



**REQUEST FOR PROPOSALS:  
COURSE DESIGN AND DEVELOPMENT  
FOR PUBLIC HEALTH LABORATORY INFORMATICS**

March 15, 2016

[www.aphl.org](http://www.aphl.org)

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## Summary

The Association of Public Health Laboratories (APHL), in cooperation with the U.S. Centers for Disease Control and Prevention (CDC) is accepting proposals to design and develop a series of laboratory informatics training courses. Through this project APHL seeks to implement role and competency-based training and curricula in an effort to begin meeting the training goals and needs of informatics programs at its member public health laboratories (PHLs). For more information about these training goals, please refer to page 49 of the informatics competency guidelines outlined in the *APHL/CDC Competency Guidelines for Public Health Laboratory Professionals*, an electronic copy of which is currently available at <http://www.cdc.gov/mmwr/pdf/other/su6401.pdf>.

APHL envisions course development with two goals and audiences in mind:

- *Targeted* training of PHL informaticians; and
- *Generalized* informatics training for other PHL personnel.

This Request for Proposals (RFP) seeks to identify a company or individual who can support a concept-to-completion project. Desired expertise and approaches include those found in the traditional Analysis, Design, Development, Implementation and Evaluation (ADDIE) model:

- Course analysis and needs identification
- Course instructional design expertise
- Course instructional development expertise
- Strong facilitation and project management methodologies
- Graphic/design layout capabilities and expertise
- Course evaluation approaches
- Experience with recommending sustainable approaches for electronic delivery and hosting of course material, for example, a learning management system or service.

## Background

Health Information Technology (IT) services and a knowledgeable staff of informaticians are mission-critical components to any public health department. As such, laboratory informatics has become a critical operational element and contributing factor to successfully supporting PHL operations and delivering quality services to the public.

As laboratory informatics continues to emerge as a discipline, it is important for PHLs to gain competencies around informatics. Together, APHL and CDC have begun to define a set of competency-based modules that can be used to design and deploy specific informatics related courses for target roles in the laboratories.

## Eligibility

This is an open and competitive process.

## Anticipated RFP Schedule

At this time, APHL anticipates the following schedule:

March 15, 2016	– RFP issued
<b>March 22, 2016</b>	– <b>Letter of intent due to APHL</b>
March 29, 2016	– Last day to submit questions (exceptions may be granted in APHL’s sole discretion)
<b>April 15, 2016</b>	– <b>RFP responses due</b>
April 22, 2016	– Proposal review and follow-up completed
April 29, 2016	– Final review completed and awardee notified within seven days

APHL will communicate any modification to this schedule on [www.aphl.org/rfp](http://www.aphl.org/rfp), APHL’s procurement website.

## Response Submittal

### Confirmation of Intent to Respond

APHL requests that prospective bidders submit a brief email statement indicating an intent to submit a proposal. Prospective bidders must send this email statement to the email addresses identified in the Final Response section below and *APHL must receive this by 5:00 pm EST on March 22, 2016.*

### Final Response

*APHL must receive completed responses by 5:00 pm EST on April 15, 2016.* Applicants may send proposals by any one of the following methods:

- 1) Via email using the subject line: SUBMISSION OF RFP RESPONSE FOR COURSE DESIGN AND DEVELOPMENT FOR PHL INFORMATICS to:

- [Michelle.Meigs@aphl.org](mailto:Michelle.Meigs@aphl.org)
- [Vanessa.Holley@aphl.org](mailto:Vanessa.Holley@aphl.org)

*With a cc to:*

- [Rachel.Shepherd@aphl.org](mailto:Rachel.Shepherd@aphl.org)

- 2) By United States Postal Service (USPS) Priority or Express Mail or Federal Express (FedEx), United Parcel Service (UPS) or another overnight delivery service with an established capacity to deliver the response to APHL addressed to:

Association of Public Health Laboratories  
Attn: RACHEL SHEPHERD  
8515 Georgia Avenue, Suite 700

Silver Spring, MD 20910

APHL will send an email acknowledging the receipt of your application; if you do not receive an acknowledgement within 48 hours, please email the RFP points of contact above to confirm receipt.

