

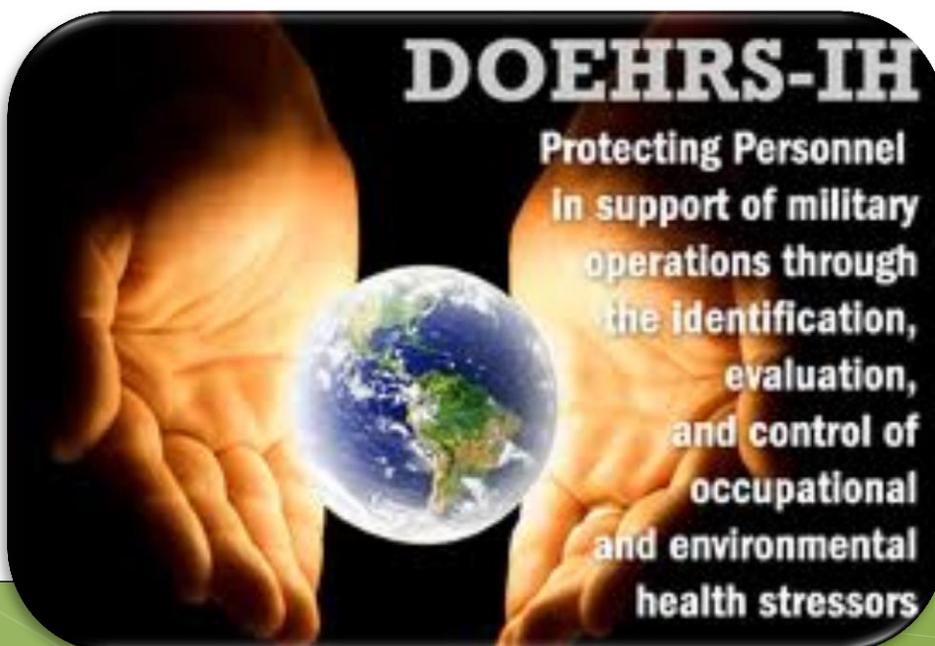


**PHC
Industrial
Hygiene
Training
Catalog**

2016-2017

Army DOEHRS-IH Initial Course

- **8 hrs online & 4.5 days face to face hands on computer lab practicums/**
- **instruction** May 23- June 3, 2016
 - APG, MD
- Aug 1- 5, 2016
 - APG, MD
- Oct 24-28, 2016
 - APG, MD
- Phase 1 online OPEN NOW! (password protected enrollment – password is 2016)
- Self-enroll at <https://aiph-dohs.ellc.learn.army.mil>



Recommended
Training for 0690s

40HR Industrial Ventilation Course

- **Not your traditional classroom experience!**
- Learn Engineering Control and Ventilation Core Competency
- Network with Subject Matter Experts and other Army IHs
- Hands on learning with IH equipment in real workplaces
- Learn IH Ventilation calculations and participate in hands on practicums
- 40hrs (all testing online – face to face training at APG, MD May 22-26, 2017)
- Registration online OPEN NOW!
- Self-enroll at <https://aiph-dohs.ellc.learn.army.mil> keyword 2017



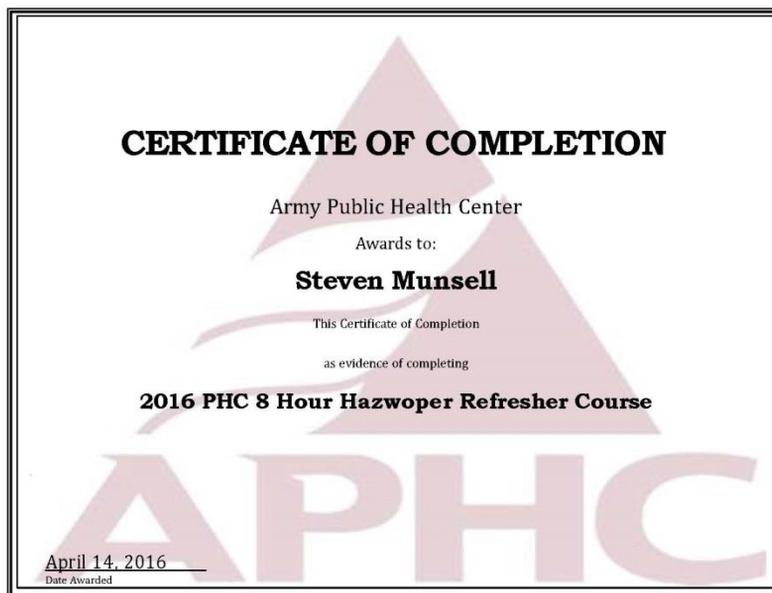
Blueprint Reading & Design Review Course

