



# DIDRT

Duke Infectious Disease  
Response Training

# Online e-Learning and In-class Training: A Blended Learning Approach

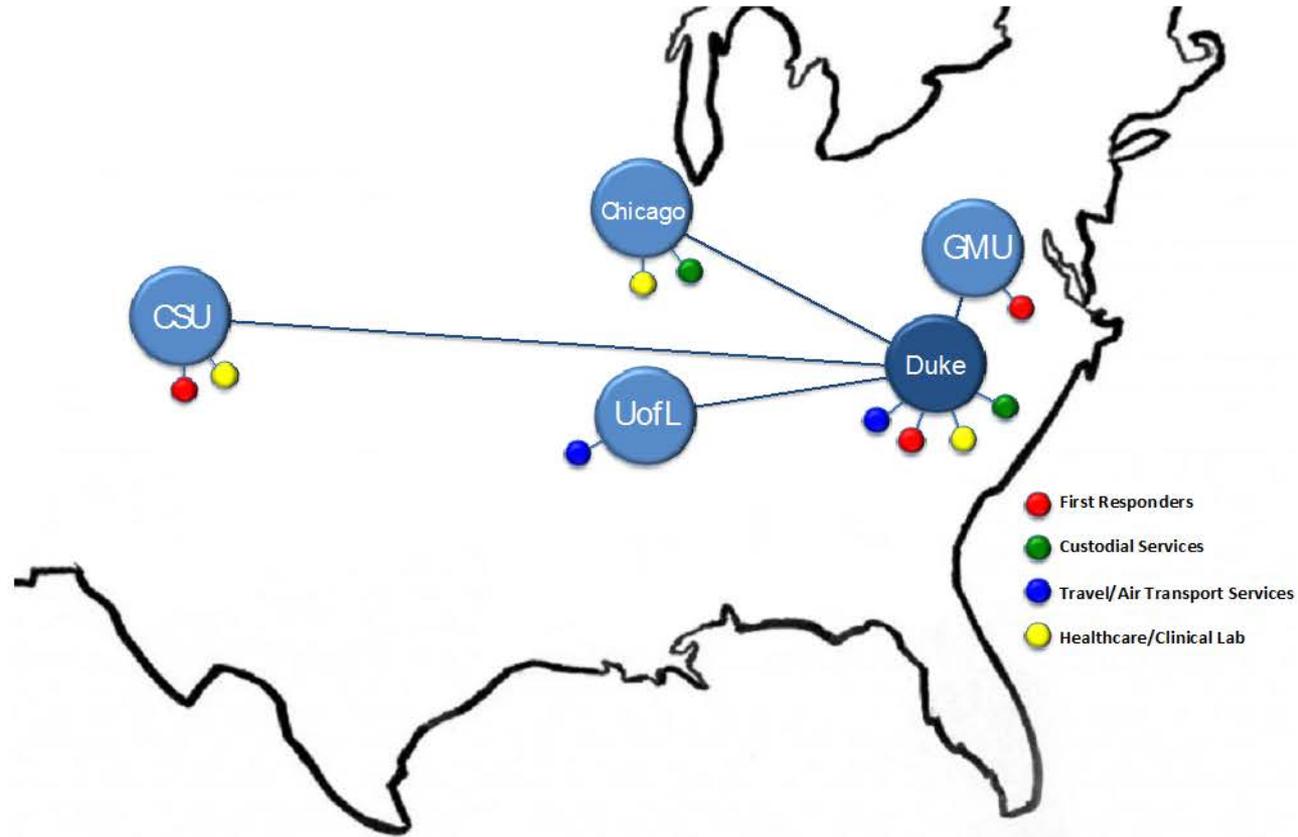
**2018 National Trainers' Exchange**

**Phoenix, Arizona**

**May 10-11, 2018**



# DIDRT Consortium



# Objectives

- Discuss challenges of providing comprehensive training
- Describe blending learning
- Explain how to combine in-class and online training
- Provide examples of this blended approach
- Group activity: create blended learning from in-class courses



# IDR Training: Challenges

- Mandate is to provide quality training to meet DIDRT curriculum and quality standards
- Time constraints can be an issue
  - Scheduling in-class sessions to accommodate all workers who require training
  - Time allotted for each training session
- Base level of knowledge of workers
  - Time spent covering background material



# Solution: Blended Learning Approach

What is blended learning?