## Questions

Please direct all questions regarding this RFP or its application requirements or process via email to the following individuals:

- Michelle Meigs at [Michelle.Meigs@aphl.org](mailto:Michelle.Meigs@aphl.org)
- Vanessa Holley at [Vanessa.Holley@aphl.org](mailto:Vanessa.Holley@aphl.org)

*When emailing questions to APHL, applicants should send the message to both points of contact above and should also copy the following individual as a cc on the message:*

- Rachel Shepherd at [Rachel.Shepherd@aphl.org](mailto:Rachel.Shepherd@aphl.org)

A member of APHL Informatics Department staff or a subject matter expert (SME) from one of APHL's member PHLs or the CDC will respond directly to the questions on an individual basis as questions are received. While APHL will endeavor to answer questions within one business day of receipt, additional time may be needed depending on the issue raised. APHL anticipates that it will then also post each question, together with the answers, to APHL's procurement website ([www.aphl.org/rfp](http://www.aphl.org/rfp)) within one business day of responding directly to the email sender.

*APHL should receive all questions by 5:00 pm EST on March 29, 2016.* APHL is unlikely to answer any question received after this deadline, but it will have discretion to do so if APHL's Informatics Department staff reasonably feel that the question raises a substantial issue that could affect multiple applicants and may be answered without impacting the application submission and review process. Should APHL opt to answer any late question, APHL will post the question and answer to APHL's procurement website and will not respond directly to the sender.

## Scope and Approach

The organization or individual engaging in this project must provide the capabilities to work from the early stages of the course derivation and design through the full development, implementation and evaluation of the courses.

In addition, APHL would like a clear understanding and evaluation of the best learning management systems and environments in order to better understand how such a system might be used to support course delivery in future project phases.

APHL has included draft guidance as reference material to assist applicants with developing their responses. This material may be found in the following RFP attachments:

- Appendix A: Course Modules/Concept Areas
- Appendix B: Informatics Staff Roles and Training

Although this material covers a very wide area of concepts for course development, APHL expects that the selected applicant will only design and develop a small number of critical primary courses during the initial engagement period of the project discussed in the Project Term and Award section below.

For purposes of their application, an applicant should estimate their efforts based on the expanded concept derivation for all of the module areas found in Appendix A, and then plan on the full design, development, implementation and evaluation of five (5) courses.

The applicant should expect to develop at least two (2) of the five (5) courses from the concepts in the Introduction to Informatics area of Appendix A below. The applicant may also anticipate work on other areas of course development during the initial engagement, including the Bioinformatics, Business and Technology Strategy, and Systems Technology and Architecture areas described in Appendix A.

If an applicant is looking for a metric to utilize for purposes of estimating the level of expected effort required to deliver the courses envisioned in this RFP, the applicant might consider a typical course unit developed for this project to equal roughly two (2) academic credit hours' worth of content and interaction. That said, APHL's current vision for this project does *NOT* specify or dictate how course hours will be delivered/derived. The traditional two (2) credit-hour course is only one option of many, and APHL is look to the applicant during the analysis/design phase to define the best modalities to meet the needs of APHL, CDC and students.

## Project Term and Award

APHL will deliver a written notice of award to the successful applicant. The successful applicant will receive funding through a contract agreement with APHL.

### Initial Engagement Period

APHL has confirmed funding available through June 30, 2016 but, based in input from CDC, it fully anticipates that it will financially support this project through June 2017. Funding will be provided by the CDC through Cooperative Agreement Number 1U60OE000103 (CFDA No. 93.322) (the Cooperative Agreement) with APHL during this period.

CDC provides funding under the Cooperative Agreement on a July 1 to June 30 budget year cycle. As a result, APHL expects to issue two separate contracts for this project for the following phases of the initial engagement period:

- *Phase 1 – this will run from the estimated time of award through June 30, 2016*
- *Phase 2 – this will run from July 1, 2016 through June 30, 2017*

### Subsequent Periods

There is the potential for this project to continue to beyond the anticipated June 30, 2017 conclusion envision by this RFP. If this occurs, APHL will have to comply with the terms of the Cooperative Agreement funding conditions and applicable federal law and regulations (which might require a new

round of competitive bidding).