- **Not your traditional classroom experience!**
- Supports the Engineering Control and Ventilation Core Competency
- Network with Subject Matter Experts and other Army IHs
- Hands on learning with actual blueprints
- Learn calculations, life safety codes, and participate in hands on practicums with blueprints
- 40 hrs (all testing online – face to face training at APG, MD May 8-12, 2017)
- Registration online OPEN NOW!
- Self-enroll at <https://aiph-dohs.ellc.learn.army.mil> keyword 2017



Online Recertification Training

- HAZWOPER Refresher (8hr)
 - 2016 PHC 8 Hour HAZWOPER Refresher



Live Web Conference Training

Manage Your IH Monster Webinars

- Sept 13th 1800 & 14th 0900 Eastern
 - De-Mystifying the Metrics
- Nov 1st 1800 & 2nd 0900 Eastern
 - All About ANOVA
- Jan (2017) 11th 1800 & 12th 0900 Eastern
 - Business Objects At It's Best
- Mar (2017) 14th 1800 & 15th 0900 Eastern
 - Magic of Medical Surveillance



<https://conference.apps.mil/webconf/ManageYourIHmonster>

Register at:

<https://AIPH-DOHS.elc.learn.army.mil>

(Course ID search = monster)

Conference Call numbers and codes, Slide Handouts, Recordings, Schedule of Events, and Certificates are always available at in the Blackboard Course for this meeting

Online Self-Development, Self-Enroll, Self-Paced Training



○ Analytical Chemistry Competency

- Sampling Technical Guide 141 and Beyond (1.5 hrs)
 - Provide critical information about USAPHC Lab services that optimize IH customer's lab results
 - List information about USAPHC Lab services that optimizes the IH customer's lab results
 - Answer questions regarding the Technical content of the most recent TG 141
 - Explain the content found in the appendices of TG 141 about passive and particulate monitoring
 - Identify facts about passive and particulate monitoring information from the appendices of TG 141
 - Describe and identify appropriate analytical sampling methods

Online Self-Development, Self-Enroll, Self-Paced Training



- **Army Business Practice Competency**
- Taking Field Notes the DOEHRs-IH Way!! (0.75 hr)
 - List examples of data collected during period and baseline IH surveys
 - Demonstrate use of the data collection tools/forms provided during this class
 - Recognize data that is/is not collected during IH periodic surveys

Online Self-Development, Self-Enroll, Self-Paced Training



○ Basic IH Math and Science Competency

○ IH Math & Chemistry Review(0.5 hr)

- After taking this class students will be able to calculate:
 - PPM
 - Mg/M3
 - TLV
 - Sample volume
 - Moles
 - pH
 - Specific Gravity
 - Pressure, temperature, and volume of gasses

○ Introduction to Vision Conservation (5 hrs)

- Describe purpose and limitations of occupation vision standards
- Describe illumination principles, regulatory requirements, and human factors issues
- Describe the effects on illumination on color vision
- Describe scope and use of computers and computer displays
- Describe computer vision syndrome (CVS) visual and ocular symptoms
- Describe factors contributing to CVS
- Describe recommendations for managing CVS
- Describe the principles and properties of lasers
- Describe laser hazards and classification system
- Describe the effects on laser on vision and visual system
- Describe laser eye protection technology and device selection criteria
- Describe laser medical surveillance program and laser

Online Self-Development, Self-Enroll, Self-Paced Training



○ Biohazards Competency

- IH COMPETENCY VERIFICATION: Biohazards
- Introduction to Bio-Safety Cabinets & BSL Labs (0.5 hrs)
 - Describe the concept of bio-safety levels
 - Describe common laboratory safety practices
 - Differentiate between primary and secondary barriers
 - Explain the purpose and function of bio-safety cabinets and chemical fume hoods
 - Identify the different classes & types of bio-safety cabinets & certification requirements
 - Describe general guidelines for laboratory spills

Online Self-Development, Self-Enroll, Self-Paced Training



○ Biostatistics & Epidemiology Competency

- Basic Epidemiology for Industrial Hygienists (1.5 hrs)
 - Define epidemiology terms
 - Discuss the role and application of occupational epidemiology
 - Describe the five measures of occurrence
 - Discuss the main types of study designs used in occupational epidemiology
 - Discuss measures of association
 - Describe the validity and reliability of diagnostic and screening tests
- IH Assessment Statistics (4 hrs)
 - Using descriptive statistics, identify central tendency and spread
 - Calculate statistical problems (i.e. geometric mean, standard deviation, confidence intervals, etc.)
 - Distinguish between logarithmic and normal distributions
 - Identify the statistical test used in DOEHRs-IH
 - Demonstrate the Presentation of data interpretation and evaluation
- Industrial Hygiene Statistics (4 hrs)
 - Using descriptive statistics, identify central tendency and spread
 - Calculate statistical problems (i.e. geometric mean, standard deviation, confidence intervals, etc.)
 - Distinguish between logarithmic and normal distributions
 - Identify the statistical test used in DOEHRs-IH
 - Demonstrate the Presentation of data interpretation and evaluation

