East Cascades

WORKFORCE INVESTMENT BOARD

Request for Qualifications

Software Development Course Design & Delivery

Released
December 22, 2017

Part I: Introduction

East Cascades Workforce Investment Board (ECWIB) is a newly formed 501(c)3 non-profit organization designated by the Governor to convene, oversee and support the workforce development systems in their respective regions in Oregon. The ECWIB office is located in Bend, Oregon, but serves a 10 county area just east of the Cascade mountain range. The counties include: Crook, Deschutes, Gilliam, Hood River, Jefferson, Klamath, Lake, Sherman, Wasco, and Wheeler.

The ECWIB partners with businesses, governmental entities, and educational institutions to support the talent needs of employers, and maximize and align investments in the career goals of individuals to fuel a thriving economy.

East Cascades Workforce Investment Board is seeking qualified and experienced training programs to design and deliver software development technology training in Bend, Oregon. The software development training will align with training requirements for Apprenti, a national registered apprenticeship program. Apprenti provides education and placement support to eligible candidates in preparation for a one-year apprenticeship in the technology field via a network of service providers and hiring partners.

Part II: Background

According to a forecast by the U.S. Bureau of Labor Statistics, there will be a surge of over 1.3 million new computer programming and computer support specialist jobs by 2022. With the technology industry growing in Oregon, there is increasing demand for workers who can fill these high-paying jobs.

To address this industry demand, the ECWIB has partnered with the Technology Association of Oregon and Apprenti™, the nation's first registered tech apprenticeship program, to provide industry lead guidance on software development training and job placement for apprentices and businesses within the ECWIB's central sub-region (Deschutes, Jefferson and Crook Counties).

Apprenti, developed by the Washington Technology Industry Association (WTIA), provides the framework to train future tech workers with an emphasis on underrepresented groups including women, minorities and veterans. Apprenti is an industry recognized, state and federally accredited program that falls under the supervision of the United States Department of Labor and relevant state-level labor agencies. Registered apprentices are a protected wage class, designed to exchange lower starting pay for the opportunity to build-skill and learn on-the-job.

Interested training candidates are required to take an online assessment that tests their knowledge in math, logic, and soft skills. Individuals are ranked according to their assessment scores and then invited to an interview for further consideration. If accepted, the individuals are placed into classroom training where they will complete industry recognized training in software development delivered through a qualified training provider. The training commitment is forty hours a week for five months in classroom training. Upon completion of classroom training the apprentice begins their 2000-hour apprenticeship, a one year of full time employment called on-the-job-training (OJT). During the 2000 hours of OJT, apprentices are paid 60% of the normal starting salary, increasing to 70% after six months. Participants who continue will be compensated at 90-100% after twelve months, with an opportunity for a full time, permanent role.

Flow of Apprenti participants into apprenticeship occupational training and on-the-job training
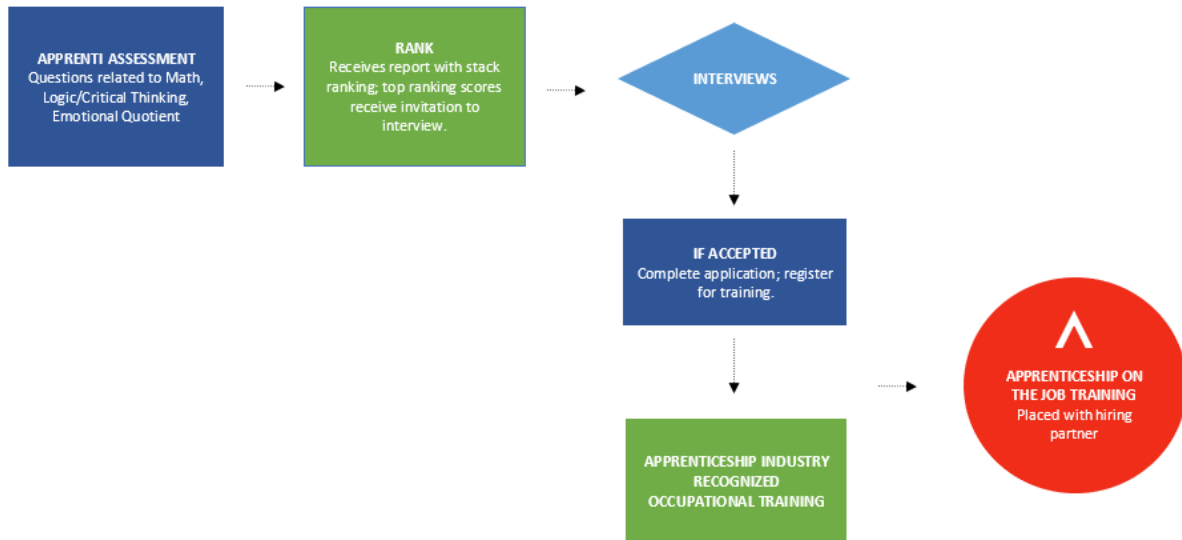
For more information, please visit www.ApprentiCareers.org.

