

**For L&I Staff Use Only**

<i>SH 8/23/24</i> L&I Apprenticeship Consultant	<i>Teri Gardner 8-23-24</i> L&I Admin
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Department of Labor and Industries  
 Apprenticeship Section  
 PO Box 44530  
 Olympia WA 98504-4530



# Request for Revision of Standards

TO: Washington State Apprenticeship & Training Council

FROM: Apprenti - Program #1982

Please update our Standards of Apprenticeship to reflect the following changes:

- Additions shall be underlined (underlined).
- Deletions shall be struck through (~~struck through~~).
- See attached.

**Form must be signed by Committee Chair and Secretary or Program's Authorized Signer**

<input type="checkbox"/> Chair	Date	<input type="checkbox"/> Secretary	Date
<input checked="" type="checkbox"/> Authorized Signer	8/23/2024		
Print Name: Andrea Anderson		Print Name:	
Signature: <i>Andrea Anderson</i>		Signature:	

Approved By: <b>Washington State Apprenticeship &amp; Training Council</b>
Signature of Secretary of the WSATC:
Date:

*Attach additional sheets if necessary*

<u>Occupational Objective(s):</u>	<u>SOC#</u>	<u>Term</u>
<u>CRM/CMS DEVELOPER</u>	<u>15-1252.00</u>	<u>[WAC 296-05-015]</u> <u>2000 HOURS</u>
<u>WEB DEVELOPER</u>	<u>15-1252.00</u>	<u>2000 HOURS</u>
<u>DATA ANALYST</u>	<u>15-2041.00</u>	<u>2000 HOURS</u>

**VII. APPRENTICE WAGES AND WAGE PROGRESSION:**

- C. Cloud Operations Specialist 1, Cloud Operations Specialist 2, CRM Administrator, CRM/CMS Developer, Cybersecurity Analyst, Data Analyst, Developer Operations Specialist, IT Business Analyst, IT Support Professional, Network Security Administrator, Software Analyst, Software Developer 1, Systems Administrator, Technical Sales Specialist, and Web Developer:

**VIII. WORK PROCESSES:**

- [Please renumber section to number/letter/number where appropriate]

**M. CRM /CMS DEVELOPER:**

Approximate Hours

1. Client and Project Scoping..... 400
  - a. Meet with internal/external clients and stakeholders to determine needed functionality and/or enhancements
  - b. Identify business use cases, exceptions, and requirements
  - c. Develop wireframes, prototypes, and other project documentation
  - d. Create and present proposals and implementation timelines
  
2. CRM/CMS Configuration..... 500
  - a. Within Salesforce, Adobe Advertising Cloud/Experience Manager, Sugar, or similar customer/ marketing/content management tools, configure page layouts, relevant data fields and appropriate labels to support business needs
  - b. Modify backend database connections to support page configurations
  - c. Set data input validation rules, automated workflows, and hide unnecessary functionality within the CRM system
  - d. Create and manage account types, user access credentials, and plugins/extensions for end users
  - e. Develop and customize reports and data dashboards
  
3. CRM/CMS Customization and Development ..... 500
  - a. For more advanced functionality, write automation scripts to aid in workflows
  - b. Develop plugins, extensions, or other new functionality in the relevant language supported by the CRM tool (e.g. Apex, Java, Javascript, Python)
  - c. Code and style customized frontend forms and pages using HTML and CSS
  - d. Modify database/system backend services using servlets or customized software components
  
4. Testing, Debugging and Maintenance..... 400
  - a. Verify data integrity and accuracy

- b. Conduct or supervise user testing, behavioral testing, unit testing, or automated testing tools
- c. Identify, resolve, and document bugs in customized code or CRM/CMS configurations
- d. Conduct periodic reviews and updates to ensure features are working and any associated software updates remain compatible
- e. Test pre-release components for compatibility before general release
- f. Write user guides or develop tutorial resources for using custom-developed features

5. Perform other duties as assigned..... 200

Total Hours: 2000

Competency Schedule:

<u>Competency Step</u>	<u>Required Competency for Progression</u>
<u>Pre-OJT RSI to OJT</u>	<u>Completion of RSI with a grade of 75% or greater</u>
<u>Step 1 to Step 2</u>	<u>Apprentice must meet or exceed 60% of competencies listed in the work processes</u>
<u>Graduation</u>	<u>Apprentice must meet or exceed 85% of competencies listed in the work processes</u>

N. DATA ANALYST:

Approximate Hours

- 1. Stakeholder Engagement..... 300
  - a. Present actionable insights to team members and stakeholders using clear communication and presenting skills.
  - b. Differentiate between and format findings for standard reporting and executive/leadership communication
  - c. Articulate knowledge of design thinking concepts
  - d. Select the proper visual representation(s) (table, graph, chart, etc.) for each storytelling instance
  - e. Insert data from Excel and other sources into common platforms/applications for presentation
- 2. Data Visualization..... 400
  - a. Install and configure data reporting/business intelligence tools
  - b. Connect and merge data sources, and verify integrity and accuracy
  - c. Configure hierarchies, filters, and other action parameters
  - d. Identify key metrics, performance indicators, and triggers
  - e. Develop and maintain visual analytics and story dashboards in Tableau, Power BI, or similar
  - f. Build charts and representations of data in static and interactive environments
  - g. Produce and present visualizations and insight reports in multiple formats
- 3. Scripting for Data Analysis..... 350
  - a. Identify statistical packages for data analysts in Python
  - b. Demonstrate proficiency in core scripting elements (in Python) such as flow control structures and variables
  - c. Write conditional statements in Python

- d. Enable database connections (SQL with Python, etc)
  - e. Demonstrate proper application of common data structures (lists, dictionaries, sets, tuples)
  - f. Graphically represent relationships between variables and data points using Matplotlib or similar
4. Core Data Analysis ..... 400
- a. Demonstrate efficient and accurate data cleaning
  - b. Effectively perform operations with formulas and functions in Excel
  - c. Demonstrate proficiency in spreadsheet formatting, pivot tables, chart building, and complex functions in Excel
  - d. Ensure integrity of data
  - e. Identify steps to process data for analysis
  - f. Demonstrate proper tool selections for data analysis projects or needs
  - g. Build data models and prepare reports on findings that include actionable recommendations
5. Database Managements..... 350
- a. Structure, store, and process raw data to convert it into actionable insights
  - b. Wrangle and extract from relational databases using SQL
  - c. Demonstrate use of SQL Operators and Commands, and more complex functions (inner and outer JOINS, Statements with SELECT and WHERE, etc.)
  - d. Understand data grouping and when to apply GROUP BY statements
  - e. Demonstrate knowledge of machine learning services enables in SQL Server or similar
  - f. Construct queries and reports, defining complex relationships between variables/columns
  - g. Create database objects not limited to tables, columns indexes, views, stored procedures, triggers, etc.
  - h. Understand relationship database design
6. Perform other duties as assigned..... 200
- Total Hours: 2000

Competency Schedule:

<u>Competency Step</u>	<u>Required Competency for Progression</u>
<u>Pre-OJT RSI to OJT</u>	<u>Completion of RSI with a grade of 75% or greater</u>
<u>Step 1 to Step 2</u>	<u>Apprentice must meet or exceed 60% of competencies listed in the work processes</u>
<u>Graduation</u>	<u>Apprentice must meet or exceed 85% of competencies listed in the work processes</u>

O. WEB DEVELOPER:

Approximate Hours

1. Project Definition ..... 300
- a. Identify and capture stakeholder requirements using customer interviews and surveys
  - b. Build multiple use cases to describe each action that a user will take in the new system
  - c. Understand and contribute to requirements specification documents
  - d. Provide impact analysis for changes to programs and systems

- 2. Web Design..... 400
  - a. Work with stakeholders to understand requirements
  - b. Specify and scope hardware and system requirements
  - c. Identify and mitigate security threats and vulnerabilities that may arise from interactions with other systems, external and legacy code
  - d. Develop web services to interface with other systems
- 3. Development and Implementation ..... 400
  - a. Develop and write software code
  - b. Perform unit testing and fix errors or bugs
- 4. Software Testing..... 400
  - a. Work with development team to create test plans
  - b. Implement test cases
  - c. Find and fix bugs
- 5. Deployment and Maintenance ..... 300
  - a. Perform training for end users
  - b. Evaluate and fix bugs that may become apparent after product deployment
- 6. Perform other duties as assigned..... 200

