

E-3. Health and Safety Training

I. Scope

This chapter summarizes environmental compliance and health and safety training programs provided by the Environment, Health and Safety Program (EHS). Additional information regarding any of these programs can be found in appropriate chapters of this manual.

II. Purpose

To ensure that all employees at the NCI-Frederick receive required and appropriate environmental compliance and health and safety training as mandated by regulations, and that supplementary training will be identified, performed, and documented as required by EHS.

III. Definitions

Required - For the purposes of this chapter, "required" refers to all training which is mandated by local, state or federal environmental and safety regulations or by NCI-Frederick policy and all employees must attend.

IV. Responsibilities

A. EHS

1. Provide or coordinate training programs as indicated in the training matrices found in Section VII of this chapter.
2. Identify requirements for additional training programs or modification of existing programs.
3. Document all training delivered by EHS staff.
4. Be knowledgeable of local, state, and federal regulations.

B. FME

Provides site-specific safety information to representatives of each construction/renovation contractor prior to initiation of activities at NCI-Frederick.

C. Supervisors

1. Ensure personnel receive applicable skill-specific training as identified in Section VII of this chapter.
2. Provide area-specific training to all employees new to the area.
3. Ensure that personnel attend required safety training sessions.
4. Request additional training from EHS as necessary.
5. Ensure personnel are provided with additional or refresher training when requirements are identified by EHS or employees.

D. Employees

1. Attend required safety training sessions.
2. Request additional training from supervisor or EHS as appropriate.

E. Subcontractors

Relay safety training information to their employees and to their subcontractors.

V. Procedures

- A. Specific training programs mandated by the federal, state or local regulations cited in Section VIII are described in other chapters of this manual. These programs are summarized in Table E-3-1, "NCI-Frederick Training Matrix".

VI. Documentation

All required and supplemental environmental compliance and health and safety training will be documented as described in other chapters of this manual. The minimum requirements for documentation of training include:

- Date and time of training
- Training topics
- Attendee signature
- Trainer(s)
- Copy of material covered, detailed summary or outline, specific

reference to course title, and location of training materials

- Training Course Evaluations

VII. Regulatory References

A. Biological Safety

1. 29 CFR Part 1910.1030 - Bloodborne pathogen; initial training, refresher training and additional initial training.

B. Chemical Safety

1. 29 CFR 1910.1200 - Hazard communication; initial training, additional initial training, additional training when a new hazard is introduced into the work area.
2. 29 CFR 1910.1450 - Occupational exposure to hazardous chemicals in laboratories; initial training, additional initial training, additional training prior to assignments involving new exposure situations and refresher training.
3. 29 CFR 1910 Subpart Z - Toxic and hazardous substances; initial training and refresher training.
4. 29 CFR 1910.132 Personal protective equipment; initial training, retraining when the work place or PPE changes and retraining when the employee's knowledge is deemed inadequate.
5. 40 CFR 262 - Standards applicable to generators of hazardous waste; initial training before new assignments and refresher training.
6. 29 CFR 1910.120 - Hazardous waste operations and emergency response; initial training, refresher training and trainer training.

C. Industrial Safety

1. 29 CFR 1910.95 - Hearing conservation; annual training.
2. 29 CFR 1910.134 - Respiratory protection; initial training for workers and supervisors; annual refresher training.
3. 29 CFR 1910.146 - Confined space; initial training, refresher training, additional training and retraining.

4. 29 CFR 1910.147 - Lockout/Tagout; initial training, refresher training, additional training and retraining.
5. 29 CFR 1910.157 - Fire extinguisher; initial training and refresher training.
6. 29 CFR 1910.178 – Forklift Operator Training; initial training, refresher training, and retraining.

D. Radiation Safety

1. 10 CFR 19.10 - Instructions to workers; health physics training, operational training and basic radiation safety concepts training.
2. 10 CFR 33.13 - Requirements for the issuance of a Type A specific license of broad scope; health physics training and operational radiation training.
3. NRC License, NCI-Frederick Radiation Safety Manual Part IID - training; protocol specific training.

E. OHS

1. 29 CFR 1910.151 - Medical services and first aid; first aid training and CPR training.
2. 29 CFR 1910.269 - First aid and CPR training; first aid training including CPR.

F. Other

1. 49 CFR Part 172. Subpart H. 172.704 - Hazardous material shipping; shipper and handler training.

