HEALTH PHYSICS (HP)

HP 6403. Radiological Health I. 3 Credit Hours.
Applied nuclear and atomic physics, radioactive decay, radiation interactions, radiation dosimetry, and safety guidelines; instrumentation, radiation protection and basics of criticality safety.

HP 6406. Radiological Health II. 3 Credit Hours.
Radiation quantities, microdosimetry, biological effects of ionizing radiation, radiation risk, internal radiation protection, ALARA, and radiological emergency response.

HP 6416. Applied Radiological Health Laboratory. 3 Credit Hours.
Advanced laboratory course in radiochemical and instrumental analysis. Practical radiation/radioactivity monitoring problems in nuclear facilities and environmental surveillance.

HP 6506. Operational Health Physics. 3 Credit Hours.
Radiation sources, radiological safety practices and procedures for nuclear facilities, and the impact of radiological safety in the design of such facilities.

HP 6601. Industrial Hygiene. 3 Credit Hours.
Chemical, physical, biological, and ergonomic exposures. Occupational environment regulations. Application of scientific and engineering principles to hazard evaluation and general occupational health control measures.

HP 6755. Radiological Assessment and Waste Management. 3 Credit Hours.
Critical analyses of sources and human exposures, mathematical models for movement through the biosphere, environmental transport, and exposure for nuclear facilities and waste disposal processing. Crosslisted with NRE 6755.

HP 6756. Radiation Physics. 3 Credit Hours.
Characteristics of atomic and nuclear radiation, transition probabilities, radioactivity and isotopes, cross sections, electromagnetic radiation, neutrons, and charged particle interaction with matter. Crosslisted with NRE 6756.

HP 6757. Radiation Detection. 3 Credit Hours.
Introduction to the theory and application of radiation detectors, measurement methods, signal processing, and data analysis. Crosslisted with NRE 6757.

HP 6758. Numerical Methods in Mechanical Engineering. 3 Credit Hours.
Numerical methods for solution of engineering problems; initial, eigenvalue, and boundary-value problems; computational stability for ordinary and linear partial differential equations. Crosslisted with ME and NRE 6758.

HP 6XXX. Health Phys El ective. 1-21 Credit Hours.

HP 7000. Master's Thesis. 1-21 Credit Hours.

HP 7757. Teaching Practicum. 3 Credit Hours.
Supervised teaching for doctoral students. Teaching techniques, course and curriculum design, student evaluation methods and criteria. Students may, in some instances, prepare and present lectures. Crosslisted with NRE, ME, and CHBE 7757.

HP 8011. Seminars in Health Physics. 1 Credit Hour.
Seminars involving current research projects presented by graduate students, faculty, and invited speakers.

HP 8012. Seminars in Health Physics. 1 Credit Hour.
Seminars involving current research projects presented by graduate students, faculty, and invited speakers.

HP 8801. Special Topics in Health Physics. 1 Credit Hour.
Special topic offerings of current interest in health physics not included in regular courses.

HP 8802. Special Topics in Health Physics. 2 Credit Hours.
Special topic offerings of current interest in health physics not included in regular courses.

HP 8803. Special Topics in Health Physics. 3 Credit Hours.
Special topics offerings of current interest in health physics not included in regular courses.

HP 8804. Special Topics in Health Systems. 4 Credit Hours.
Special topic offerings of current interest in health physics not included in regular courses.

HP 8805. Special Topics in Health Physics. 5 Credit Hours.
Special topic offerings of current interest in health physics not included in regular courses.

HP 8806. Special Topics in Health Physics. 6 Credit Hours.
Special topic offerings of current interest in health physics not included in regular courses.

HP 8901. Special Problems in Health Physics. 1-21 Credit Hours.
Individual studies and/or experimental investigations of problems of current interest in health physics.

HP 8902. Special Problems in Health Physics. 1-21 Credit Hours.
Individual studies and/or experimental investigations of problems of current interest in health physics.

HP 8903. Special Problems in Health Physics. 1-21 Credit Hours.
Individual studies and/or experimental investigations of problems of current interest in health physics.

HP 8904. Special Problems in Health Physics. 1-21 Credit Hours.
Individual studies and/or experimental investigations of problems of current interest in health physics.

HP 8905. Special Problems in Health Physics. 1-21 Credit Hours.
Individual studies and/or experimental investigations of problems of current interest in health physics.

HP 8906. Special Problems in Health Physics. 1-21 Credit Hours.
Individual studies and/or experimental investigations of problems of current interest in health physics.

HP 8907. Teaching Assistantship. 1-9 Credit Hours.
For graduate students holding a graduate teaching assistantship.

HP 8998. Research Assistantship. 1-9 Credit Hours.
For graduate students holding a graduate research assistantship.

HP 9000. Doctoral Thesis. 1-21 Credit Hours.