Radiation Safety Program
Male X-ray Radiation Workers – New to the Radiation Safety Program

The following pages detail the requirements for you to become a radiation worker on campus, have radiation dosimetry issued to you and then use X-ray equipment:

1. You must complete the EHS online training course entitled: Radiation Producing Devices and score at least 80% on the quiz to pass the training session. See: https://safety.uncc.edu/training/training-registration/research-laboratory-environment-training-courses for information on how to access and complete the training.

2. You must complete a laboratory specific discussion and overview of the specific X-ray usage manual as they pertain to the laboratory to be provided by the Authorized User. This is to include a review of specific UNC Charlotte Radiation Safety documents including: Handbook for Radiation Safety, Emergency Procedures, and Material Security & Loss/Theft Procedure. The Authorized User is responsible for ensuring that his/her radiation workers have received adequate instruction in safety principles applicable to the X-ray unit.

3. You must complete the forms detailing any previous known radiation exposure that you have had and and provide all associated radiation exposure records.

Please forward all of the completed paperwork to the EHS Office. Please contact the Radiation Safety Officer at (704) 687-1111 if you have any questions with this process.
Online Radiation Safety Training – please complete the online radiation safety course entitled: Radiation Producing Devices that is accessible at the EHS website: https://safety.uncc.edu/training/training-registration/research-laboratory-environment-training-courses. The training takes approximately 45 minutes and there is a 20 question quiz at the end of the session.

Radiation Overview

- Radioisotopes / Half lives / Applications
- Four Primary Types of Ionizing Radiation

Personnel Protection and Monitoring

- ALARA – As Low as Reasonably Achievable
- Inverse Square Law
- Time and Distance
- Shielding for types of ionizing radiation (including tenth value layers)
- Non-Ionizing Radiation

Health Hazards Associated With Radiation

- DNA and Radiation
- Ionizing Radiation at the Cellular Level
- Radiosensitivity of cells, tissues and organs
- Damage of high doses of radiation
- Acute and Chronic Exposures
- Radiation – Units of Measurement
- Dose Limits & Typical Doses
- Natural and Manmade Sources

Radiation Usage

- Handbook for Radiation Safety and Nuclide Safety Data Sheets
- Authorized Users
- Radiation Workers
- Dosimetry Program – Dosimetry Do’s & Don’ts
- Ordering Radionuclides
- Radioactive Material Recordkeeping
- Security
- Surveys
- Emergency Response - Spills

Online Training Completion

Name: _____________________ Authorized User: _____________________ Department: _____________________

Completed by Radiation Safety Officer

Quiz Score: ___________ Date of Completion: ___________
RADIATION WORKER – RADIATION AWARENESS ORIENTATION

Laboratory Specific X-Ray Equipment Usage Training

X-ray Machine Designation: ________________________________

Building: __________________ Room: __________________

This program applies to all personnel (student, faculty and staff) wishing to operate X-ray machines.

I. Objective: To become acquainted and comfortable with the safe operation of the radiation producing equipment listed above through the following steps:

   A. Familiarity with the safe operation of X-ray equipment.
   B. Familiarity with the emergency shut-down procedures for X-ray machines.

II. Specific Training Steps:

   A. Understanding of the x-ray diffraction, spectroscopic or radiographic techniques used by the machine designated above.
   B. Overall operation of the x-ray machine (Reading Assignment - Operational Manual for the X-ray machine designated above)
   C. X-ray warning lights
   D. Emergency shut-off procedure
   E. Use of whole body and ring badge dosimetry
   F. Use of radiation shields and shutters, if applicable by unit
   G. Use of radiation survey meters
   H. Record keeping.

I have received the Radiation Safety Orientation as outlined above and agree to comply with all UNC Charlotte procedures and State requirements governing the use of this X-ray equipment.

Name: __________________ Signature: __________________ Date: ________________________

Department: ________________________________

Authorized User: ________________________________
RADIATION WORKER

PRIOR RADIATION DOSE DECLARATION

Please check applicable statement:

☐ 1) I have no prior occupational dose during the current calendar quarter.

☐ 2) I may have received the following occupational dose during the current calendar quarter (list the nature and amount of dose).*

My lifetime cumulative exposure is: ________________________________.

My current year annual exposure is: ________________________________.

My current quarter exposure is: ________________________________.

(If unknown, indicate unknown, do not leave blank)

_________________________________  ________________
Date                                     Signature

*If you indicated No. 2, then you must complete a "Radiation Exposure History" form for each place of employment at which you received an occupational dose, indicating current cumulative exposure.
RADIATION WORKER

RADIATION EXPOSURE HISTORY

Name: ___________________________  University ID Number: _______ - _______ - _______
Birth date: _______/_______/_______  Department: ________________________________

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<th>PRIOR EMPLOYMENT:</th>
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I assert that this is a complete listing of my prior radiation employment and I request that the prior employer(s), listed above, release my radiation exposure history to the UNC Charlotte EHS Office.

_____________________________  ______________________________
DATE                                SIGNATURE

Xray packet for Male -- 11/2017
RAS FORM 2
APPLICATION FOR FILM BADGE OR TLD RING SERVICE

1. Full name of applicant: _____________________________________________________________

2. University ID number: ____________________________________________________________

3. Date of birth: ___________________________________________________________________

4. Gender: ________________________________________________________________________

5. Department: _____________________________________________________________________

6. Authorized User: __________________________________________________________________

7. Isotopes used: _____________________________________________________________________

8. Location and description of use: __________________________________________________________________________________________

9. TLD Ring? (see section 2.5 B of the Handbook for Radiation Safety) yes ___ no ___ / Ring Size ______

10. List coverage by all film badge services at locations other than UNC Charlotte: ____________________________________________________________________________

The applicant certifies that all information contained herein is true and correct to the best of his or her knowledge.

Signatures:

Date: ____________________________  Applicant:_______________________________________

Date: ____________________________  Authorized User:______________________________

Date: ____________________________  Radiation Safety Officer: ________________________

Xray packet for Male -- 11/2017