Part III: Objectives

We are seeking competitive Statements of Qualifications from accredited and experienced technical training providers with the capacity for delivering high quality Software Development training that prepares participants for successful placement into their apprenticeship. The selected training provider must be able to qualify as an approved provider of Veterans Administration (VA) benefits, on Oregon's Eligible Training Provider List, and the training must lead to a Department of Labor (DOL) industry recognized certification.

Course curriculum should be designed for a cohort of up to 15 individuals to achieve competencies in four progressively challenging subject matters, with an ongoing emphasis on Software testing, development best practices, team collaboration and project management throughout. The training must include the following content structure:

- Web Development Foundations (4 weeks)
- Introduction to Python (4 weeks)
- C# and other C Programming Languages (6 weeks)
- Advanced C# and Software Development (6 weeks)

Content of training should be interwoven with three basic phases of web, Python, and software development for skill-building. Each week should be a combination of instructional delivery/quizzes and applied labs/projects/assignments. Target ratio should be at least 50% work in class time and the combined total should be no less than 700 hours of coursework.

ECWIB RFQ: Apprenti Software Developer

Targeted Outcome of Training: Upon completion of the classroom training, students should have a deep understanding of software development design patterns that roll up into projects with continuous integration of programming, and coding that includes multiple programming languages. Students should be able to identify broken codes, research and use libraries, and understand data transports and software performance.

Part IV: Project Phase Section

Phase I (Web Dev Foundations, 100 hours)
HTML, CSS, JavaScript, Python, connecting to SQL databases, quick intro to JS frameworks.

The purpose of this introductory course is to establish comfort and familiarity working in a code editor, writing and validating instructions in a markup language, and manipulating screen objects by changing properties and tags. Students are not expected to master or achieve skill as web developers, but should be comfortable and familiar with web development for wireframing, quick proof of concept demos, and mockups.

Phase II (Python, 120 hours)
The purpose of this introductory course is to transition from markup languages and simple scripting with JavaScript into more sophisticated web apps.

Topics to cover could include:
- Writing Python scripts
- Core Python scripting elements (e.g., variables and flow control structures)
- Lists and sequence data, reading from and writing to files
- Using functions for recycling and integrating code; handling errors and exceptions
- Work with the Python standard library
- Intro to object-oriented programming in Python

Phase III (Programming language variations, 120 hours)
The purpose of this course is to extend the basic principles of Python into specialized languages required by the apprenticeship employer. There are several languages used by local employers that include C# and other variations, course content should not be limited to one variation and should include languages from local hiring partners who are part of Apprenti.

Topics to cover could include:
Week 1
- Computers and components (accessing clocks, caches, registers, types of memory)
- Numbering systems and computer math
- C# syntax and statements, variables and simple operators, IF logic, intro to debugging
- Comments and documentation
- Assignment and arithmetic operators, precedence, casting/conversion
- Structured programming, decision structures, loop structures, arrays
  Variable scope, Common Language Runtime
- Introduce objects, Common Type System, value vs. reference types, strings and StringBuilder
- CLR memory mgmt., boxing, structs vs. classes, constructors/initializers/properties

Week 2
- Methods and parameters, static vs. instance, null/nullable values

- Interfaces and Interface Design
- Access modifiers and abstraction
- Reflection
- PROJECT CHECK-IN: data requirements, first draft designs
- File I/O, exception handling, garbage collection
- Inheritance and polymorphism
- Methods and operators; overriding methods

Week 3
- Container/collection classes
- Object casting
- Generics
- Enumeration and iteration
- PROJECT TIME (build tests and present drafts to class)
- Delegates and events
- Async/await
- Interop