- An approach to learning that combines online e-learning with in-class training sessions



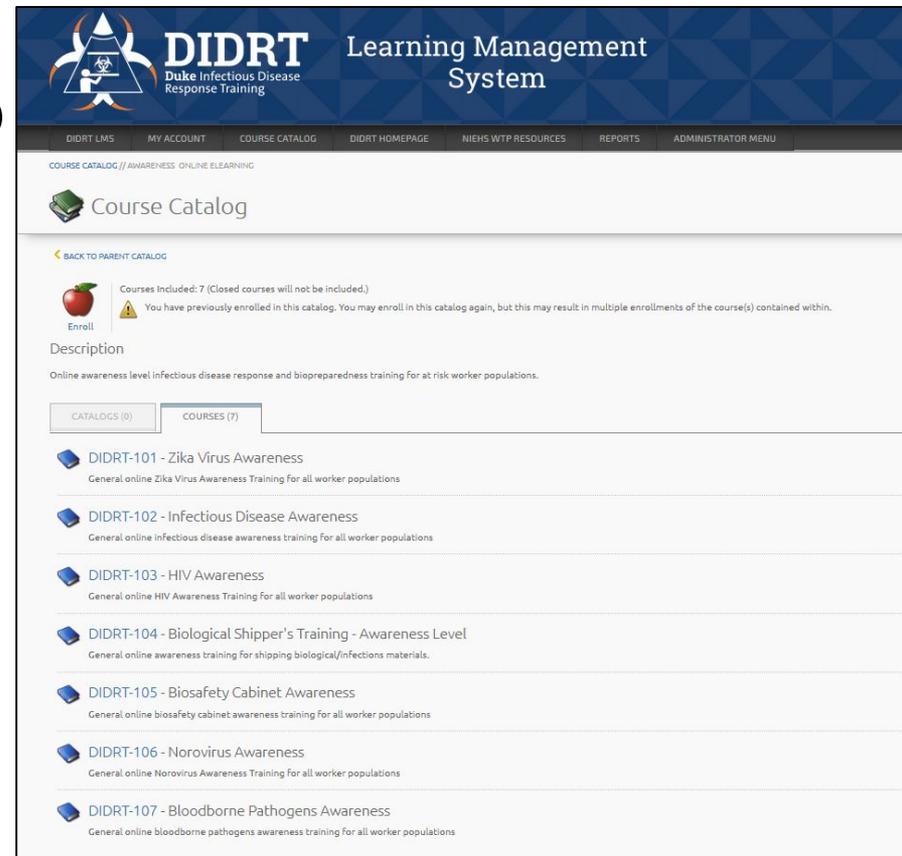
Why use it?

- To ensure curriculum is covered while allowing flexibility for the learners



# Blended Learning Approach: Advantages

- Use DIDRT e-Learning modules as prerequisites to in-class training
  - Provides background knowledge to better understand in-class components
  - Reduces lecture time (more time for hands-on training)
  - Allows for more flexible scheduling



The screenshot displays the DIDRT Learning Management System interface. At the top, the logo for DIDRT (Duke Infectious Disease Response Training) is visible alongside the text 'Learning Management System'. Below this is a navigation bar with links for 'DIDRT LMS', 'MY ACCOUNT', 'COURSE CATALOG', 'DIDRT HOMEPAGE', 'NIEHS WTP RESOURCES', 'REPORTS', and 'ADMINISTRATOR MENU'. The main content area is titled 'Course Catalog' and includes a 'BACK TO PARENT CATALOG' link. A warning icon and text state: 'Courses Included: 7 (Closed courses will not be included.) You have previously enrolled in this catalog. You may enroll in this catalog again, but this may result in multiple enrollments of the course(s) contained within.' Below this is a 'Description' section: 'Online awareness level infectious disease response and biopreparedness training for at risk worker populations.' There are two tabs: 'CATALOGS (0)' and 'COURSES (7)'. The 'COURSES (7)' tab is active, showing a list of seven courses:

- DIDRT-101 - Zika Virus Awareness  
General online Zika Virus Awareness Training for all worker populations
- DIDRT-102 - Infectious Disease Awareness  
General online infectious disease awareness training for all worker populations
- DIDRT-103 - HIV Awareness  
General online HIV Awareness Training for all worker populations
- DIDRT-104 - Biological Shipper's Training - Awareness Level  
General online awareness training for shipping biological/infections materials.
- DIDRT-105 - Biosafety Cabinet Awareness  
General online biosafety cabinet awareness training for all worker populations
- DIDRT-106 - Norovirus Awareness  
General online Norovirus Awareness Training for all worker populations
- DIDRT-107 - Bloodborne Pathogens Awareness  
General online bloodborne pathogens awareness training for all worker populations



# Blended Learning: Where the idea started

- Shipping of biological material training offered at Duke Human Vaccine Institute
  - Time-consuming didactic portion to training (to cover necessary background material and regulations)
    - Takes at least 1 hour to cover this material

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Checklist for shipping Category B Infectious Substances.....Page 8

