MASTER OF SCIENCE IN RADIOLOGICAL HEALTH SCIENCES

The Master of Science in Radiological Health Sciences focuses on cancer research and the role of ionizing radiation in inducing, diagnosing and treating cancer.

Learning Objectives

Graduates with a Master of Science in Radiological Health Sciences are able to:

- Apply knowledge of radiation exposure on health and of related fields, including radiation physics, radiation chemistry, radiation biology and statistics.
- Apply knowledge of radiation exposure for the purpose of diagnosis and cancer therapy.
- Formulate a hypothesis, design and conduct experiments, analyze and interpret data.
- Function with some independence in multi-disciplinary teams.
- Identify and solve problems associated with the effects of radiation exposure on health.
- Adhere to the standards of professional and ethical responsibility of the field.
- Communicate effectively both orally and in writing.

Plan A Effective Fall 2021

Code	Title	Credits
ERHS 550	Principles of Radiation Biology [1]	5
ERHS 699	Thesis	3-6
ERHS 770	Radiation/Cancer Biology-Comparative Oncology [2]	2
STAR 511	Design and Data Analysis for Researchers I	4
Select one of the following courses:		3
ERHS 530	Radiological Physics and Dosimetry I	
ERHS 712	Physics of Diagnostic Imaging	
ERHS 714	Radiation Therapy Physics	
Electives (500-level or above) [3]		10-13
Program Total Credits:		**30**

A minimum of 30 credits are required to complete this program.

1. ERHS 551A, ERHS 551B, or ERHS 551C may be substituted.
2. Take in two semesters for a total of 2 credits.
3. Electives must be approved by the student's advisor and graduate committee (typically composed of 3-4 members). Electives are determined by the faculty to ensure that they meet the requirements of minimum credits and of non-regular vs. regular credit requirements set by the graduate school.

Plan B Effective Fall 2021

Code	Title	Credits
Select one of the following courses:		3-5
ERHS 450	Introduction to Radiation Biology	
ERHS 550	Principles of Radiation Biology [1]	
Select one of the following courses:		1
ERHS 770	Radiation/Cancer Biology-Comparative Oncology	
VS 792	Seminar	
Select one of the following courses:		3-4
STAR 511	Design and Data Analysis for Researchers I	
STAT 307	Introduction to Biostatistics	
VS 562	Applied Data Analysis	
Select one of the following courses:		3
ERHS 530	Radiological Physics and Dosimetry I	
ERHS 712	Physics of Diagnostic Imaging	
ERHS 714	Radiation Therapy Physics	
Electives (500-level or above) [2]		17-20
Program Total Credits:		**30**

A minimum of 30 credits are required to complete this program.

A prospective or high-quality retrospective research project is required. Research projects must be reviewed and approved by the student's advisor and graduate committee. The final exam/oral defense includes two basic parts. First, the student presents the results of their research project and answers questions on the design, results and possible future directions of this project. In the second part of the exam, the student will need to answer more general questions related to diagnostic imaging similar to the topics they need to study for the American College of Veterinary Radiology (ACVR) board.

1. ERHS 551A, ERHS 551B, or ERHS 551C may be substituted.
2. Electives must be approved by the student's advisor and graduate committee (typically composed of 3-4 members). Electives are determined by the faculty to ensure that they meet the requirements of minimum credits and of non-regular vs. regular credit requirements set by the graduate school.