Week 4
- Introduce T-SQL; simple querying
- Data objects
- LINQ
- Lambda expressions
- PROJECT: coding and testing
- Extension methods
- Entity Framework
- PROJECT PRESENTATIONS

Phase IV (Advanced C# and Software Dev, 200 hours)
Topics to cover could include:
- Unit testing, with an expectation all projects will have appropriate automated test coverage
- Version control with Git, with an expectation good Git branching will be used to support team development
- Collaborative development with VSTS / TFS, with an expectation all work, code, tests and other artifacts will be tracked for visibility
- Introduction to Agile (Scrum and Kanban, comparison to Waterfall), with an expectation that all projects will be delivered iteratively and with good, but not necessarily pure, agile practices
- Basic Azure and Azure automation, with an expectation automated delivery pipelines will target Azure infrastructure
- SQL - Querying Data with Transact-SQL – to include SELECT Queries, Querying Multiple Tables, Sorting and Filtering Data, DML, Built-In Functions, Grouping and Aggregating Data, Executing Stored Procedures, Implementing Error Handling (specific topics TBD per group input)
- Continuous Delivery and DevOps concepts, with expectations that all code check-ins will participate in progressively more complete automated delivery pipelines
- Infrastructure-as-Code / Configuration-as-Code concepts (ARM templates and DSC), with expectations that final build pipelines will be able to create and configure infrastructure as needed
- Intro to formal testing, with expectations that VSTS projects will contain executed manual tests, as appropriate to track difficult to automate functionality

- Lifecycle management with VSTS / TFS, with an expectation that project status and reporting track closely to actual progress
- Introduction to basic software and architecture design patterns, with an expectation that several design patterns will be apparent throughout project development

Final week (Capstone Project)
- Be provided with skeleton/broken code rather than a clean-sheet project if possible. Show how student can address or complete a real-world task.

Part V. Delivery Formats

Delivery formats may include a variety of learning methods:

- Instructor-led Training (ILT): traditional lecture format with a live instructor presenting identical material to a classroom cohort.
- Online live trainer (OLT): classroom space is provided, but the instructor is not physically present on location and teaches via telepresence. Instructor-student communication is two-way interactive and in real time, including the ability to monitor student computer activities in class and interact via screen sharing.
- Labs/Exercises: student-guided solo and/or group activities in a physical lab with other students, under the supervision of a skilled lab monitor in a relevant subject area.

Part VI: Contractor Eligibility, Performance and Reporting Requirements

Eligibility and Qualification Requirements

Eligible applicants include nonprofit organizations, private sector organizations, and secondary and postsecondary educational institutions and entities. Training provider must have the ability to have the Software Development program approved and listed on the Eligible Training Provider List with the state of Oregon. Training provider must have the ability to gain approval to qualify for Veterans Administration (VA) benefits.

Experience/Qualifications:
- Proven expertise in developing and delivering contextualized career/technical curriculum and instructional design
- Educational program must meet or exceed the professional competencies established by any applicable testing or certification providers and meet or exceed the content coverage of vendor-specific reference courses and ensure that all instructors are qualified and experienced in the subject matter outlined in the curriculum
- Experience in design and delivery of career planning/mentoring services
- Expertise differentiating curriculum and providing appropriate support to ensure individual's success in a fast paced, rigorous learning environment
- Experience in facilitating meetings and achieving outcomes with multiple partners working toward a common set of expectations

Performance Requirements
- Begin first Software Development training cohort in April, 2018
- Successful completion of software development training by August 31, 2018

- Curriculum includes industry recognized certification
- Software Development Course Completion Rate: Target of 100%

Reporting Requirements

Contractor will be required to submit a narrative report documenting required progress, attendance, grades, performance and exam results of Apprenti students upon request.

Part VII: Statement of Qualifications Content

Section A: Executive Summary

Provide a brief summary of your proposal no longer than one-page.

Section B: Organizational Capacity and Demonstrated Success

a) Describe your approach to and experience with developing and delivering contextualized software development curriculum.
b) Describe your experience in convening partners and facilitating processes resulting in concrete deliverables.
c) Describe your experience working with employers on career preparation and curriculum development to meet industry and occupational demands

Section C: Program Design and Components

a) Describe your curriculum and provide a course outline to include industry certifications that will be earned. Include the number of delivery hours per topic as well as performance analytics of students.
b) Describe your format for delivery (ILT, OLT, Lab/Exercise)
c) Describe your plan for engaging employer and industry partners in curriculum development and vetting process and timelines.
d) Describe how you will integrate technical skills instruction in an engaging, contextualized approach to learning.
e) Describe how development and skill building will be interwoven with content including web, Python, application and software testing, software content.
f) Describe how you will support student success during all components of the coursework.