Online Self-Development, Self-Enroll, Self-Paced Training



○ Engineering Controls & Ventilation Competency

- Ventilation: Fundamentals of Ventilation (2 hrs)
 - Recognize the properties of air under standard and non-standard conditions
 - Describe airflow behavior in a ventilation system
 - Identify the 3 different, but related pressures associated with a moving air stream
 - Describe basic measurement techniques & calculations to determine airflow and pressure in a ventilation system
 - Recommend and apply ventilation engineering principles and related calculations to control exposures
- Laboratory Construction Basics (6 hrs)
 - Recommend and apply ventilation engineering principles
 - Use related calculations to control exposures
 - Explain engineering design principles for laboratories and the regulations and standards pertinent to laboratory design and laboratory ventilation systems
 - Demonstrate, recommend, and apply ventilation engineering principles and related calculations to control exposures in laboratory work environments
- Ventilation Fans (1.25 hrs)
 - Differentiate between various types of fans
 - Identify criteria for fan selection
 - Demonstrate how to apply the Fan Laws

Online Self-Development, Self-Enroll, Self-Paced Training



○ Engineering Controls & Ventilation Competency

○ Ventilation Hoods (2.25 hrs)

- Identify the various types of exhaust hoods
- Perform calculations to determine capture
- Measure velocity based on hood type
- Perform calculations to determine the type of hood needed
- Calculate entry losses based on hood type

○ Ventilation HVAC Components & Controls (2.75 hrs)

- Explain the difference between various types HVAC Components and Controls
- Identify criteria for use as general dilution ventilation controls
- Recognize and explain purpose of HVAC systems and components and incorporate knowledge into surveys

○ Ventilation Protocols (0.75 hr)

- After completing this course, participants will be able to demonstrate, recommend, and apply ventilation engineering principles and perform the related calculations for the following:
 - Disease Isolation Areas
 - Operating Rooms and Protective Environment Rooms
 - Lab Hoods
 - Paint Booths
 - Vehicle Exhaust
 - Welding Hoods

Online Self-Development, Self-Enroll, Self-Paced Training



o Ergonomics Competency

- o Industrial Workplace Ergonomics for DOEHRS-IH Users (Intermediate 0.5 hr)
 - o Name the tool used as a basis for DOEHRS-IH ergonomics assessments
 - o Identify ergonomic risk factors and using the hierarchy of controls, recommend controls
 - o Recognize the medical rationale for ergonomics risk factors
- o Introduction to DOEHRS-IH Ergonomics (1.0 hr)
 - o Explain and use the ergonomics assessment wizard included in DOEHRS-IH
 - o Name the tool used as a basis for DOEHRS-IH ergonomics assessments
 - o Name at least two risk factors that the DOEHRS ergo survey evaluates
 - o Explain the medical rationale for at least one ergonomics risk factor
- o Office Ergonomics (1.0 hr)
- o Applied Ergonomics (40 hr)

Online Self-Development, Self-Enroll, Self-Paced Training



○ Hazard Assessment & Risk Communication Competency

○ GHS & HAZCOM UPDATE (1.75 hrs)

- Define GHS
- Describe changes from the old HAZCOM standard
- Recognize implementation dates for GHS
- Describe differences between the old MSDS to the new SDS
- Recognize steps involved in recording HAZCOM Inspection data
- Recognize steps involved in recording HAZCOM Inspection deficiencies

○ Public Affairs for the OSH Professional: Communicating With the Media (1 hr)

- Demonstrate knowledge of the media, how they operate, and how you can thrive in an interview situation
- Explain procedures for release of information when a work accident/incident occurs

○ Introduction to Risk Communication for OHS Professionals (1.75 hrs)

- Explain how risk communication theory, practices, and knowledge are used to improve overall risk management and operational success
- Explain the skills, tools, techniques and key elements that should be used to effectively communicate risk information
- Describe how effective risk communication processes that involve stakeholders can improve risk management

Online Self-Development, Self-Enroll, Self-Paced Training



o IH Sampling Competency

o Basic Industrial Hygiene Sampling (4 hrs)