Checklist for shipping Genetically Modified Micro-organisms and Organisms.....Page 9

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Example Packaging Diagram (PI 620 compliant).....Page 12

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Department of Commerce' list of biological materials that may require an export license.....Pages 14 & 15

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Shipment Type	Provisions	UN	6.2	6.1	6.0	Substance	Max. Net qty./pkg. for Cargo Aircraft	Special Provisions (**)
Category A infectious substance, affecting humans	Infectious substance affecting humans	UN 2814	6.2	-	620	Infectious substance	50mL / 50g	4L / 4kg A81, A140
Category A infectious substance, affecting only animals	Infectious substance, affecting animals, (*)	UN 2900	6.2	-	620	Infectious substance	50mL / 50g	4L / 4kg A81, A140
Category B infectious substance	Biological substance, category B	UN 3373	6.2	-	650	UN 3373	4L / 4kg	4L / 4kg -
Dry Ice	Dry Ice	UN 1845	9	III	954	Miscellaneous	200kg	200kg A48
Genetically modified micro-organisms & organisms (non-infectious)	Genetically modified micro-organisms	UN 3245	9	-	959	UN 3245	No Limit	No Limit A47
Patient specimens (minimal likelihood that pathogens are present)	N/A	N/A	N/A	N/A	See Checklist on Pg.6	N/A	N/A	N/A N/A

\* Identify technical name of agent in parenthesis

\*\* Special Provisions:

A81 – The maximum quantity of infectious substance that can be shipped by air in one package is 4L or 4kg. The maximum quantity that may be shipped via passenger aircraft is 50mL or 50g. The Special Provision A81 allows the shipment of body parts, organs or whole bodies to not be restricted based on quantity limits, however the shipment must still comply with Packing Instruction 602. Specimens transported in accordance with this Special Provision must be noted on the Shipper's Declaration of Dangerous Goods in the "Authorization" column of the Declaration form.

A48 – Packaging tests are not considered necessary.

A47 – Genetically modified micro-organisms and genetically modified organisms, which meet the definition of an infectious substance and the criteria for inclusion in Division 6.2 (Category A or Category B Infectious Substances), must be transported as UN 2814, UN 2900 or UN 3373, as appropriate.

A140 – For the purposes of documentation, the proper shipping name must be supplemented with the technical name. Technical names need not be shown on the package. When the Infectious Substances to be transported are unknown, but suspected of meeting the criteria of Category A, and assigned to UN 2814 or UN 2900, the words "Suspected Category A Infectious Substance" must be shown in parenthesis following the proper shipping name on the Shipper's Declaration of Dangerous Goods, but not on outer package.



# Blended Learning: Where the idea started

- Came up with idea to convert didactic portion to online pre-requisite module
  - Takes about 1 hour to complete
  - Can take at own pace
  - Interactive features

**Menu**

- Assigned UN Numbers
- Patient Specimens
- Infectious Substances
- GMMOs and GMOs UN 3245
- Unregulated Biological Materi...
- IATA Packing Instructions**
- Patient Specimens (Packaging ...
- Internal Pressure Leak Test
- Packing Instruction 620 (Categ...
- Packaging (Category A Infectio...
- Special Provisions
- Marking and Labeling
- UN Specification Markings
- Shipper's Declaration of Dang...
- Dangerous Goods Identification
- Shipper's Declaration Form fo...
- Packing Instruction 650 (Categ...
- Quantity Li
- Completing
- Packing Ins
- Marking an
- Packaging o
- Dangerous

**Bio\_Shipping** Resources

## IATA Packing Instructions

This table illustrates the assigned IATA Packing Instruction for each of the 5 shipping categories covered so far. Some packing instructions have stricter requirements than others

Shipment Category	PI Number
Patient specimens	No assigned PI #
Infectious substance, affecting humans	620
Infectious substance, affecting animals	620

**Bio\_Shipping** Resources

## Label the Package

DRY ICE UN1845

Drop unused labels here

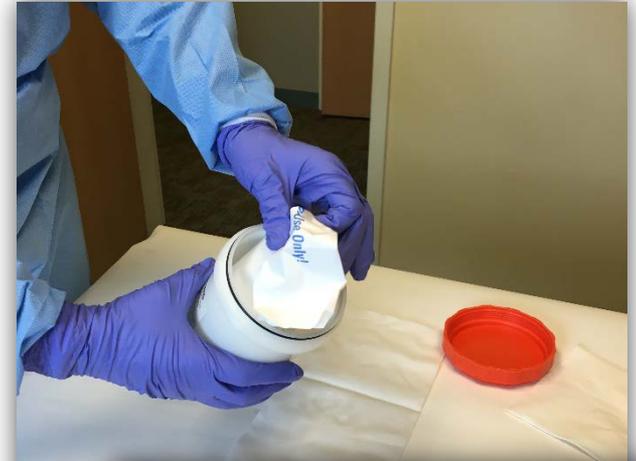
Hint

SUBMIT



# Blended Learning: Where the idea started

- Online course has pre- and post-course quiz
- Once completed, in-class proficiency demonstration is scheduled



