

Action Package Prevent 3 Biosafety and Biosecurity Resource Catalogue

Title	Country (headquarters)	Organization	Website	Contact	Description
Training courses (classroom and e-learning)					
E-learning Portal on Laboratory Biosafety and Biosecurity	Canada	Public Health Agency of Canada	www.publichealth.gc.ca/training	anastasia.rogaeva@phac-aspc.gc.ca	The Public Health Agency of Canada's e-learning portal offers free online learning resources that promote a common understanding of the principles and practices of biosafety and biosecurity for laboratories working with pathogens and toxins in Canada. This e-learning portal contains a variety of biosafety courses and instructional videos including 21 courses on biosafety topics and 3 instructional videos.
International biosecurity training course	Denmark	Danish Centre for Biosecurity and Biopreparedness	www.biosikring.dk/647	cbb@ssi.dk	The Danish Centre for Biosecurity and Biopreparedness provides an international training course on establishing and implementing national biosecurity systems. Duration: one week but can be tailored to meet individual needs.
Educational Module Resource on Biosafety and Biosecurity	UK				Educational Module Resource (21 lectures with slides, facilitating notes, and questions for discussion, available in 10 different languages - English, Russian, French, Spanish, Polish, Urdu, Romanian/Moldovan, Georgian, and Japanese); funded by the British Council.
National Series on Biosafety and Biosecurity	UK				National Series (country-specific lecture material available for 15 countries in the FSU and MENA region - Algeria, Armenia, Azerbaijan, Georgia, Jordan, Kazakhstan, Kyrgyzstan, Egypt, Libya, Morocco, Saudi Arabia, Tajikistan, Tunisia, Uzbekistan, Ukraine). Funded by the UK MOD.
Interdisciplinary Network on Teaching of Ethics for Neuroscientists	UK		http://neuroethicseducation.lab.lis.manchester.ac.uk/		Neuroethics Educational Resource (jointly developed with the University of Manchester, 12 lectures with 6 focused on biosecurity, dual use and the BTWC/CWC). Funded by the AHRC, UK
Principles and Practices of Biosafety	USA	ABSA	http://www.absa.org/eduppb.html		Introduce the essential elements of biosafety and provide extensive resource lists for use after the course. Describe potentially hazardous biological materials, the risks associated with their use, and the means to minimize risk and to protect against or prevent release or exposure. Discuss ways to provide effective technical expertise in situations involving potentially hazardous biological materials. Identify, locate, and efficiently use key biosafety resources .
Global Biorisk Management Curriculum Library	USA	DTRA-CBEP (in partnership with Sandia National Lab)	http://biosecurity.sandia.gov/gbrmc		42+ courses designed to support the capacity of biorisk management systems. The courses are divided between three tracks (Basic Biorisk Management; Management and Leadership; and Lab-Level) and are also divided across six domains of biorisk management systems (as defined by CWA 15793:2011): Policy & General Management, Planning & Assessment; Administrative Controls; Operational Controls; Reporting, Monitoring & Response; and Review and Revision.
Laboratory Biosecurity Online Training	USA	Centers for Disease Control and Prevention (CDC)	http://www.cdc.gov/labtraining/	Contact: Michelle McKinney (y1f8@cdc.gov)	Provide key principals for securing biological agents in research laboratories and biomedical facilities
Biorisk Management for Field Operations	USA	CDC (FELTP in partnership with Sandia National Lab)		Contact: Michelle McKinney (y1f8@cdc.gov)	Biorisk Management for Field Operations
Laboratory and Field Biosafety and Biosecurity	USA	CDC (FELTP in partnership with Sandia National Lab)		Contact: Michelle McKinney (y1f8@cdc.gov)	Laboratory and Field Biosafety and Biosecurity
National Bio-bank Development	USA	CDC Division of Select Agents and Toxins		Contact: James Blaine (alu6@cdc.gov); Natalie DeGraaf (yor5@cdc.gov)	Work with national governments, agriculture and health, to develop national bio-banks for the collection of highly dangerous pathogens and biological toxins.
National Biosafety/Biosecurity Oversight System Development	USA	CDC Division of Select Agents and Toxins		Contact: James Blaine (alu6@cdc.gov); Natalie DeGraaf (yor5@cdc.gov)	Work with national governments to develop a national oversight system for evaluating and monitoring the biosafety and biosecurity of biological institutions working with highly dangerous pathogens and biological toxins.
Biosafety/Biosecurity Regulations Development	USA	CDC Division of Select Agents and Toxins		Contact: James Blaine (alu6@cdc.gov); Natalie DeGraaf (yor5@cdc.gov)	Work with national governments to develop biosafety and biosecurity requirements for biological institutions working with highly dangerous pathogens and biological toxins.
Conducting Biosafety/Biosecurity Audits	USA	CDC Division of Select Agents and Toxins		Contact: James Blaine (alu6@cdc.gov); Natalie DeGraaf (yor5@cdc.gov)	Provide instructions and practical exercises in conducting laboratory biosafety and biosecurity audits.
Field Biosecurity	USA	CDC (FELTP in partnership with Sandia National Lab)		Contact: Michelle McKinney (y1f8@cdc.gov)	Field Biosecurity
Biosecurity: Risks, Responses, and Responsibilities	USA	Center for Arms Control and Non-Proliferation	http://armscontrolcenter.org/biosecurity-risks-responses-and-responsibilities/		Risk of misuse and responsibilities to help mitigate this risk
Biosafety Course	USA	CITI - Yale University	https://www.citiprogram.org/index.cfm?pageID=92		Provide the learner with a solid foundation in the principles of the containment of biohazards

