MASTER OF SCIENCE IN RADIOLOGICAL HEALTH SCIENCES, PLAN A, HEALTH PHYSICS SPECIALIZATION

Health physics is the discipline associated with using radiation for the benefit of society. This includes applying scientific principles as well as practical knowledge to ensure that these benefits are obtained without unreasonable risks to humans or the environment. The profession has evolved into a necessary part of all applications that involve radiation, including the use of radiation in medical and industrial settings. Sources of radiation range from naturally occurring radioactivity to man-made sources of radiation, such as reactors. Successful professionals in health physics have broad backgrounds in physics, biology, and instrumentation, and understand risks and risk analysis.

The required course work is structured to provide a sound foundation in the basic skills essential to the health physics profession. Students may concentrate on specific areas of interest through a wide selection of elective courses. The formal course work is supplemented by laboratory exercises, field trips, and research.

The M.S. in Radiological Health Sciences, Plan A, Health Physics Specialization is accredited by the Applied Sciences Accreditation Commission of ABET (https://www.abet.org/).

Learn more about the Health Physics Specialization on the Department of Environmental and Radiological Health Sciences website.

Students interested in graduate work should refer to the Graduate and Professional Bulletin.

Learning Objectives

Upon successful completion, students will be able to:

1. Apply knowledge of health physics and related fields or specialties, including statistics, radiobiology, radiochemistry and radioecology.
2. Formulate a hypothesis, design and conduct experiments, as well as to analyze and interpret data.
3. Develop and implement a program to meet radiation safety needs of workers and protection of the general public.
4. Function independently and on multi-disciplinary teams.
5. Identify and solve health physics problems.
6. Adhere to the standards of professional and ethical responsibility of the field.
7. Communicate effectively both orally and in writing.
8. Understand the impact of solutions to contemporary public health issues in a global and societal context.
9. Use the techniques, skills, and modern scientific and technical tools necessary for professional practice of health physics.