Section D: Management and Staffing

a) Describe the roles of staff on your team who will be implementing the proposal. Include FTE you anticipate and key duties for each position. Provide resumes and/or position descriptions in Appendix.
b) Describe key deliverables to be provided to ECWIB and associated timelines.

Section E: Budget Narrative

a) Describe your cost model and payment methodology, including cost per company and/or individual. (e.g., direct bill, monthly invoice, enrollment fee, etc.)
b) Provide a list of associated costs such as books, materials, copying, testing fees.

Part VIII: Request for Qualification Submissions

Statement of Qualifications should be prepared simply and economically, providing a straightforward response to each request. Proposals should be no longer than 10 pages, single sided, double spaced. Font size of 12 point is preferred. Page limitations includes Proposal Cover Sheet, Proposed Course Outline or Syllabus, Proposed Costs, Project Staff Resumes and/or Position Descriptions.

Statement of Qualifications which do not address any items listed in this section will be considered incomplete and will be deemed non-responsive by the ECWIB.

Statement of Qualifications must be received by email, no later **than 5:00 PM Pacific on Friday, January 22, 2018**. Statement of Qualifications will be reviewed upon receipt. Statement of Qualifications received after the time and date set forth shall be automatically disqualified.

Responses must be sent to the following email addresses at ECWIBrfq@eastcascadesworks.org.

Projected Timeline*

Activity	Date/Time
RFQ Released	December 22, 2017
Deadline for Written Questions	5:00pm Pacific, Friday, January 5, 2018
Statement of Qualifications Submission Deadline	5:00pm Pacific, Monday, January 22, 2018
Submission Review	January 23-26, 2019
Selection Notice Sent	No later than January 29, 2018
Execution of Memorandum(s) of Understanding with Training Provider, Business(s) and the ECWIB	No later than February 5, 2018

The ECWIB reserves the right to extend any of the actual or proposed dates in the Projected Timeline.

Part IX: Review Process

Submissions will be evaluated by a review committee comprised of ECWIB staff and industry representatives. The review committee will identify the highest-ranked proposal for possible contracting. The review panel's recommendation will be weighed along with industry commitments to determine provisional funding decisions.

Part X: Award Notification

Provisional award results will be sent via e-mail by January 29, 2018.

Notices of award will be one of the two following types: 1) approved to negotiate contract immediately, 2) not chosen for funding.

ECWIB RFQ: Apprenti Software Developer

A Memorandum of Understanding will be developed to identify the terms, conditions and scope of work during the contact period. The term of the Agreement shall be for the period beginning February 5, 2018 through June 30, 2018.

Part XII: Administrative Details

Inquiries

Except as otherwise authorized by this Statement of Qualifications Instructions, during the period while the RFQ process is active (i.e., from the date the ECWIB issues the RFQ until the date the selection notice is sent) applicants may only contact the ECWIB regarding the RFQ. Inquiries must be made electronically via email with the subject "Apprenti Software Development Inquiry" to ECWIBrfq@eastcascadesworks.org, no later than **5:00pm Pacific, Friday, January 5, 2018.** Questions will be answered on ECWIB website within 3 business days of inquiry.

Modification/Withdrawal of a Statement of Qualifications

Statement of Qualifications may be modified or withdrawn by email, at any time prior to the Statement of Qualifications due date.

Reserved Rights

The ECWIB reserves the following rights:

- To republish this RFQ after having rejected any or all of the Statement of Qualifications; and
- To terminate this RFQ process at any time prior to the execution of any Agreement.
- To supplement, amend, or otherwise modify or cancel this Request for Qualifications with or without substitution of another Request for Qualifications;
- To issue additional or subsequent solicitations for qualifications;
- To clarify the information provided pursuant to this Request for Qualifications;
- To request additional evidence or documentation to support the information included in any Statement of Qualifications; and
- To enter into contract discussion with one or more entities having submitted a Statement of Qualifications.

ECWIB cannot enter into contract negotiations with an organization that is not legally established to conduct business within the State of Oregon or debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

Successful respondents will be required to provide additional administrative documentation or assurances in accordance with Federal requirements prior to completion of contract negotiations.