Biosafety and Biosecurity Training Course	USA	Colorado State University			Learning how to apply the concepts of biosafety learned in the BBTC and define an integrated, comprehensive biosafety program
Laboratory Safety Regulations, Standards and Guidelines	USA	Frontline	http://frontlinefoundation.org/services/course-list/full-list-of-courses/		Overview of regulations and guidelines which apply to persons working in biomedical laboratories including OSHA hazard communication and bloodborne pathogens standards, CDC select agent rule and BMBL, and NIH recombinant DNA guidelines.
Biosecurity for Clinical Laboratories	USA	Frontline	http://frontlinefoundation.org/services/course-list/full-list-of-courses/		Describes the relationship between biosafety and biosecurity, the purposes of biosecurity, and provides guidance for developing a biosecurity plan
Laboratory Safety Regulations, Standards and Guidelines	USA	National Biosafety and Biocontainment Program (NBBTP)	http://www.nbbtp.org/course-catalog		Overview of regulations and guidelines which apply to persons working in biomedical laboratories including OSHA hazard communication and blood borne pathogens standards, CDC select agent rule and BMBL, and NIH recombinant DNA guidelines.
Principles and Practices of Biological Safety	USA	University of Massachusetts - Lowell	http://continuinged.uml.edu/online/biosafety.cfm		An overview of hazard recognition, evaluation and control of potentially hazardous biological materials
Biosafety for Safety and Health Professionals	USA	University of North Carolina	http://osherc.sph.unc.edu/continuing-education/courses/biosafety.html		Basic concepts of microbiology and disease transmission in the workplace
Biosafety, Biosecurity, and the Evaluation of Biohazards Course	USA	Yale School of Public Health	http://www.absa.org/trainingtools/biosafety/biosafety.html		Overview of the field of biological safety and its application for students and practitioners
Biorisk Management Professional Certification	International	International Federation of Biosafety Associations	http://www.internationalbiosafety.org/index.php/professional-certification/professional-certification/about-the-program		The IFBA has launched a new certification program for biorisk management and biosafety professionals worldwide. The distinctive program strives to fulfill our mission of "safe, secure and responsible work with biological materials" by advancing the body of knowledge and increasing the competency of our profession. IFBA's certificants bring increased value to their employers by demonstrating competence to carry out their responsibilities and by achieving high standards of excellence, professionalism, and continuous learning. By earning certifications from the IFBA, individuals reap the benefits of safer workplaces, career advancement, and international recognition among colleagues.
Biological Waste Management Professional Certification	International	International Federation of Biosafety Associations	http://www.internationalbiosafety.org/index.php/professional-certification/professional-certification/about-the-program		The IFBA has launched a new certification program for biorisk management and biosafety professionals worldwide. The distinctive program strives to fulfill our mission of "safe, secure and responsible work with biological materials" by advancing the body of knowledge and increasing the competency of our profession. IFBA's certificants bring increased value to their employers by demonstrating competence to carry out their responsibilities and by achieving high standards of excellence, professionalism, and continuous learning. By earning certifications from the IFBA, individuals reap the benefits of safer workplaces, career advancement, and international recognition among colleagues.
Biocontainment Facility Design, Operations, and Maintenance Professional	International	International Federation of Biosafety Associations	http://www.internationalbiosafety.org/index.php/professional-certification/professional-certification/about-the-program		The IFBA has launched a new certification program for biorisk management and biosafety professionals worldwide. The distinctive program strives to fulfill our mission of "safe, secure and responsible work with biological materials" by advancing the body of knowledge and increasing the competency of our profession.
Biosafety Cabinet, Selection, Installation, and Safe Use Professional Certification	International	International Federation of Biosafety Associations	http://www.internationalbiosafety.org/index.php/professional-certification/professional-certification/about-the-program		The IFBA has launched a new certification program for biorisk management and biosafety professionals worldwide. The distinctive program strives to fulfill our mission of "safe, secure and responsible work with biological materials" by advancing the body of knowledge and increasing the competency of our profession. IFBA's certificants bring increased value to their employers by demonstrating competence to carry out their responsibilities and by achieving high standards of excellence, professionalism, and continuous learning. By earning certifications from the IFBA, individuals reap the benefits of safer workplaces, career advancement, and international recognition among colleagues.
OIE International Standards	International	World Organisation for Animal Health (OIE)	http://www.oie.int/en/international-standard-setting/overview/	oie@oie.int	The OIE is the World Trade Organization (WTO) reference organisation for standards relating to animal health and zoonoses. The OIE publishes 2 codes (Terrestrial and Aquatic) and 2 manuals (Terrestrial and Aquatic) as the principle reference for WTO members. The Terrestrial Animal Health Code and Aquatic Animal Health Code respectively aim to assure the sanitary