## Proposal Submission

### Guidelines and Required Information

The applicant must ensure that APHL receives its letter of intent and its complete response by the due dates set out in the Anticipated RFP Schedule above. *APHL will not submit incomplete applications for review by the evaluation team described below.*

There is no designated response format or outline for responding to the RFP; a format of the applicant's choice is welcome. *Regardless of chosen format, however, **an applicant's proposal must be limited to 15 pages of narrative and visuals**.* If an application exceeds this 15-page limit, only the first 15 pages will be sent to the evaluation team and review scores will be based solely on the portion of the proposal submitted for review. An application should have a font size of 11 points or larger and page margins of at least 0.5 inches. *Note: Neither the Cost Proposal described below nor anything included as an appendix will count as part of the 15-page count (material included as an appendix will only be used as reference material and will not be reviewed as part of the evaluation process).*

The applicant *must* include the following in their 15 page response:

1. Provide a company profile;
2. Describe three (3) past learning/development activities produced that best reflect the applicant's work and relevancy to this project;
3. Provide reference information from three (3) former or current clients;
4. Describe applicant's experience in producing training programs that included highly technical or scientific content;
5. Describe organizational capacity and approaches to:
  - a. Producing training programs using multiple modalities; and
  - b. Designing and developing competency based training;
6. Describe what type of team will be assigned to this project, including a description of each person's role (resumes or CVs should also be provided as an appendix); and
7. Briefly describe the applicant firm's project management and instructional development processes.

### Cost Proposal

The applicant should provide a detailed cost estimate and explanation/justification of costs. The cost proposal must be no longer than three (3) pages. There is no required format and should be submitted in the format of the applicant's choice.

APHL strongly suggests that the applicant divide their cost estimate across the two time-periods indicated in the Project Term and Award section above. The applicant should clearly define what they

will accomplish in each phase; as stated earlier, APHL anticipates the selected applicant will work with APHL through the full lifecycle of course development from analysis through evaluation. The applicant must be able to provide strong project management and facilitation skills for both phase 1 and phase 2 of the initial engagement period.

The applicant should provide estimates for this RFP that hold some level of reasonable accuracy for time and cost based on the information provided, but APHL recognizes that it is difficult to fully estimate development costs since the five (5) courses targeted for development have not been identified. Once the five courses are selected for full development, APHL will work with the selected applicant to review and evaluate the proposed time and effort to allow for needed adjustment in the level of effort, depending on course complexity.

A rough suggestion for development is around 250 hours per course once concepts are drafted in a syllabus format.

Appendix C: Project Approach has been included to assist applicants in understanding the level of detail that APHL and CDC SMEs have discussed in relation to this project. *Applicants are not required to use or reference anything outlined in appendix C unless they would like to; it is only provided as supporting documentation.*

## Evaluation

### Evaluation Process

APHL will conduct the entire review via a combination of email communications between APHL's Manager, Informatics Operations and the members of the evaluation team described below, or among the evaluation team members via teleconference and/or webinar evaluation sessions. APHL's Manager, Informatics Operations will coordinate the review process and the evaluation sessions.

The reviewers may request follow-up interviews with all or some of the applicants and, following these interviews, may request supplemental information on an applicant's proposal. These interviews and any supplemental information will clarify an applicant's capacity or experience in one or more of the evaluation criteria, or will help to explain other information contained in an applicant's proposal.

### Initial Review

APHL staff, led by the Manager, Informatics Operations, will conduct an initial review of all proposals for completeness (not content). Any incomplete application on the proposal due date specified in the Anticipated RFP Schedule section above will not be considered and will not receive a formal evaluation.

### Evaluation Team

Complete proposals will be reviewed by a team of experts from CDC and APHL members. There will be no formal proposal evaluation performed by a member of APHL staff.

