

**Medical Effects of Ionizing Radiation Course**  
**Course Schedule**  
**Defense Nuclear Weapons School**  
**Kirtland Air Force Base, New Mexico**  
**22 – 26 March, 2004**

**22 March 04 (Day 1)**

0800 – 0810	Administrative Processing, Welcome, and Introduction <i>Discuss AFRRI's radiological program and introduce the threat.</i>	CDR Kirtland
0810 – 0840	Radiological Threat <i>Introduce the radiological and nuclear threat.</i>	LTjg Sandhoff
0840 – 0940	"Ten Seconds That Shook the World" <i>Explain the development of nuclear energy through the first use of nuclear weapons during wartime.</i>	Film
0950 – 1020	A Medical Role in ICC <i>Identify the Incident Command System, understand accident site coordination and the medical radiological response duties.</i>	Col Dickerson
1030 – 1110	Nuclear Weapons Accident Seminar <i>Identify key responsibilities of DoD, FEMA, and DOE as indicated in the FRERP, and understand how DoD is configured to respond to radiological emergencies.</i>	LTjg Sandhoff
1110 – 1200	Physical Principles <i>Describe the process by which radiation interacts with matter.</i>	LTjg Sandhoff
1200 – 1300	Lunch	
1300 – 1400	Cellular Radiation Biology <i>Describe the energies released by ionizing radiation and their effects on biological systems.</i>	Col Dickerson
1400 – 1500	Nuclear Weapons Blast, Thermal, and Fallout Effects <i>Explain the effects and hazards of blast and thermal energy and fallout characteristics released from a nuclear detonation.</i>	LTjg Sandhoff
1510 – 1600	"Suicide Mission to Chernobyl" <i>Summarize the lessons learned since the Chernobyl accident.</i>	Film
1600 – 1630	"Discussion of Chernobyl" <i>Update on the Chernobyl accident.</i>	MEIR Staff

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**23 March 04 (Day 2)**

0800 – 0850	Psychological Factors of Ionizing Radiation <i>Discuss the principles and procedures for protection against expected radiological hazards.</i>	CDR Kirtland
0900 – 0930	“Pre-Hospital Response to a Radiation Accident” <i>Recall the steps taken before transporting a radiologically contaminated patient to an emergency room.</i>	REAC/TS Film
0930 – 1000	“Emergency Department Response to a REAC/TS Film Radiation Accident” <i>Recall the steps taken from the time a contaminated patient enters a hospital emergency room until their transfer or release, including wound decontamination and protection of medical personnel.</i>	
1010 – 1110	Low Level (Late) Effects of Ionizing Radiation <i>Explain long-term, low-level, and chronic high-dose sub-lethal exposures of ionizing radiation.</i>	Col Dickerson
1110 – 1200	Lunch	
1200 – 1250	Radiation Defense <i>Discuss the principles and procedures for protection against expected radiological hazards.</i>	LTjg Sandhoff
1300 – 1400	Plutonium Toxicology & Therapy <i>Describe routes of plutonium contamination and methods of therapy.</i>	Dr Muggenburg
1410 – 1540	Acute Radiation Syndrome and Trauma <i>Recall the underlying causes of radiation sickness. Explain the treatments available for persons affected by radiation sickness and treatments being developed.</i>	COL Sedlak
1540 – 1600	MRAT Brief <i>Describe the functions of the Medical Radiological Advisory Team.</i>	COL Sedlak

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**24 March 04 (Day 3)**

0800 – 0850	Human Radiation Exposure Experience <i>Discuss the effects of high levels of radiation exposure in humans, both locally and systemically.</i>	CDR Kirtland
0900 – 1030	Management of Internal Contamination <i>List the methods for removing plutonium contamination and methods of therapy.</i>	Col Sedlak
1040 – 1200	Hands-on Demonstrations with RADIACs <i>Demonstrate RADIAC use.</i>	DNWS Staff
1200 – 1300	Lunch	
1300 – 1500	Management of Radioactively Contaminated MEIR Staff Patients <i>Demonstrate decon procedures for live hospital patients and discuss medical scenarios where radiological decon and treatments may be needed.</i>	
1500 - 1600	Preparation Time for Group Scenarios <i>Groups meet to prepare for the scenario exercise on the third day.</i>	Self-Paced

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**25 March 04 (Day 4)**

0800 – 0900	Personal Protective Equipment <i>Use personal protective equipment.</i>	DNWS Staff
0900 – 1200	Contamination Control, Theory and Operation	DNWS Staff
1200 – 1330	Lunch	
1330 – 1400	Field Training Drills <i>Practice field skills in radiation detection, surveying, and decontamination while wearing personal protective equipment.</i>	DNWS Staff
1400 – 1530	Scenarios Presentation <i>Explain medical management of radiological casualties.</i>	MEIR Staff

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**26 March 04 (Day 5)**

0730 – 0830	Personal Protective Equipment <i>Use personal protective equipment</i>	DNWS Staff
0830 – 1100	Field Training Exercise Simulated Airplane Crash <i>Practice finding, treating, and retrieving Casualties in a radiologically contaminated Environment.</i>	DNWS Staff
1100 – 1200	In-class discussion of FTX	DNWS Staff
1200 – 1330	Course Summation and Critiques	MEIR Staff