Total Hours: 2000

Competency Schedule:

<u>Competency Step</u>	<u>Required Competency for Progression</u>
<u>Pre-OJT RSI to OJT</u>	<u>Completion of RSI with a grade of 75% or greater</u>
<u>Step 1 to Step 2</u>	<u>Apprentice must meet or exceed 60% of competencies listed in the work processes</u>
<u>Graduation</u>	<u>Apprentice must meet or exceed 85% of competencies listed in the work processes</u>

**IX. RELATED/SUPPLEMENTAL INSTRUCTION:**

B.

[Please renumber as appropriate]

- 1. CRM/CMS Developer 320
- 2. Data Analyst 400
- 3. Web Developer 328

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L&I Apprenticeship Consultant

*Teri Gardner 8-23-24*  
L&I Admin

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## Apprenticeship Related/Supplemental Instruction (RSI) Plan Review


Program Name Apprenti - 1982	
Occupation CRM/CMS Developer	
Term/OJT Hours 2000	Total RSI Hours 320
Training Provider Apprenti	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprentice and assures that:

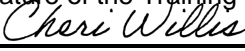
1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliances with WISHA and applicable federal and state regulations.
4. The RSI Plan is maintained, updated and submitted to the Department a minimum of once every 5 years (WSATC Policy 2015-01; rev, 10-21-21).
5. The RSI will be conducted by instructors who meet the qualification of the "competent instructor" as described in WAC 296-05-003:
  - a. Has demonstrated a satisfactory employment performance in her/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
  - b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
  - c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
6. If using alternative forms of instruction, such as correspondence, electronic media, or other self-study, instruction shall be clearly defined.

### Signatures on next page

**Form must be signed by Committee Chair *and* Secretary or Program's Authorized Signer**

<input type="checkbox"/> Chair	Date	<input type="checkbox"/> Secretary	Date
<input checked="" type="checkbox"/> Authorized Signer	8/22/2024		
Print Name: Andrea Anderson		Print Name:	
Signature: 		Signature:	

**Training Provider Signature**

Approved By (Print Name): Cheri Willis	Title: Sr. Manager of Education
Signature of the Training Provider: 	
Date: 8/22/2024	

If additional training providers are needed, go to page 4.

**SBCTC**

Print Name:	Title:
Signature of the Program Administrator:	
Date:	
<input type="checkbox"/> SBCTC recommends approval	<input type="checkbox"/> SBCTC recommends return to sponsor

Program Name Apprenti - 1982Error! Not a valid bookmark self-reference.Error! Not a valid bookmark self-reference.	Occupational Objective CRM/CMS Developer
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**Note:** The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the "Description of Element/Course" field.

**Describe minimum hours of study per year in terms of (check one):**

- 12-month period from date of registration.
- Defined 12-month school year.
- 2,000 hours of on-the-job training.

Element/Course: Web Dev Foundations	Planned Hours: 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: Apprenti	
HTML, CSS, JavaScript, 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 modifying web interfaces in the CRM/CMS platform or styling email templates.	
Topics include: <ul style="list-style-type: none"> <li>• HTML structure</li> <li>• Text, hyperlinks</li> <li>• Images, tables, and embedded content</li> <li>• Tables</li> <li>• HTML5 features</li> <li>• Forms</li> <li>• Process</li> <li>• Design</li> <li>• CSS: color, text styling, boxes and layout, inheritance of properties</li> </ul>	

Element/Course: Database Management Fundamentals	Planned Hours: 60
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: Apprenti	
Description of element/course: The purpose of this introductory course is to provide core skills in classical relational databases to help build skill and capacity around table structures and querying data.	
Topics include: <ul style="list-style-type: none"> <li>• Core Database Concepts             <ul style="list-style-type: none"> <li>○ Explain core database concepts and fundamentals</li> <li>○ Analyze flat type, hierarchical, and relational databases</li> <li>○ Summarize data manipulation language and data definition language</li> </ul> </li> <li>• Creating Database Objects             <ul style="list-style-type: none"> <li>○ Define data types</li> <li>○ Explain extracting numeric data and how to use built in data types</li> <li>○ Given a scenario, create tables, views, and stored procedures</li> <li>○ Explain SQL injections</li> </ul> </li> <li>• Manipulating Data             <ul style="list-style-type: none"> <li>○ Explain how to update data and databases</li> </ul> </li> </ul>	