SMEs from CDC and APHL will be identified and selected based on their familiarity with laboratory informatics and workforce and training. APHL will ask identified SMEs to verify that they have no conflict of interest that would prevent them from providing an unbiased and objective assessment of individual proposals; any individual who is unwilling or unable to provide this verification will not be selected as a reviewer. Once potential reviewers have been identified, APHL's Senior Director for Public Health Systems will have final approval over the review team's composition.

APHL anticipates that the review panel will consist of no less than three (3) nor more than seven (7) SMEs. APHL will post the final size of the review panel on APHL's procurement website on or prior to the RFP due date.

## Evaluation Criteria

The review team will use the following criteria as a general overall framework in which to evaluate proposals:

- *Suitability of the Proposal* – the proposed solution meets the needs and criteria set forth in the RFP.
- *Expertise* – the applicant shows knowledge of the subject by recommending and communicating appropriate technical and aesthetic solutions as evidenced by the proposal and references.
- *Applicant Experience* – Applicant has successfully completed similar projects and has the qualifications necessary to undertake this project.
- *Value/Pricing Structure and Price Levels* – The price is commensurate with the value offered by the applicant.
- *Depth and Breadth of Staff* – The applicant firm has appropriate staff to devote to the project within the time frame needed.
- *Proposal Presentation* – The applicant presents the information in a clear, logical manner and is well organized.

Each member of the evaluation team will evaluate proposals against the 13 questions or criteria found in [Appendix D: Instructional Designer RFP Scorecard](#) and will assign a numeric score from zero (0) (indicating a 'poor' response) to four (4) (indicating an 'outstanding' response) to reflect that reviewer's assessment of the responsiveness of a proposal to each question or criterion. The evaluator's will assign score using the following categorizations:

- *Poor* (0 points) – The respondent's proposed approach neither meets the baseline requirements set out in this RFP nor demonstrates more than a minimal understanding of the subject matter.
- *Fair* (1 point) – The respondent's proposed approach does not meet the baseline requirements set out in this RFP but does demonstrate a baseline understanding of the subject matter.
- *Good* (2 points) – The respondent's proposed approach meets the baseline requirements set out in this RFP and demonstrates the necessary understanding of the subject matter.
- *Excellent* (3 points) - The respondent's proposed approach exceeds the baseline requirements set out in this RFP and demonstrates a deep understanding of the subject matter.
- *Outstanding* (4 points) - The respondent's proposed approach greatly exceeds the baseline requirements set out in this RFP and demonstrates a thorough and comprehensive understanding of, or an expertise in the subject matter.

The raw scores will be weighted in such a manner so that the 52 maximum possible raw score points will be converted into a maximum possible weighted score of 100 points. APHL is currently finalizing the

weighting mechanism and will post the updated RFP Scorecard on [www.aphl.org/rfp](http://www.aphl.org/rfp) prior to the date that proposals are due to APHL.

## Post-Evaluation Process

The selected instructional designer will be notified by APHL staff within ten (10) business days of completion of the evaluation, and the name of the recipient will be posted to APHL's procurement website, found at [www.aphl.org/rfp](http://www.aphl.org/rfp) on the same day. Unsuccessful applicants will receive notification of these results by e-mail or by U.S. mail within 30 days of the date that the winning/successful vendor is posted.

All applicants will be entitled to utilize APHL's RFP Appeals Process to formulate a protest regarding alleged irregularities or improprieties during the procurement process. Specific details of this policy are located on the procurement website.

## Conditions of Award Acceptance

The eligible applicant must be able to contract directly with APHL or have an existing relationship with a third-party organization that can contract directly with APHL on behalf of the awardee.

Applicants must agree to comply with expectations outlined in the appendices.

## General Considerations

This RFP is neither an agreement nor an offer to enter into an agreement with any respondent. Once application evaluation is complete, APHL may choose to enter into a definitive contract with the selected applicant or it may decline to do so.

APHL must ensure that the selected respondent is neither suspended nor debarred from receiving federal funds and that the respondent meets any other funding eligibility requirement imposed by the Cooperative Agreement. APHL's determination of whether the respondent is eligible to receive Cooperative Agreement funding will be definitive and may not be appealed. In the event that APHL determines that the selected respondent is ineligible to receive Cooperative Agreement funding, APHL will nullify the contract or will cease negotiation of contract terms.