VIII. Training Matrix

Table E-3-1 NCI-Frederick Training Matrix

TRAINING TOPIC	TRAINING DESCRIPTION	TRAINING PROVIDER	REQUIREMENTS	TIME TO COMPLETE TRAINING	AUDIENCE	LOCATION	EHS POINT OF CONTACT
New Employee Orientation	Security, radiation, OHS, ergonomics, OSHA hazard communication and laboratory standards, OSHA bloodborne pathogens, waste management and environmental protection, biological lab safety, EAP	EHS Staff	Once upon hire Repeat if employment lapse >2 years	6 hours	All government and contractor new hires, guest researchers and special volunteers, and interns	Building 426 Conference Room 103	EHS 301-846-1451
New employee orientation checklist	Safety and health policies and work task-specific training and job hazard assessment.	Supervisor	Once, at time of hire, to be repeated when there is a lapse of employment, job transfer, supervisor change or other change in condition of employment. Must be completed when hazards within the work environment change. (C-12)	To be determined by supervisor.	All government and contractor new hires, guest researchers and special volunteers, and interns	Work site location(s)	EHS 301-846-1451
Student intern program safety orientation	Security, radiation, OHS, ergonomics, OSHA hazard communication, OSHA bloodborne pathogens, biological laboratory safety, waste management and environmental protection	EHS	Once upon hire	8 hours	All Werner Kirsten student intern program participants	Building 426 Conference Room 103	EHS 301-846-1451
Bloodborne	Biosafety levels	Biological	Annual requirement per	~ 1 hour	All laboratory and	Computer based	EHS

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Pathogens and Biological Laboratory Safety Training (annual refresher)	defined for lab containment, practices and procedures; PPE; restricted access; containment airflow; BSC's operation and performance; BBP standard and requirements; exposure control plan, common BBP diseases; universal and standard precautions; accidents; disinfectants.	Safety Staff	the OSHA 1910.1030 BBP standard		animal facility workers and anyone with the potential to come into contact with biological hazards or other potentially infectious materials. All employees enrolled in the BBP medical surveillance program.	training OR at 2:15 p.m. on New Employee Orientation days	301-846-1451
Respiratory Protection	OSHA required training for all individuals that are required to wear a respirator	EHS Staff/Web Based	Annual requirement per the OSHA 1910.134 Standard	< 1 hour	All respirator wearers as identified to safety and enrolled through the supervisor	Web based or Building 426 conference room/training room	EHS 301-846-1451
Hearing conservation	OSHA required training for all individuals exposed to noise levels > 85 dBa averaged over a 8 hour shift	EHS staff	Annual requirement per OSHA 1910.95	1 hour	Anyone exposed above the OSHA noise Action Level	Building 426 conference room/training room	EHS 301-846-1451
Laboratory Equipment Decontamination	Procedures for decontamination of laboratory equipment	EHS Staff	Once	~1 hour	Any employee who needs to decontaminate,	Varies	EHS 301-846-1451

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	from biological, radiological, and chemical hazards prior to equipment transfer or surplus; disinfectants; spill clean-up; vacuum pumps; completion of work authorization tags and becoming a decontamination-qualified employee for tag signature authority.				transfer, and surplus laboratory equipment.		
Diphtheria Toxin	Definition; history; transmission; routes of exposure; incubation period; dosage; diagnosis and prophylaxis; safe lab practices and handling procedures; other risks	Biosafety Staff	Must take the Bloodborne Pathogen Training and a one-time specialized training, per IBC requirement or supervisor request. Before working with material.	~ 1 hour	Laboratory and animal facility staff working directly with or in an area where work with this material is conducted.	TBD	EHS 301-846-1451
Toxoplasma gondii	Definition; history; transmission; routes of exposure; incubation period; dosage; diagnosis and prophylaxis; safe lab practices and handling procedures; other risks	Biosafety Staff	Must take the Bloodborne Pathogen Training and a one-time specialized training, per IBC requirement or supervisor request. Before working with material.	~ 30 minutes	Laboratory and animal facility staff working directly with or in an area where work with this material is conducted.	TBD	EHS 301-846-1451
Viral vector training	Viral vector	Biosafety	Once, per IBC	~1.5 hours	Laboratory and	TBD	EHS

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(adeno, retro, and lenti-viral vectors)	overview; definitions; structure and mechanisms; recombination and mobilization of vectors; safe lab practices and handling procedures; other risks	Staff/IBC Members	requirement or supervisor request. Before working with material.		animal facility staff working directly with or in an area where work with this material is conducted.		301-846-1451
XMRV	Definition; history; transmission; routes of exposure; incubation period; dosage; diagnosis and prophylaxis; safe lab practices and handling procedures; other risks	Biosafety Staff	Once, per IBC requirement or supervisor request. Before working with material.	~ 30 minutes	Laboratory and animal facility staff working directly with or in an area where work with this material is conducted.	TBD	EHS 301-846-1451
Listeria Monocytogenes	Definition; history; transmission; routes of exposure; incubation period; dosage; diagnosis and prophylaxis; safe lab practices and handling procedures; other risks	Biosafety Staff	Must take the Bloodborne Pathogen Training and a one-time specialized training, per IBC requirement or supervisor request. Before working with material.	~ 30minutes	Laboratory and animal facility staff working directly with or in an area where work with this material is conducted.	TBD	EHS 301-846-1451
Pertussis Toxin	Definition; history; transmission; routes of exposure; incubation period; dosage; diagnosis and prophylaxis; safe lab practices and	Biosafety Staff	Must take the Bloodborne Pathogen Training and a one-time specialized training, per IBC requirement or supervisor request. Before working with	~ 30 minutes			EHS 301-846-1451