- Explain how to insert and delete data
- Given a scenario, use queries to select and insert data
- Understanding Data Storage
  - Summarize how to use queries to select data
  - Explain key concepts in normalizing a database
  - Analyze primary, foreign, and composite keys
  - Summarize clustered and non-clustered indexes
  - Given a scenario, create a non-clustered table
- Administering a Database
  - Analyze server and database level security
  - Given a scenario, grant access and manage roles in a database
  - Explain key concepts in database backups and backup devices
  - Summarize recovery models and given a scenario, backup and recover a database

<b>Element/Course:</b> Introduction to Programming	<b>Planned Hours:</b> 120
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: The purpose of this course is to extend the basic principles of web markup languages into a specialized language required by the CRM/CMS platform (Java in this case). Note: this section may be substituted for an equivalent course in C#, Python, or another available primary language as desired by employers participating in the cohort.	
<b>Topics include:</b> <ul style="list-style-type: none"> <li>● Computers and components (accessing clocks, caches, registers, types of memory)</li> <li>● Numbering systems and computer math</li> <li>● Object-oriented programming principles</li> <li>● Java fundamentals (types, variables, branching, loops) for command-line scripting</li> <li>● Comments and documentation practices</li> <li>● Data Structures (ArrayLists, linked lists, stacks, queues, HashMaps)</li> <li>● Classes and Objects</li> <li>● Testing fundamentals (unit and integration testing) and test-driven development with Junit</li> <li>● Persistent data, external libraries, and advanced data connections in Java</li> <li>● Application development in JSP/Spring</li> <li>● Backend development with Spring Boot and REST service APIs</li> <li>● Authentication, authorization, and data security basics</li> <li>● Interfaces and interface design tools (brief crash course in UI/UX)</li> <li>● Using cloud services and application deployment in the cloud (if available at local training provider)</li> <li>● Version control and software development collaboration practices</li> <li>● Introduction to Agile development (Scrum and Kanban, comparison to Waterfall methods), with projects expected to model Agile practices</li> <li>● Basic introduction to design patterns and software lifecycle management</li> </ul>	

<b>Element/Course:</b> Adobe Experience Manager Development	<b>Planned Hours:</b> 100
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input checked="" type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: The purpose of this course is to learn the platform-specific tools, APIs, and methods for configuring, customizing, and extending the functionality of the selected tool. Most cloud-based CRM/CMS platforms provide reference courses and some sample materials hosted on their website, and this section may include more self-study than is typical of other Apprenti cohorts. Note: AEM and Salesforce are common requests in this role, but may also be substituted for other CRM/CMS platforms as required by employers.	

Topics include:

- Developing forms and extended data models
  - build structured documents
  - create a data model
  - become familiar with the navigation hierarchy
  - create and design survey and form tools
  - advanced data model configuration, packages, target mapping, and APIs
- Developing web applications
  - create web applications from existing templates
  - create new applications from scratch in Adobe Campaign Classic
  - manage web applications
  - troubleshoot web applications
- Managing data and workflows
  - manage targeting workflows
  - write efficient queries
  - manage external data
  - send a scripted email delivery
  - load files from Campaign servers
  - understand the basics of technical workflows
- Building reports
  - build produce, and customize reports
  - reporting options and business use cases
- Configure and manage Adobe Campaign
  - configure secure, and standardize the platform
  - standards, templates, and GDPR implementation
  - administer user and folder access rights
  - create Adobe Campaign templates and standards,
  - deploy packages
- Designing marketing campaigns
  - implement marketing activities
  - send cross-channel campaigns
  - analyze and design recurring and retargeting campaigns
  - design email content using the Adobe Experience Manager (AEM) content editor/templates.