- o Determine appropriate sampling strategies
- o Select and describe the advantages and disadvantages of using various types of air sampling instruments
- o Collect full shift tasked based samples
Recognize the basics of detection analysis principals and instrumentation calibration
- o Explain concepts of particles and particle sampling

o Direct Reading Gas & Vapor Instrumentation (2.25 hrs)

- o Describe use of PID, FID, and IR equipment
- o Identify which theory/methodology is the basis of PID, FID, and IR instruments
- o List materials needed for calibration/sampling
- o Describe the sampling method/steps
- o Demonstrate entering real time direct reading sampling data into DOEHRS-IH
- o Calculate simple concentration calculations for PID instrument readings

o IH Gas & Vapor Assessments Using Direct-Reading Sensor Technology (1hr)

- o Explain principals of FTIR gas sampling and analysis quality control
- o Demonstrate knowledge of the FTIR method for gases and vapor samples
- o Demonstrate a basic knowledge of the advantages and disadvantages of FTIR
- o Explain how to enter FTIR data into DOEHRS-IH

Online Self-Development, Self-Enroll, Self-Paced Training



o IH Survey Competency

- o DoD Exposure Assessment Model (1hr)
 - o At the end of the course, IH professionals will be able to describe and differentiate between the 8 steps of the DoD IH Exposure Assessment Model
- o IH and Exposure Assessment (2.5 hrs)
 - o list the components of a SEG
 - o explain how to create a SEG and how it is associated with a process
 - o recognize common mistakes when forming a SEG
 - o list types of exposure strategies
 - o discuss the difference between full period and partial period sampling
 - o explain the importance of OEL selection
 - o describe prioritization of survey and sampling tasks
 - o describe and define the workplace monitoring plan
- o Industrial Hygiene Survey and Sampling Etiquette
 - o General Sampling techniques
 - o Helpful sampling tips
- o Introduction to Industrial Hygiene for OHS Professionals (40 hr)

Online Self-Development, Self-Enroll, Self-Paced Training



- **IH Program/Project Management Competency**

- IH Management and Ethics (0.5 hr)
 - Identify Army Regulations for Ethical Conduct
 - Explain the Industrial Hygiene Code of Ethics
 - Describe several case studies involving IH ethics

Online Self-Development, Self-Enroll, Self-Paced Training



- **Indoor & Outdoor Air Quality Competency**
 - Environmental and Indoor Air Quality (4 hrs)
 - Identify who to call when you need assistance.
 - Recognize occupant symptoms that pertain to IAQ and Outdoor air hazards
 - Demonstrate ability to perform a comprehensive IAQ evaluation
 - Recommend control strategies to resolve any IAQ problems
 - Introduction to Indoor Air Quality Investigations (2 hrs)
 - identify the health effects and health related terms related to indoor air quality investigations
 - identify ventilation system related causes for poor indoor air quality
 - identify chemical agents and their sources that are related to poor indoor air quality
 - identify indoor pollutant sources related causes for poor indoor air quality
 - identify outdoor pollutant related causes for poor indoor air quality
 - describe standards, guidelines, and procedures of the indoor air quality investigation
 - list recommendations that the IH might make to improve indoor air quality

Online Self-Development, Self-Enroll, Self-Paced Training



- **Non Engineering Controls Competency**
 - Non-Engineering Control Basics (1.5 hrs)
 - select appropriate non-engineering control based on specific hazards
 - calculate maximum use concentration for respiratory protection
 - identify and explain selection and fit criteria of personal protection equipment

Online Self-Development, Self-Enroll, Self-Paced Training



○ Noise and Hearing Loss Prevention Competency

○ Army Noise Measurement and Assessment Course (1.25 hrs)

- Provide examples of potentially noise-hazardous areas
- Provide several facts about ultrasound exposures
- Conduct appropriate measurements to evaluate worker exposure
- Give examples of important Army business practices and assessment techniques used when conducting noise assessments in Army settings
- Discuss aspects of surveying suspected noise-hazardous areas
- Discuss several aspects of noise instrumentation

○ Basic Noise Concepts & Math (1.5 hrs)

- Students will be able to explain and identify noise hazard assessment, evaluation, and control of the following:
 - Noise Basics
 - Noise Assessment and Evaluation
 - Noise Control
 - Calculation Practical Exercise

○ CIH Noise Math Preparation (1.25 hrs)

- After taking this class students will be able to calculate:
 - Allowable exposure time
 - Maximum acceptable noise levels
 - Noise dose
 - Power Level
 - Adding noise sources
 - Octave band levels
 - Average level of 8-hour exposure
 - Establishment of 140dB contours

