor safety and licensing; release of radioactivity from reactors and fuel processing plants.
Rules & Requirements

Prerequisites: 150 and 161

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Greenspan

NUC ENG 267 Nuclear Reactor Safety 3 Units
Principles and methods used in the safety evaluation of nuclear power plants. Safety philosophies, design criteria and regulations. Deterministic and probabilistic models, reliability analysis, nuclear and thermal-hydraulic transients, radiological consequences, and risk assessment. Design-basis and severe accident analysis, role of engineered safety systems, siting, and licensing. Case studies of accidents.
Rules & Requirements

Prerequisites: 150 and 161

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Peterson

NUC ENG 275 Principles and Methods of Risk Analysis 4 Units
Principles and methodological approaches for the quantification of technological risk and risk-based decision making.
Rules & Requirements

Prerequisites: Consent of instructor. Civil Engineering 193 and Industrial Engineering 166 recommended

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Kastenberg

NUC ENG 280 Fusion Reactor Engineering 3 Units
Engineering and design of fusion systems. Introduction to controlled thermonuclear fusion as an energy economy, from the standpoint of the physics and technology involved. Case studies of fusion reactor design. Engineering principles of support technology for fusion systems.
Rules & Requirements

Prerequisites: 120 and 180

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Morse

NUC ENG 281 Fully Ionized Plasmas 3 Units
Introduction to warm and hot magnetized plasmas. Single particle motion in electric and magnetic fields. Collective particle oscillations, waves and instabilities. Magnetohydrodynamic equilibria, stability and transport. Magnetically confined plasmas for controlled fusion. Space plasmas.
Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: Morse

Formerly known as: Electrical Engineering 239B

NUC ENG C282 Charged Particle Sources and Beam Technology 3 Units
Topics in this course will include the latest technology of various types of ion and electron sources, extraction and formation of charge particle beams, computer simulation of beam propagation, diagnostics of ion sources and beams, and the applications of beams in fusion, synchrotron light source, neutron generation, microelectronics, lithography, and medical therapy. This is a general accelerator technology and engineering course that will be of interest to graduate students in physics, electrical engineering, and nuclear engineering.
Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructors: Leung, Steier

Also listed as: ENGIN C282

NUC ENG C285 Nuclear Security: The Nexus Between Policy and Technology 4 Units
The course will review the origins and evolution of nuclear energy, how it has been applied for both peaceful and military purposes, and the current and prospective challenges it presents. The purpose of the course is to educate students on the policy roots and technological foundations of nuclear energy and nuclear weapons so they are positioned to make original contributions to the field in their scholarly and professional careers.
Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructors: Nacht, Prussin

Also listed as: PUB POL C285

NUC ENG 290A Special Topics in Applied Nuclear Physics 3 Units
Special topics in applied nuclear physics. Topics may include applied nuclear reactions and instrumentation, bionuclear and radiological physics, and subsurface nuclear technology, among other possibilities. Course content may vary from semester to semester depending upon the instructor.
Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

Instructor: van Bibber

NUC ENG 290B Special Topics in Nuclear Materials and Chemistry 3 Units
Special topics in nuclear materials and chemistry. Topics may include advanced nuclear materials and corrosion. Course content may vary from semester to semester depending upon the instructor.
Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

NUC ENG 290C Special Topics in Nuclear Energy 3 Units
Special topics in nuclear energy. Topics may include fission reactor analysis and engineering, nuclear thermal hydraulics, and risk, safety and large-scale systems analysis. Course content may vary from semester to semester depending on the instructor.
Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

NUC ENG 290D Special Topics in Nuclear Non-Proliferation 3 Units
Special topics in nuclear non-proliferation. Topics may include homeland security and nuclear policy, and nuclear fuel cycle and waster management. Course content may vary from semester to semester depending on the instructor.
Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

NUC ENG 290E Special Topics in Environmental Aspects of Nuclear Energy 3 Units
Special topics in environmental aspects of nuclear energy. Lectures on special topics of interest in environmental impacts of nuclear power utilizations, including severe accidents. The course content may vary from semester to semester, and will be announced at the beginning of each semester.
Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

NUC ENG 290F Special Topics in Fusion and Plasma Physics 3 Units
Special topics in fusion and plasma physics. Topics may include laser, particle bean and plasma technologies, fusion science and technology, and accelerators. Course content may vary
from semester to semester depending upon the instructor.
Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Letter grade.

NUC ENG 295 Nuclear Engineering Colloquium 0.0 Units
Presentations on current topics of interest in nuclear technology by experts from government, industry and universities. Open to the campus community.
Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1.5 hours of lecture per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Instructor: Peterson

NUC ENG 298 Group Research Seminars 1 Unit
Seminars in current research topics in nuclear engineering: Section 1 - Fusion; Section 2 - Nuclear Waste Management; Section 3 - Nuclear Thermal Hydraulics; Section 4 - Nuclear Chemistry; Section 6 - Nuclear Materials; Section 7 - Fusion reaction design; Section 8 - Nuclear Instrumentation.
Rules & Requirements

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1.5 hours of seminar per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

NUC ENG 299 Individual Research 1 - 12 Units
Investigation of advanced nuclear engineering problems.
Rules & Requirements

Prerequisites: Graduate standing

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

NUC ENG 375 Teaching Techniques in Nuclear Engineering 1 - 3 Units
This course is designed to acquaint new teaching assistants with the nature of graduate student instruction in courses in the department of Nuclear Engineering. Discussion, practice, and review of issues relevant to the teaching of nuclear engineering. Effective teaching methods will be introduced by experienced GSIs and faculty.
Rules & Requirements

Prerequisites: Graduate standing or ASE status

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Nuclear Engineering/Professional course for teachers or prospective teachers

Grading: Offered for satisfactory/unsatisfactory grade only.

Formerly known as: Nuclear Enginering 301

NUC ENG 602 Individual Study for Doctoral Students 1 - 8 Units
Individual study in consultation with the major field adviser, intended to provide an opportunity for qualified students to prepare themselves for the various examinations required of candidates for the Ph.D.
Rules & Requirements

Prerequisites: For candidates for doctoral degree

Credit Restrictions: Course does not satisfy unit or residence requirements for doctoral degree.

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Nuclear Engineering/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.