Each respondent will bear its own costs associated with or relating to the preparation and submission of its application. These costs and expenses will remain with the respondent, and APHL will not be liable for these or for any other costs or other expenses incurred by a respondent in preparation or submission of its application, regardless of the conduct or outcome of the response period or the selection process.

## Appendix A: Course Modules/Concept Areas

### Introduction to Informatics

The introductory course(s) is(are) designed as a survey of the informatics concepts that drive data and information in the laboratory. All of the concept areas are touched on in this module, and specific areas explored in more detail where specific laboratory roles are involved benefit from more detailed information.

Through this module, the successful applicant will run the student(s) through processes in the lab that allow them to discover the relevance of what they do, the key components of laboratory informatics, and will show how data and information drive all aspects of laboratory business. Since data, information, and processes are key to understanding informatics, the successful applicant, through the courses in this area, will teach methods everyone can use to discover and visualize where these three factors are involved, and how to understand their impact. The module will explore the following areas and methods to accomplish the goals discussed:

- “Method of Information and Work Flow Modeling” will give student the skills to start an informatics conversation. These visualization methods teach the student “systems thinking”, arming them with the knowledge and confidence to discuss data, information, and processes that drive informatics associated with a laboratory.
- Using two stories to follow processes through the lab, the course will explore all concept areas. These two stories become the root for the module where base-level concepts of informatics in the laboratory are explored in the context of how informatics runs the laboratory, and how informatics is the product of the laboratory in the sphere of public health.
  - The first story follows the “Life of a Specimen”, which will help the student see where data start associating with a specimen from the very beginning and drives aspects such as critical data quality, process flow, and the derivation of information from results supplied to the clients of the laboratory. Along the journey of the specimen, the student will see where information is stored; who interacts with it; as well as the importance of why data drive the specimen’s life in the laboratory.
  - The second story will help the student understand how data and information coming from the laboratory are used in public health. “The Life of a Specimen Result” will show where the clients of the public health laboratory use the data and for what. By exploring public health use cases coming from an outbreak, a long term study, and a preparedness situation, the student will explore data quality impacts, management issues, and the critical aspects of electronic data messaging and delivery.
- Along the journeys described above, this introductory module will explore a number of base concepts that stem from the other module concept areas, including the following:
  - Data quality – Why do we use standards and how can we deal with the complexity of using them?

- Interoperability – Where do these “connections” become critical for public health and the operations of the laboratory?
- What is a Laboratory Information Management System (LIMS)? – What are the basic functions and how can LIMS vary in their delivery of informatics?
- Project Management – Why would one ever want to go to a management meeting? How does the laboratorian’s part of the process make sure informatics investments are a success?

Coding of laboratory test orders and reports for effective electronic messaging.

- Life Cycles – The lives of a computer system and its applications are like a “culture of bacteria.” The life cycle of application development is being “born” (created), having a life, and dying, and leaving behind something useful in the process. How can the student influence the “life cycle” of systems and applications?
- Data Repository – As data have to reside somewhere.
- “IT-guy” Management – How can laboratorians help “IT Management” do their jobs and help them understand the laboratory perspective of IT needs? Here, the student learns to understand what these might be and how to get along with them. In this context, knowledge and use of information flow modeling will be a great benefit in the two-way communication between IT and the laboratory.
- Financial Implications of Laboratory Informatics – Tools, resources, and stakeholders involved in the purchase of a LIMS will be discussed.
- Data Security – Laboratorians need to understand threats, compliance, and how we need to protect the data.
- Data and Information Usage – Visualizing data in the laboratory and helping our clients “see” what the data are and say is critical. Analytics are important as well to define what it all means and where these techniques from the bench through examining a year of results for quality improvements are used. Teaching some basic analytics and data management such as Excel would be useful in this area.
- The “Omic” World – examining why we are going in the direction of bioinformatics and how these data are changing what we do in public health. Where in the laboratory will these “omics” change the status quo and how complex is it?

