Radiation Safety Training

An overview of OSHA and UNI standards

University of Northern Iowa
Environmental Health and Safety
Topics

- Training
- History
- Radiation Fundamentals
- Measuring radiation
- Biological Effects
- Methods for Reducing Exposure
Topics

- Emergency Procedures
- Regulations, Security and Records
- Warning Sign and Label Requirements
- Radioactive Waste Disposal
- Other Radiation Sources
- Radiation Safety Resources
Training

- This training program was established to create a broader awareness for the safety of the University of Northern Iowa employees and their working environment.

- It is mandatory that all workers be trained and certified prior to the use of radioactive materials.

- This program is also to help employees determine the need for more advanced training.
Who must receive training?

- Any employee of the University of Northern Iowa who may be occupationally exposed to radioactive materials.

- This includes ancillary personnel, such as clerical, housekeeping, or security, whose duties may require that they work in the vicinity of radioactive material.
Training

- **Requirements**
  - **Initial Training**
    - Required for anyone who has not been previously authorized to work with radioactive materials.
  - **Annual Refresher**
    - Required every twelve months to continue authorization to use radioactive materials.
Timeline

- 1895 – Wilhelm Roentgen discovers X-rays
- 1896 – Henri Becquerel discovers Uranium emits radiation
- 1898 – Marie and Pierre Curie isolated Radium and Polonium form Pitchblende. Coined the term radioactivity
- 1911 – Rutherford developed ‘planetary model’ of the atom
- 1911 – Millikan measures charged atom
- 1913 – Fajans and Soddy demonstrated existence of isotopes
Timeline
- 1932 – Chadwick discovers neutron
- 1938 – Hahn and Strassman discovers nuclear fission
- 1945 – Harry Truman orders first atomic bombs to be dropped on Japan (Manhatten Project)
- 1972 – Natural ancient nuclear reactor discovered in Africa
- 1986 – Chernobyl nuclear disaster
- 2011 – Fukushima Daichi nuclear disaster