



Toepfer & Associates, PLLC
—CONSULTANTS—

On the Side of Science

General Focus

Radiation Safety Officer

2026 Syllabus



Course Description

This is a comprehensive 40-hour Radiation Safety Officer (RSO) training course designed to provide participants with the knowledge and skills necessary to effectively manage radiation safety programs across a broad spectrum of government and private sector facilities.

The course covers regulatory requirements, radiation physics, biological effects, ALARA principles, radiation detection and instrumentation, licensing, and program administration. This course is designed to meet the federal and state requirements for RSO designation, and will enable graduates to gain confidence in administering their own programs, thereby promoting the safe use and handling of radioactive materials and radiation generating devices. Participants are expected to have a basic understanding of science or related technical experience and must attend all sessions to earn the RSO certification.

Upon successful completion, students will receive a certificate of training from Toepfer & Associates, PLLC.





Day 1

Hours Credit	Topic
0.5	Introduction, Course Overview
1.5	Role of the RSO, Radiation Awareness
2.0	Fundamentals of Ionizing Radiation <ul style="list-style-type: none">• Theory of Phenomenological Causes• Properties and Characteristics• Modes of Decay
1.0	Sources of Radiation
N/A	<i>Lunch Break</i>
1.5	Units of Measurement
2.0	Interactions with Matter
0.5	Evening Recap



Day 2

Hours Credit	Topic
0.5	Morning Review
0.5	Importance of Radon
1.0	Biological Effects of Ionizing Radiation
2.0	Applicable Regulations; 10 CFR 19 and 20
N/A	<i>Lunch Break</i>
1.0	External Dosimetry
1.0	Shielding Design
1.5	Internal Dosimetry
1.0	Emergency Response Planning
0.5	Evening Recap





Day 3



Hours Credit	Topic
0.5	Morning Review
1.5	Fundamentals of Radiation Detection
1.5	Radiation Detection Instruments
N/A	<i>Lunch Break</i>
1.5	Proper Surveying Techniques
1.5	Interpretation of Radiation Measurements
2.0	Instruments Lab
0.5	Evening Recap





Day 4

Hours Credit	Topic
0.5	Morning Review
2.0	Licensing
1.5	Training Programs
N/A	<i>Lunch Break</i>
1.5	Monitoring Programs <ul style="list-style-type: none">• Dosimetry• Bioassay• Contamination Control• Fit-for-Duty Testing
1.5	Audits
1.5	Recordkeeping
0.5	Evening Recap

Day 5

Hours Credit	Topic
0.5	Morning Review
2.0	Radiation Litigation
1.0	How to Survive Inspections
0.5	Very Important Things to Remember
N/A	<i>Certification Awards</i>