## Data Quality and Sources, Standards, Lab Information Systems

Through this module, the successful applicant helps students explore three areas that are related and build on each other. Exploring where data are, in what format it can exist, and how the student(s) may use it inside and outside the laboratory. The module then takes a closer look to understand how data quality can impact the entire laboratory business process.

The data quality discussion will also focus on standards as the first line of defense against bad data quality. What are standards and where are they used in the process, ontology, computer systems, and

interoperability? Who owns the standards and how does one deal with them? Where are the standards held in the informatics systems or the processes?

Once the idea of data quality and standards are understood, it's time to explore the LIMS and other critical computer technology systems. After the introductory course has looked at the functional level of a LIMS, the course will now take a deeper dive into how these functions served through a LIMS and other related systems such as instrument interface systems and electronic lab notebooks are examined.

Parts of the LIMS that integrate with the extra-laboratory world are explored here - such as the integration broker, the interface to a central billing system, and an interface to a vendor's analytics system. This module is designed to teach what the parts are and how they accomplish the intended informatics goals. It does not go deep into the technology and computing architecture areas. Technology and computing architecture are explored more deeply in the Systems Technology and Architecture module.

### **Project/program Management & Systems Life Cycle**

Through this module, the successful applicant will help students explore how to manage the investments in technology and learn ways to be successful. The module will teach the basics of good project management (PM) following the classic "triple constraint" and ways to implement this process. A higher level of PM method will be explored around Program management and Governance. Some example tools for developing, planning, and executing project management will be explored as well.

### **Data Management**

Informatics is about data and information; one of the critical aspects is where and how we store the data. Additionally, understanding how data are accessed and made available to a variety of program and human users is imperative. This module teaches the process where we derive data and its structure from the requirements for a laboratory informatics need and then creates a data structure that has purpose in a relational model. Also, learning some basic SQL will give a baseline for understanding the access or query tools used to manipulate data.

Since the course will be dealing with all types of data, both structured and unstructured, other data architectures will be discussed with ways to determine when to use them. This module does not get deeply into the computing technology architectures, but does give a baseline understanding of what an architecture does and how it works. Other architectures that will be explored are basic flat file systems, such as SAS or Excel. More complex new approaches such as NoSQL and HADOOP systems for massive unstructured data such as genomics or pathology context interpretation will also be examined.

### **Systems Technology and Architecture**

Laboratory informatics is built on complex and expensive computing infrastructures. To be successful with laboratory informatics, consequently, the services that bring these architectures and those that reside in the laboratory have to be well understood, work together, and designed to meet the laboratory informatics requirements and business goals. Through this module the course dives into the computing architectures, the roles needed to support them, and the agreements to keep the technology safe and available to meet the lab's goals. Here is where a LIMS and the implementation methods are taught from general experience.

Through this module, the successful applicant will also teach methods for working closely with the external computing services providers, such as a central IT organization, to understand the technology requirements and reach agreements on how the infrastructure will be managed. Critical architecture

components will be explored in detail, and the successful applicant will teach best practices for implementing them. One example of this is the integration broker and technologies and standards required to interface with external organizations through messaging. The same interface and integration points throughout the lab itself are examined and methods discussed to meet the internal informatics needs in the lab.

Future technologies are explored in this module as well. There are methods for dealing with technology changes as they evolve. One that will be explored is the implementation of cloud architecture and services.

The technology aspects of security and resilience while security policies impact the lab's infrastructure are explored.

## **Business and Technology Strategy**

Informatics requires that investments are made in computing technology, and that means securing funding. Through this module, the successful applicant will walk students through the successful business case and how to secure funding for initial and sustained funding for the informatics infrastructure. What players must be involved in a business case? New technology directions can remain daunting when sometimes mandated due to laboratory regulations, security issues, or need to migrate or upgrade for a competitive advantage. What are some of the strategies in evaluating, deploying, and adopting new technologies?

## **Security, Privacy, and Compliance**

The security of sensitive data is of the utmost importance within the scope of public health laboratory informatics. This module will explore what the various governing and regulatory bodies, such as HIPAA and FISMA, require on both a policy and technical level. This module also has linkages to lessons explored in the Systems Technology and Architecture module, examining implementation details around secure systems.

