

Human and Animal Food Laboratory Professionals Curriculum Framework and Training Development

APHL is leading a team of Subject Matter Experts (SMEs) to build a competency-based curriculum framework and accompanying trainings for human and animal food laboratory professionals (framework shown below).

Framework Development

The purpose of the framework is to identify the competencies (knowledge, skills, and abilities) needed by a laboratory professional throughout his or her career. The framework is not used to develop training; rather, the competencies contained within the framework describe a competent laboratory professional *after training is completed*. Additionally, the framework holds behavioral anchors, which are measures that a manager/supervisor would use to assess the individual's competencies.

The goal of the framework is a competent laboratory workforce doing comparable work as part of the Integrated Food Safety System.

The majority of work accomplished to date has focused on laboratory professionals at the Entry Level and Mid Level, shown in the image below. Finalized competency statements and behavioral anchors for the Entry Level – General, Entry Level – Program Specific, and Mid Level – General content areas can be found at [APHL's website](#).

Human and Animal Food Laboratory Professionals Curriculum Framework - June, 2021																					
Senior Administration	Accreditation / Certification	Advocacy	Budget	Change Mgt	Continuity of Operations	Facility Mgt	HR Mgt	ISO (Sec 4)	Legislative Affairs	Leadership / Executive Program	Organizational Culture	Policy Making	Program / Grant Mgt	Public Relations	Risk Analysis (Mgt & Communication)	Stakeholder Support	Systems Analysis	Instructor Devt	Project Mgt		
Supervisor / Manager Program Specific	Advanced Chemistry				Advanced Microbiology																
Supervisor / Manager	Conflict Resolution and Mediation		Incident Command System (ICS)		Negotiation		Risk Communication Introduction														
Expert (Program Specific)	Bioinformatics		Coaching		Dairy		Instrument Repair		Laboratory Evaluation Officer			Nanotechnology		Shellfish							
Expert Core	Animal Food Safety				Human Food Safety				Food Safety												
	Acidified Foods	Advanced Leadership	Allergens	Evidence-Based Decision Making	Grant Writing	Internal Audit	Labeling	Laboratory Facility Design & Maintenance	Measurement Uncertainty	Method Development	Risk Mgt	Validation Methods		Chemistry	Microbiology						
Mid (Program Specific)	Audit		Radiological		Select Agents		Shellfish		Waste Management		Whole Genome Sequencing										
	Advanced Gas Chromatography	Advanced Elemental Analysis	Advanced Laboratory Techniques	Advanced Liquid Chromatography	Advanced Spectroscopy Techniques	Advanced Laboratory Techniques		Advanced Technologies	Environmental Conditions	Food Safety											
	Authenticity		Animal Food Safety	Emerging Matrices	Environmental	Human Food Safety															
Mid Core	Advanced Communication Skills	Advanced Quality Techniques	Basic Leadership Skills	Critical Thinking	Evidentiary Integrity	Human and Animal Food Incident Response	Informatics / IT	Laboratory Networks, Collaborations, and Interagency Programs	Legal Proceedings	Method Evaluation and Selection	Process Improvement	Advanced Safety									
Entry (Program Specific)	Animal Food		Biosafety Level 3		Dairy Regulatory Programs		Select Agents		Shellfish Regulatory Programs												
	Basic Chromatography		Basic Separation / Extraction Techniques		Basic Mass Spectrometry		Basic Spectroscopy		Environmental Monitoring and Investigations		Aseptic Techniques		Basic Foodborne Pathogens		Environmental Conditions		Microbiological Testing				
Entry Core	Accreditation / Certification	Basic Communication Skills	Basic Laboratory Math	Basic Laboratory Statistics	Basic Laboratory Techniques	Chain of Custody	Ethics	Incident Command System (ICS)	IFSS	LIMS	Laboratory Sampling	Method Resources	Public Health (One Health Approach)	Quality Mgt Systems	Regulatory Systems	Regulatory Sampling	Safety	Waste Mgt			

Chemistry
Microbiology
Special Programs
Core Topics

Each "box" or "brick" within the framework represents a content or subject area in which the laboratory professional must possess competence. The content or subject areas are either *core* (applying to all laboratory professionals) or *program-specific* (applying to laboratory professionals specializing in either Chemistry [purple], Microbiology [green], or Specialized Testing [pink]).



Framework development workshops are held periodically, either at the APHL headquarters in Silver Spring, MD or via interactive webinar. The SMEs participating in these workshops represent a range of stakeholders including but not limited to APHL, AFDO, AAFCO, FDA, CFIA, and state laboratories.

Training Development

APHL is developing competency-based training to accompany the Laboratory Curriculum Framework. Beginning with the Entry Level General Education content areas, these courses are designed to provide human and animal food laboratorians the knowledge and skills needed to be deemed competent in a particular subject area. Several online courses are now available on [APHL's Training Portal](#).

Governmental laboratorians are able to access these courses free of charge; email foodsafety@aphl.org for the access code.

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