

Detailed Description	
Course Full Name	Introduction to nuclear forensics
Purpose of the course	<p>This objective of this module is to</p> <ul style="list-style-type: none"> <li>- raise awareness and understanding of the scope and application of nuclear forensics and its role in a national nuclear security regime and national response plan</li> <li>- support Member States in adopting or developing Nuclear Forensics capabilities</li> <li>- prepare participants for the IAEA's human resource development activities, and</li> <li>- support organizational training initiatives</li> </ul>
Target audience	<ul style="list-style-type: none"> <li>- Individuals with roles and responsibilities in nuclear security (e.g. policy and decision makers, competent authorities, regulatory bodies, law enforcement, intelligence agencies, operators)</li> <li>- Individuals supporting the development and implementation of a State's national response plan for nuclear security events; those tasked with raising awareness of nuclear forensics or; responsible for organizing and sustaining capabilities for nuclear forensic analysis and those interpretation in the context of a nuclear security infrastructure.</li> <li>- Individuals participating in the IAEA's regional, inter-regional, and national lecture-based training courses on nuclear forensics.</li> </ul>
Syllabus	<ol style="list-style-type: none"> <li>1. What is nuclear forensics?</li> <li>2. The role in nuclear security</li> <li>3. The nuclear forensic process</li> <li>4. Key considerations</li> <li>5. Nuclear forensic laboratory methods and techniques</li> <li>6. International cooperation and IAEA assistance</li> </ol>
Learning Outcomes	<p>After completing this course, the learner should be able to</p> <ol style="list-style-type: none"> <li>1.1 Define nuclear forensics</li> <li>1.2 List the nuclear security functions supported by nuclear forensics</li> <li>1.3 List the types of information that nuclear forensics can provide to support investigations</li> <li>1.4 List the elements that form a nuclear forensic capability</li> <li>1.5 Identify the factors that influence the scope of nuclear forensic capabilities</li> <li>1.6 List the main considerations for developing a national nuclear forensic capability</li> <li>2.1 Recall the response plans related to nuclear forensics and their hierarchy</li> <li>2.2. State the objective of a national framework for managing the response to a nuclear security event</li> <li>2.3 List the elements of a national framework for responding to nuclear security events</li> <li>2.4 State the objective of a model action plan</li> <li>2.5 State the objective of a forensic examination plan</li> <li>2.6 State the objective of a nuclear forensic analytical plan</li> <li>3.1 List the steps of a typical nuclear forensic process from incident to report</li> <li>3.2 List the components of an event action plan</li> <li>3.3 State the objective of categorization</li> <li>3.4 Explain why evidence collection must be planned</li> <li>3.5 Describe the goal of characterization</li> <li>3.6 State the objective of nuclear forensic interpretation</li> <li>3.7 State the goal of a national nuclear forensics library</li> <li>3.8 List the elements comprising a national nuclear forensics library</li> <li>3.9 List the typical timeframes for expected levels of information about a sample</li> <li>4.1 Recognize the key considerations in developing and maintaining a nuclear forensic capability</li> <li>5.1 List the types of techniques used in nuclear forensics</li> <li>6.1 Explain how international cooperation can enhance States' nuclear forensic capabilities</li> <li>6.2 Describe assistance provided by the International Atomic Energy Agency (IAEA)</li> </ol>
Knowledge Domain	

<b>Keywords</b>	Nuclear security, Nuclear forensics
<b>Pre-requisites</b>	none
<b>Language</b>	Arabic, Chinese, English, French, Russian, Spanish
<b>Interactivity</b>	Self-study
<b>Format</b>	Online e-learning
<b>Duration</b>	2 h 30 min
<b>Assessment</b>	Assessed
<b>Certification</b>	Certificate of Completion
<b>Version Number</b>	v1.00
<b>Version Date</b>	Sep 2021
<b>Unique Technical Requirements</b>	N/A
<b>Author(s)/Owner(s)</b>	
<b>Intellectual Property Owner</b>	IAEA
<b>Copyright &amp; other restrictions</b>	IAEA copyright
<b>Contact Point</b>	<a href="mailto:nsnselearning@iaea.org">nsnselearning@iaea.org</a>
<b>IAEA Web Taxonomy Tag IDs</b>	3762; 3232; 3740; 3317; 3314; 3303; 3077; 3105
<b>IAEA Web Taxonomy Tag Names</b>	Nuclear forensics; Online learning; Security; Nuclear Security of Materials Outside of Regulatory Control Section; Division of Nuclear Security; Department of Nuclear Safety and Security; Nuclear Safety and Security; Security of nuclear and other radioactive material