## **Analytics – Decision Derivation**

Analyzing the data that come from test results, laboratory operations, and efficiency require analytics. There are all levels of analytics, ranging from understanding quality control/quality assurance analytics, to reporting aggregation and generation, up through complex multi-attribute analysis of multi-condition results to support epidemiological investigations. This module explores some of the basics of using spreadsheets to do some of this work, up through techniques using modern business intelligence tools. Visualization of data is a critical competency to adopt in the lab for all levels of analytics. Learning to use tools like Excel, SAS, R, Tableau, Weave, and others are part of this exploration. The cases used in these lessons will be designed to show the goals and relevance for the analytics.

## **Bioinformatics**

Bioinformatics is an emerging specialization of informatics that will impact all aspects of the public health laboratory. Through this module, the successful applicant will give students a basic understanding of what the genetic, proteomics, and pathway analytics are, and how they are used. Time will be spent explaining how "omics" data coming from laboratories will be used and how it will be changing public health dramatically. Certain types of laboratory assays will be explored to understand what data are generated, and how data are represented and analyzed. Currently, many of the omics analytics are done by lower level programming processes and use new technology tools that deal with massive and complex data sets. These will be explored using specific examples of data and assays. What can be

derived from the full sequencing of an organism found in a food outbreak? What types of lab reporting will change as newborn screening is completely done by genomic analytics?

## Appendix B: Informatics Staff Roles and Training

- 1) **Everyone** – All of the staff in the lab need to understand the “relevance” of informatics and data in the lab. This requires that all personnel take the introductory class to gain a solid understanding of why informatics is an important enabler for the products of the lab, and that everyone can affect the quality of the information produced by the laboratory. **PH Laboratory Informatician** – The lab informatician has the role as the interface between the delivery of the lab science and business functions and the enablement required by computing technology and technology services. It is expected that the lab informatician will build competencies in all concepts described in this document.
- 2) **Management/Administration/Directors/Health Officials** – These individuals need to build competencies around the management, procurement, and successful implementation of computing technologies and services supporting the business requirements in their laboratories.
- 3) **Analytics Personnel** – These roles can range from those who are at the bench working with data for specific assays, around quality control/quality assurance analytics, and results confirmation, up through staff working through complex data analytics from multiple results data determinations and reporting. The informatics competencies developed for these staff focus around general understanding of informatics and critical skills development around data and the formulation of information products throughout the lab and the lab’s clients.
- 4) **IT/IS Support Personnel** – Increasingly external computing services, resources, and staff are involved with providing the computing technology for the labs. These personnel and service organizations must understand the informatics requirements and supporting business needs in the laboratories for their services to be successful.

Role	Module/Concept Areas Recommended
Everyone	Introduction to Informatics
PH Laboratory Informatician	Introduction to Informatics  Data Quality and Sources, Standards, Lab Information Systems  Project/Program Management & Systems Life cycle  Data Management  Systems Technology and Architecture  Business and Technology Strategy  Security/Privacy/Compliance  Analytics – Decision Derivation  BioInformatics
Management/Administration/ Directors/Health Officials	Introduction to Informatics  Data Quality and Sources, Standards, Lab Information Systems

	<p>Project/Program Management &amp; Systems Life cycle</p> <p>Business and Technology Strategy</p> <p>Security/Privacy/Compliance</p> <p>Analytics – Decision Derivation</p>
Analytics personnel	<p>Introduction to Informatics</p> <p>Data Quality and Sources, Standards, Lab Information Systems</p> <p>Data Management</p> <p>Analytics – Decision Derivation</p>
IT/IS Support personnel	<p>Introduction to Informatics</p> <p>Data Quality and Sources, Standards, Lab Information Systems</p> <p>Data Management</p> <p>Security/Privacy/Compliance</p>

## Appendix C: Project Approach

To help frame the required level of detail, the respondents should be thinking about this information as they provide their estimates on cost, deliverables and proper staffing. **NOTE: RESPONDENTS DO NOT HAVE TO USE OR REFERENCE THIS INFORMATION, IT IS ONLY INCLUDED AS A GUIDANCE RESOURCE.**