# Examples of DIDRT Blended Learning: Awareness-level Training

- Clinical Lab at Duke-only had one hour to train, given workload of laboratory staff
  - Assigned trainees online biosafety cabinet awareness module to be completed before hands-on training

Menu

- ▼ BSC Awareness
- Title
- Learning Objectives
- What is a Fume Hood?
- What is a Biosafety Cabinet?
- Class I Biosafety Cabinet
- Class II Biosafety Cabinet
- Types of Class II BSCs
- Class III BSC
- Ultra Violet (UV) Lights
- Placement of Class II BSCs
- Proper Use of Class II BSCs
- Knowledge Check:
- Knowledge Check 2:
- Proper chair position
- Importance of Proper Arm Mo...
- Disinfecting BSC After Work
- BSC Review
- Personal Protective Equipment
- Standards and Guidelines
- Resources
- DIDRT Program
- This course is now complete!

BSC Safety(V3)

Resources

50%

▶ Video 1

▶ Video 2

▶ Video 3

00:01 / 00:05

Funding for this training provided by the National Institute of Environmental Health Sciences' Worker Training Program

◀ PREV



# Examples of DIDRT Blended Learning: Operations-level Training

- Person County Health Dept. and EMS
  - Took Infectious Disease Awareness and HIV Awareness online courses before visit to help reduce didactic portion of training (more time for hands-on learning)



# Challenges with Blended Learning

- Deciding on which e-learning modules to set as pre-requisites
- Ensuring online modules are completed prior to in-class session (challenging!)
- Barriers to technology with e-learning
- Buy-in of management and learners



# Workshop Scenarios

- What portion of your course could be converted to an online module? Or could other online modules be used to enhance the existing training?
- What should remain as in-class training? Why?
- How might your learner group respond? What challenges might you face?



# Scenario 1

**Course Title:** 4-Hour Foodborne Illness

**Type of Course:** Domestic Preparedness Awareness

**Delivery Method:** Classroom-based

**Description:** This 4-hour course consists of a one-hour introduction to important material concerning Unified Command and appropriate foodborne illness response tactics. The remaining three hours are a tabletop exercise where local law enforcement personnel, public health officials, and other participants practice implementing Unified Command in a foodborne illness outbreak scenario.

**Intended Audience:** Local law enforcement personnel, public health officials, and other participants.



# Scenario 2

**Course Title:** 24-hour Microbial Remediation

**Type of Course:** Microbial Remediation

**Delivery Method:** Classroom-based

**Description:** Provides a description of molds and mildews and their characteristics. The course discusses health effects, sampling, personal protective equipment, decontamination and work area preparation and remediation techniques.

**Intended Audience:** Workers who have training and/or experience in construction and may or will be employed at a microbial remediation site or who may encounter mold, mildew or other indoor air pollutants at their job site.



# Scenario 3

**Course Title:** 24-hour Health and Safety Training Course for Treatment, Storage and Disposal Facility Workers

**Type of Course:** RCRA TSD Site Worker

**Delivery Method:** Classroom-based

**Description:** "Hands-on" activities (field activity, emergency planning, confined spaces, PPE and decontamination) are emphasized, along with worker rights. Other topics addressed include hazard awareness, chemical incompatibility, noise, ergonomics, medical surveillance, air monitoring and instrumentation, handling drums and other containers of hazardous materials, and hazardous waste regulations.

**Intended Audience:** Private and public sector line workers (equipment operators, chemical handlers, technicians) and their supervisors directly involved in handling hazardous wastes at state and federally-permitted treatment, storage and disposal facilities (TSDFs). Emphasis is placed on GISO5192.



# Scenario 4

**Course Title:** Hospital Worker Chemical and Biological Hazards

**Type of Course:** 8-hour Emergency Response Awareness

**Delivery Method:** Classroom-based

**Description:** Curriculum consists of a series of activities designed for the Small Group Activity Method. Topics include: Identifying hazardous materials in health care settings; Introduction to Hazmat emergency response and awareness level roles; Gathering information about hazardous materials form labels, MSDSs, and the NIOSH Pocket Guide; Specific information about radioactive materials, bloodborne pathogens, and tuberculosis; Hazmat controls including respirators and chemical protective clothing; and Workers' rights.

**Intended Audience:** Health care workers in hospital settings.

