Detailed Description		
Course Full Name	Nuclear security detection architecture	
Purpose of the course	Gain basic awareness on core nuclear security detection architecture concepts including:	
	 Understanding the scope and framework of a national-level NSDA Developing awareness around core nuclear security detection architecture concepts Understanding the need for coordination and cooperation among key stakeholders at all levels. 	
	with the aim of contributing to nuclear security risk assessment; national level detection strategy; inventory or existing capabilities and resources; and national level concept of operations for detection.	
Target audience	Senior level personnel responsible for the national policy, strategy, planning, design, implementation, and evaluation of a nuclear security detection architecture and involved in:	
	 National security Customs and border security Law enforcement Operational information and analysis Legal and regulatory framework Technical support organizations Any other competent authority responsible for nuclear security. 	
Syllabus	 Introduction to nuclear security detection architecture Basis for nuclear security detection architecture Design and development Detection by instrument alarm Detection by information alert Initial assessment of alarms/alerts 	
Learning Outcomes	 After completing this course, the learner should be able to 1.1 Recognize common types of criminal or intentional unauthorized acts. 1.2 Recognize the definition of nuclear security detection architecture. 1.3 Recall the main functions of a nuclear security detection architecture. 1.4 Describe a phased approach to developing nuclear security detection architecture. 1.5 Identify the benefits of an integrated planning process. 2.1 Recognize the key elements that form the basis for a nuclear security detection architecture. 2.2 Describe the legal and regulatory framework aspects required for a nuclear security detection architecture. 2.3 Describe the roles and responsibilities that need to be assigned for an effective nuclear security detection architecture. 2.4 Identify the components of a nuclear security detection strategy. 2.5 Recognize key capabilities that support a nuclear security detection architecture. 2.6 Describe the common types of international and regional cooperation and their benefits. 	

Learning Outcomes	 3.1 Recognize the attributes of effective nuclear security detection. 3.2 Describe the pathways approach. 3.3 Distinguish the layers and sub-layers of a pathways view. 4.1 Recognize basic principles of detection by instruments. 4.2 Recognize the three common types of radiation detection equipment and their characteristics. 4.3 Identify the key steps of a detection equipment life cycle. 4.4 Explain the process of planning, selecting and acquiring detection equipment. 4.5 Identify considerations for deploying detection instruments at a national level. 5.1 Define information alert. 5.2 Recognize characteristics of information alerts. 5.3 List key types of information alerts. 5.4 Recognize potential actions for information alerts. 6.1 Describe the goal of assessment and adjudication. 6.2 Recall the elements of an alarm/alert adjudication process. 6.3 Recall the key decision points and their potential outcomes in an alarm/alert adjudication process. 6.4 Describe considerations in initiating a response to a non-innocent alarm.
Knowledge Domain	
Keywords	Nuclear security detection architecture
Pre-requisites	none
Language	Arabic, Chinese, English, French, Russian, Spanish
Interactivity	Self-study
Format	Online e-learning
Duration	2 h
Assessment	Assessed
Certification	Certificate of Completion
Version Number	v1.00
Version Date	Sep 2022
Unique Technical Requirements	N/A
Author(s)/Owner(s)	
Intellectual Property Owner	IAEA
Copyright & other restrictions	IAEA copyright
Contact Point	nsnselearning@iaea.org
IAEA Web Taxonomy Tag IDs	3077; 3303; 3314; 3317; 3105; 3740; 3751; 3761; 3232
IAEA Web Taxonomy Tag Names	Nuclear Safety and Security; Department of Nuclear Safety and Security; Division of Nuclear Security; Nuclear Security of Materials Outside of Regulatory Control Section; Security of nuclear and other radioactive material; Security; Security aspects; Public events security; Online learning