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	handling procedures; other risks		material.				
Asbestos awareness	Anyone who performs maintenance or custodial activities in Buildings that contain asbestos	EHS staff	Annual requirement NCI-F Asbestos Management Plan	< 2 hours	FME staff	Building 549 Auditorium	EHS 301-846-1451
CPR/AED	American Heart Association CPR/AED curriculum	OHS Staff	Every 2 years	4 hours	Volunteers for the NCI-F AED program	426/103	EHS 301-846-1451
First Aid	American Heart Association First Aid curriculum	OHS Staff	Every 2 years	2 hours	Required for PSO's – voluntary for other NCI-F employees	426/103	OHS 301-846-1096
DOT/IATA Dangerous Goods/Hazmat	Meets 2/3 year training requirement for shipment of dangerous goods	Outsourced	DOT-2 years IATA – 3 years	<8 hours	All staff handling, processing, packaging, shipping dangerous goods or regulated materials	Varies	EHS 301-846-1451
Forklift Training	OSHA required training for powered industrial truck drivers (forklifts)	EHS Staff	Initial training, initial performance evaluation requirement – OSHA 1910.178 Tri-annual performance evaluation thereafter	Initial 4 hours	Anyone who drives a powered forklift, fork truck, or motorized pallet jack	Building 426 – evaluation at worksite	EHS 301-846-1451
Radiation Safety Training for New Users	Meets initial radiation safety training requirements as established by the	Web-based	CFR 10 Part 20	Self-paced	All facility individuals wishing to manipulate radioactive	Web-based NCI-Frederick Training Portal	Rad Safety 301-846-5730

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	U.S. Nuclear Regulatory Commission				materials at the NCI-F		
Radiation Safety Refresher Training	Meets refresher radiation safety training requirements as established by the U.S. Nuclear Regulatory Commission	Web-based	CFR 10 Part 20	Self-paced	All NCI-F Authorized Radioactive Material Users	Web-based NCI-Frederick Training Portal	Rad Safety 301-846-5730
Confined Space Entry Training for FME personnel	In accordance with OSHA requirements in 29 CFR 1910.146	FME Supervisors (with assistance from EHS as needed)	Once prior to initial assignment; refresher as needed/indicated by annual program review	4 hours	FME staff required to enter permit-required confined spaces	Varies	FME 301-846-1195
Hazardous Materials Technician Training	In accordance with OSHA requirements in 29 CFR 1910.120	Initial: outside trainer Refresher: EHS Environmental Safety Officer	Once prior to initial assignment; annual refresher	Initial: 24 hrs Refresher: 8 hrs	All EHS safety officers and specialists who do any spill response	Varies	Waste Management 301-846-1451
Lockout/Tagout for FME personnel	In accordance with OSHA requirements in 29 CFR 1910.147	FME Supervisors (with assistance from EHS as needed)	Once prior to initial assignment; refresher as needed/indicated by annual program review	4 hours	FME staff required to control hazardous energy sources	Varies	FME 301-846-1195
BBP/Medical Waste for FME Service Workers	NCI-F waste disposal procedures; BBP standard and requirements;	Biosafety and EPWM Staff	Annually.	~1 hour	All FME service workers	TBD	EHS 301-846-1451

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	exposure control plan, common BBP diseases; universal and standard precautions; accidents; disinfectants.						
Satellite Accumulation	Training given to labs who repeatedly violate waste storage regulations COMAR 26.13	EHS Environmental Safety Officer or Specialist	As required by EPWM	15 minutes	Lab personnel who repeatedly fail to follow waste accumulation site requirements	Varies	Waste Management 301-846-1451
Fire Extinguisher Training	Fire triangle and tetrahedron; extinguisher ratings; extinguishing agents; fire procedures; hands-on extinguisher practice using simulator	Fort Detrick Fire & Emergency Services	As required, at least annually	1 hour	Volunteers	Fort Detrick Fire Station, second floor classroom and engine bay	Fire Safety 301-846-1451
SPCC Training	In accordance with Maryland Oil Pollution Control Act and 49 CFR Part 112	EHS Environmental Safety Officer	Annual	1 hour	EHS EPWM personnel, FME Millwright Shop personnel	Varies	Waste Management 301-846-1451
Zoonotic Diseases	Definition; history; transmission; routes of exposure; incubation period; dosage; diagnosis and prophylaxis; safe lab practices and handling procedures; other risks	EHS and OHS	Once, per IBC requirement or supervisor request. Before working with material. Upon request by LASP or others.	~ 1 hour	Laboratory and animal facility staff working directly with or in an area where work with animals or animal material is conducted.	TBD	EHS/OHS 301-846-1451 or 301-846-1096

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Laboratory Animal Allergens	OHS, EHS, LASP	OHS, EHS, LASP	Upon request by LASP or others	~ 1 hour	Laboratory and animal facility staff working directly with or in an area where work with animals or animal material is conducted	TBD	OHS/EHS 301-846-1451 or 301-846-1096
Laser Safety Training	Meets Laser Safety training requirements for ANSI Z136.1-2000	Computer Based	Prior to using class 3b or 4 lasers and/or laser systems	~ 1 hour	Class 3b or 4 laser and/or laser system users	426 –Radiation Safety	Rad Safety 301-846-5730

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