1. Participate in the primary module and course concept sessions

As indicated in Appendix A and B, the modules and overarching concepts are currently being worked on with a group of APHL members and CDC subject matter experts. The next few meetings with that group will complete the descriptions and derivations of suggested courses to meet the various module outcomes. It is expected that the awardee will help guide what is needed to drive/feed the design and deployment process as well as advise on ideas for possible courses to be developed and best delivery approaches. At the end of this task, specific courses will be determined for design and development and at least a primary syllabus for each course will be jointly created by the APHL workforce SMEs and the awardee. Decisions around delivery of the material and the modality will be completed through this task as well.

2. Creation of a project plan and timeline for the targeted courses

With enough detail generated from task #1 on the target courses, the instructional designer should prepare a plan for the design and development of the courses. Adjustments in the proposed costs and resources can be done at this time as well. It is expected that a closer partnership with APHL resources (staff and existing materials) will continue and the project plan should show the dependencies with those personnel through this phase.

3. Overall design and deployment approach and draft story boards

A document describing the overall modalities, design technologies and technology deployment approach is required as part of this task. Additionally, course story boards are requested at this time for the subject matter experts to confirm the concept delivery experience and evaluation of success meeting the competency goals.

4. Final story board development and course development approaches

This will incorporate all comments and confirm final design and associated schedule.

5. Deliver final courseware designs

Obtain final acceptance for the approaches and designs from APHL staff.

Adjust Project plans for full series of courses from the final designs

This task allows for time to do the final adjustment and presentation for the plan to build the agreed upon modules/classes/seminars.

6. Build and Delivery of the modules/classes/seminars

This is a large task that encompasses the full development of the agreed upon modules/classes/seminars and their deployment in the agreed modality and/or LMS system

## Appendix D: Instructional Designer RFP Scorecard

The following table is a copy of the score-card that will be used to evaluate RFP responses.

Scoring: poor- 0; fair- 1; good- 2; excellent- 3; outstanding- 4		N/A if not applicable		
Category	Criteria	Score	Weighted Total	Comments
<b>General:</b> Does the applicant's proposal demonstrate an understanding of the operational need of the project and follow application instructions?	To what degree did the proposal meet the overall objectives of the project?			
	Did the applicant follow instructions - i.e., stay in page count, include required information, double space?			
	Is the information presented in a clear, logical manner and is well organized?			
	Did the applicant provide references for three former or current clients?			
	Section Total	0		
<b>Instructional Designer Experience:</b> Does the applicant's proposal demonstrate sufficient experience in course design and development to serve as the instructional designer?	Did the applicant list and articulate three past learning and development activities they produced that best reflect their work and relevancy to this project. Did the applicant clearly explain their firm's involvement in each project?			
	Did the applicant thoroughly explain and have experience in producing training programs for non-profit and/or community-focused projects?			

	Does the applicant have experience in recommending and communicating appropriate technical and aesthetic solutions as evidenced by the proposal and references?			
	Did the applicant clearly identify existing knowledge and experience in this field? (provided company profile, length of time in business and experience with designing and developing competency-based training)			
	Section Total	0		
<b>Instructional Designer Organizational Capacity:</b> Does the applicant have the appropriate staff to develop the site in the time frame needed?	Does the applicant have organizational capacity to produce learning and development training programs for in-person and online courses?			
	Did the applicant outline an appropriate team to work on this project? (i.e. web designers, developers, instructional designers)			
	Section Total	0		
<b>Course Web Design and Development:</b> Does the applicant have experience designing and developing courses online?	Does the applicant have experience designing courses for online consumption?			
	Does the applicant clearly define and outline a Learning Management system that can be used for these courses?			
	Section Total	0		
<b>Value/Pricing Structure and Price Levels:</b> Does the price commensurate with the value offered by the proposer?	Did the applicant hold some level of reasonable accuracy for time and cost based on the 5-course target?			
	Section Total	0		

	Total Score			
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