Books, guidelines, manuals.					
Canadian Biosafety Standard	Canada	Public Health Agency of Canada	www.canadianbiosafetystandards.colaboration.gc.ca	anastasia.rogaeva@phac-aspc.gc.ca	The Canadian Biosafety Standard is a national standard for the handling and storing of human and terrestrial animal pathogens and toxins in Canada.
Canadian Biosafety Standard Application	Canada	Public Health Agency of Canada	www.canadianbiosafetystandards.colaboration.gc.ca	anastasia.rogaeva@phac-aspc.gc.ca	The Canadian Biosafety Standard (CBS) is a national standard for the handling and storing of human and terrestrial animal pathogens and toxins in Canada. The free CBS Biosafety Application lets you see the CBS in a different way: You can find the containment requirements specific to your facility! The CBS Biosafety Application v2.0 is currently available as a download for Android (including phones and tablets) and Apple (including iPhones and iPads).
Canadian Biosafety Handbook	Canada	Public Health Agency of Canada	www.canadianbiosafetystandards.colaboration.gc.ca	anastasia.rogaeva@phac-aspc.gc.ca	The Canadian Biosafety Handbook is a companion document that provides guidance on how to meet the requirements specified in the Canadian Biosafety Standard.
Canadian Biosafety Guidelines	Canada	Public Health Agency of Canada	www.canadianbiosafetystandards.colaboration.gc.ca	anastasia.rogaeva@phac-aspc.gc.ca	The Canadian Biosafety Guidelines is a series of publications that provide expanded guidance on a variety of biosafety and biosecurity concepts discussed in the Canadian Biosafety Handbook.
Manual to Strengthen Global Capacity for Pathogen Biosafety and Biosecurity (Draft)	Canada	Public Health Agency of Canada	N/A	anastasia.rogaeva@phac-aspc.gc.ca	Expected in the Fall 2016.
Pathogen Safety Data Sheets	Canada	Public Health Agency of Canada	www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php	anastasia.rogaeva@phac-aspc.gc.ca	Pathogen Safety Data Sheets are technical documents that describe the hazardous properties of human pathogens and recommendations for work involving these agents in a laboratory setting.
Pathogen Safety Data Sheet Application	Canada	Public Health Agency of Canada	http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php	anastasia.rogaeva@phac-aspc.gc.ca	Pathogen Safety Data Sheets (PSDS) are technical documents that describe the hazardous properties of human pathogens and recommendations for work involving these agents in a laboratory setting. The PSDS App is available as a free download for your devices in the Android, Amazon, Apple, and Window stores.
An efficient and practical approach to biosecurity	Denmark	Danish Centre for Biosecurity and Biopreparedness	https://www.biosikring.dk/biosecuritybook/	cbb@ssi.dk	
Recommendations for the improvement of biosecurity measures (available in English and Spanish)	Spain				
Guide to Biological Security Issues and Handbook on Biological Security Education	UK				Funded by UK and Canada under the Global Partnership.
HSE Biological agents: Managing the risks in laboratories and healthcare premises'	UK		http://www.hse.gov.uk/biosafety/biologagents.pdf		This guidance is aimed at all those who have responsibility for assessing and managing the risks from exposure to biological agents at work in either a laboratory or a healthcare setting. For example, you may be a Biomedical Scientist Grade 3 (BMS3) in a National Health Service (NHS) laboratory, or principal investigator in a university laboratory, a clinical director, a nurse manager, or the veterinary manager of a veterinary hospital. Safety advisors, biological safety officers and other safety professionals may also find the guidance useful when providing competent advice to their employer.
Regulatory Models for Biosafety and Biosecurity					
The Human Pathogens and Toxins Act and the Human Pathogens and Toxins Regulations	Canada	Public Health Agency of Canada	http://www.laws-lois.justice.gc.ca/eng/acts/H-5.67/ http://www.laws-lois.justice.gc.ca/eng/regulations/SO R-2015-44/index.html	anastasia.rogaeva@phac-aspc.gc.ca	The <i>Human Pathogens and Toxins Act</i> along with the <i>Human Pathogens and Toxins Regulations</i> , the Canadian Biosafety Standard, as well as supporting activities, such as an expert advisory committee, training programs, compliance audits and outreach to promote capacity building amongst regulated parties, are key pillars of a safety and security program for human pathogens and toxins in Canada. This program applies to everyone conducting specified activities with human pathogens and toxins whether imported or domestically acquired, including production, possession, handling, use, storage, access to, transfer, disposal, release, abandonment, and import or export.