Online Self-Development, Self-Enroll, Self-Paced Training



- **Noise and Hearing Loss Prevention Competency**
 - Industrial Hygiene Noise Instrument Basics (0.25 hr)
 - Select noise instruments
 - Set up noise instruments
 - Calibrate noise instruments
 - properly place noise instruments

Online Self-Development, Self-Enroll, Self-Paced Training



○ Radiation Competency

- Radiation Math Concepts for Industrial Hygienists (4 hrs)
 - Identify sources of radiation & controls
 - Define radiation and radioactivity
 - Explain radiation quantities and units, and apply calculations
 - Identify and describe at least two ways an individual can be exposed
 - Explain radiofrequency radiation concepts
 - Explain electromagnetic field concepts

- Ionizing and Non-Ionizing Radiation Sources in the Medical Environment (1.25 hrs)
 - Identify sources of radiation & controls
 - Define radiation and radioactivity
 - Explain radiation quantities and units, and apply calculations
 - Identify and describe at least two ways an individual can be exposed
 - Explain radiofrequency radiation concepts
 - Explain electromagnetic fields

Online Self-Development, Self-Enroll, Self-Paced Training



- Standards, Regulations, & Committees Competency
 - Industrial Hygiene Standards, Regulations and Committees (1.5 hrs)
 - Describe the mandatory IH policies and regulations within the Federal Gov't, DoD & U.S. Army
 - Identify the Army Industrial Hygiene Program Objectives
 - Identify major responsibilities of the Industrial Hygienist
 - Identify how the Industrial Hygiene Program supports other programs

Online Self-Development, Self-Enroll, Self-Paced Training



- **Thermal Stressors Competency**

- Thermal Stressors (1.25 hrs)
 - Identify thermal stressors in the workplace
 - Demonstrate ability to measure and evaluate thermal stress
 - Identify and recommend methods to prevent and control the onset of thermal stress

Online Self-Development, Self-Enroll, Self-Paced Training



o Toxicology Competency

o General Toxicology (2.25 hrs)

- o Define toxicology, toxicologists, toxicants, toxicity, hazard, potency, dose, concentration, response, and no observed adverse effect level (NOAEL)
- o Identify the primary classifications of toxicants
- o Identify the major routes of entry based on severity and significance
- o Define related terms and toxic effects
- o Discuss dose response relationship
- o Identify the primary chemical interactions associated with exposure to multiple hazardous materials

o Pesticide Toxicology (1 hr)

- o Describe details of pests, history of pests, and associated diseases
- o Define pesticide toxicology related terms
- o Provide specific examples of pesticides (organophosphate, carbamate, pyrethroid, organochlorine), herbicides, fungicides and rodenticides
- o Describe the mode of action for various pesticides

Online Self-Development, Self-Enroll, Self-Paced Training



o Work Environments & Industrial Processes Competency

- o Industrial Hygiene Work Environments: Fire Protective Services (1.75 hrs)
 - o Recognize potential occupational health hazards
 - o Recognize commonly found controls
 - o Describe typical workplace evaluation techniques & industrial hygiene procedures (sampling and workplace monitoring plans)
 - o Describe typical findings and recommendations (controls and medical surveillance)
 - o Describe occupational health standards and regulations that are uniquely applicable to this common process (AR's, DAPAMS, TBMEDs, etc.)
 - o Demonstrate the ability to recognize and record hazards and controls for the Fire Protective Services Similar Exposure Group (SEG) in the Defense Occupational and Environmental Readiness System – Industrial Hygiene
 - o Recommend controls and medical surveillance for Fire Protective Services SEG members
- o Industrial Hygiene Work Environments: Confined Spaces (1hr)
 - o Define IH role and responsibilities in areas with permit-required confined spaces
 - o Identify hazards associated with areas with permit-required confined spaces
 - o Identify deficiencies with areas in areas with permit-required confined spaces
 - o Describe other duties unique to areas with permit-required confined spaces

Online PHC Environmental Health Training



- Basic Waste Management
- Medical Waste Supplemental Training
- Medical Waste Transport Refresher
- Pharmaceutical Waste Disposal
- Shipping Category B Infectious Substances
- Shipping With Dry Ice
- Transport of Biomedical Material Refresher

*Registration for the above courses are on the PHC Training website or through the individual course coordinator/instructor

Other PHC Traditional Classroom Training of Interest



- Risk Communication Course
- Health Physics Workshop
- Laser & Radiofrequency Course
- Tri-Service Vision Conservation

*Registration for the above courses are on the PHC Training website or through the individual course coordinator/instructor