

Nuclear Security for Scientists, Technicians and Engineers



WINS Academy

CONTENTS

WHO THIS MODULE IS FOR

This module helps scientists, technicians and engineers (STEs) who work with nuclear and/or other radioactive materials understand the importance of nuclear security and their responsibilities for contributing to it.

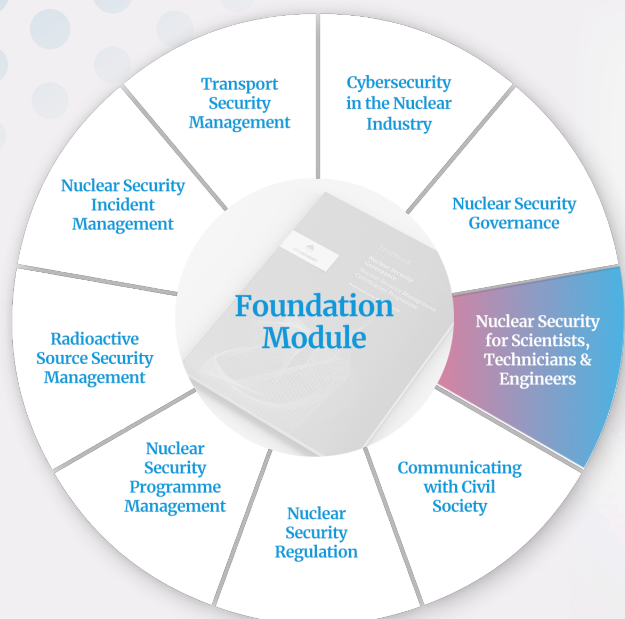
KEY ISSUES

Nuclear safety is fundamentally about protecting human beings from nuclear and other radioactive material, whereas nuclear security is fundamentally about protecting nuclear and other radioactive material from human beings with malicious intent. The reality is that safety and security cannot be operationally separated. Together they form a synergy that can only be effective if safety and security professionals work closely together. Should an event occur—whether the initial cause stems from a safety issue or the malicious intent to do harm—both safety and security will need to work together to resolve it. The greater the harmony, communication and interaction between the two areas of responsibility prior to an incident, the faster and more satisfactorily the event will be resolved.

KEY LEARNING OBJECTIVES

By the end of the course, participants will understand basic threats to nuclear and other radioactive material—including insider threat and cyber threat—and the role that STEs play in helping to decrease (or increase) such threats. They will also understand some basic physical security concepts, some of the numerous areas in which safety intersects with security, and some practical steps STEs and security personnel can take to begin bridging the gap between them.





OUTLINE

UNIT 1: SAFETY AND SECURITY CULTURE

- 1.1 The Safety–Security Interface
- 1.2 Bridging Divergent Cultures
- 1.3 Supporting a Collaborative Culture

UNIT 2: UNDERSTANDING THE THREAT

- 2.1 Threats to Nuclear and Other Radioactive Material
- 2.2 Internal Threats
- 2.3 Cyber Threats

UNIT 3: THE SECURITY PROGRAMME

- 3.1 Threat Assessment and the Security Programme
- 3.2 Physical Security Concepts
- 3.3 Security Incident Management

UNIT 4: SAFETY AND SECURITY INTERSECTIONS

- 4.1 Security by Design
- 4.2 Nuclear Material Control and Accountancy
- 4.3 Modelling & Simulation
- 4.4 Security Equipment Maintenance

UNIT 5: BRIDGING THE GAP

- 5.1 Cross-functional Communication
- 5.2 Human Reliability
- 5.3 Reporting of Serious Concerns
- 5.4 Employee Engagement
- 5.5 Additional Suggestions for Overcoming Obstacles

COURSE SUMMARY