For a comprehensive list of US training activities, please contact CDC.

**Action Package Prevent 3 Biosafety and Biosecurity Resource Catalogue
Contacts**

Country/International organization	Organization	Contact
Azerbaijan		
Canada	PHAC	anastasia.rogaeva@phac-aspc.gc.ca
Canada	DFATD	
Canada	CFIA	
Denmark	Centre for Biosecurity and Biopreparedness	cbb@ssi.dk
Finland	Centre for Biothreat Prep	
Finland	THL	
Germany		
Ghana	GHS/MoH	
India (TBC)		
Jordan		
Jordan	JAF/RMS	
Kenya	MoH	
Kenya	MALF/ZDU	
Kenya	FAO-ECTAD	
Kenya	CDC-Kenya	
Kenya	MoH/ZDU	
Kenya	ZDU	
Kenya/USA	CDC-Kenya	
Kenya	DVS	
Kenya	FAO-ECTAD	
Kenya	ZDU	
Kenya	KEMRI	
Peru		
Portugal	INSA R.I.	
Republic of Korea		
Saudi Arabia	MoH	
Singapore	Defence	
Singapore	MOH	
Spain		
Tanzania	MoH	
Tanzania	MOHSW	
Thailand	Dept of Medical Science	
Uganda	MoH	
Ukraine		
United Kingdom		
United States	CDC	
United States	NSC	
United States	DoD	
United States	US State Department	

United States	USA HHS	
United States	US State Department	
United States	USAID	
Int. Org.	FAO	
Int. Org.	FAO-IAEA	
Int. Org.	Interpol	
Int. Org.	OIE	oie@oie.int
Int. Org.	WHO	
Int. Org	IFBA	