<b>Element/Course:</b> Element/Course	<b>Planned Hours:</b> Hours
Mode of Instruction (check all that apply) <input type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Click or tap here to enter text.	
Description of element/course: Click or tap here to enter text.	

<b>Element/Course:</b> Element/Course	<b>Planned Hours:</b> Hours
Mode of Instruction (check all that apply) <input type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Click or tap here to enter text.	
Description of element/course: Click or tap here to enter text.	

## Additional Training Providers (if necessary)

[Click or tap here to enter text.](#)

Print Name Training Provider

[Click or tap here to enter text.](#)

Title of Training Provider

[Click or tap here to enter text.](#)

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Title of Training Provider

Signature of Training Provider

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Organization of Training Provider

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Organization of Training Provider

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SH 8/23/24

L&I Apprenticeship Consultant

Teri Gardner 8-23-24

L&I Admin

Department of Labor and Industries  
Apprenticeship Section  
PO Box 44530  
Olympia WA 98504-4530



## Apprenticeship Related/Supplemental Instruction (RSI) Plan Review


Program Name Apprenti - 1982	
Occupation Data Analyst	
Term/OJT Hours 2000	Total RSI Hours 400
Training Provider Apprenti	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprentice and assures that:

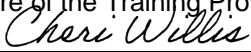
1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliances with WISHA and applicable federal and state regulations.
4. The RSI Plan is maintained, updated and submitted to the Department a minimum of once every 5 years (WSATC Policy 2015-01; rev, 10-21-21).
5. The RSI will be conducted by instructors who meet the qualification of the "competent instructor" as described in WAC 296-05-003:
  - a. Has demonstrated a satisfactory employment performance in her/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
  - b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
  - c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
6. If using alternative forms of instruction, such as correspondence, electronic media, or other self-study, instruction shall be clearly defined.

### Signatures on next page

**Form must be signed by Committee Chair *and* Secretary or Program's Authorized Signer**

<input type="checkbox"/> Chair	Date	<input type="checkbox"/> Secretary	Date
<input checked="" type="checkbox"/> Authorized Signer	8/22/2024		
Print Name: Andrea Anderson		Print Name:	
Signature: 		Signature:	

**Training Provider Signature**

Approved By (Print Name): Cheri Willis	Title: Sr. Manager of Education
Signature of the Training Provider: 	
Date: 8/22/2024	

If additional training providers are needed, go to page 4.

**SBCTC**

Print Name:	Title:
Signature of the Program Administrator:	
Date:	
<input type="checkbox"/> SBCTC recommends approval	<input type="checkbox"/> SBCTC recommends return to sponsor

Program Name Apprenti <b>Error! Not a valid bookmark self-reference.</b> <b>Error! Not a valid bookmark self-reference.</b>	Occupational Objective Data Analyst
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**Note:** The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the “Description of Element/Course” field.

**Describe minimum hours of study per year in terms of (check one):**

- 12-month period from date of registration.
- Defined 12-month school year.
- 2,000 hours of on-the-job training.

Element/Course: Excel	Planned Hours: 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
Provided by: Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Intro to Data Analytics and Excel Foundations</li> <li>• Spreadsheet Basics and Formatting</li> <li>• Basic Formulas and Functions</li> <li>• More Complex Functions</li> <li>• Chart Building</li> <li>• Pivot Tables</li> <li>• Data Cleaning and Error-Checking</li> <li>• Data Exploration</li> <li>• Data Model Building</li> </ul>	

Element/Course: Presentations	Planned Hours: 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
Provided by: Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Interpret and Report Data Findings</li> <li>• The Art of Presentations and Storytelling</li> <li>• Presentation Methods and Effective Design</li> <li>• Presenting Data using Tables, Graphs, and Charts</li> <li>• Inserting data from Excel</li> <li>• Effective Data-Driven Presentations</li> </ul>	

Element/Course: SQL	Planned Hours: 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
Provided by: Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Introduction to Databases</li> <li>• SQL Fundamentals</li> <li>• SQL Fundamentals: Creating complete queries using SFWGHO</li> <li>• SQL Operators: And, Or, Not</li> <li>• SQL Commands: Insert, Delete, Drop, Create</li> <li>• SQL Statements</li> <li>• SQL JOINS</li> <li>• SQL Avg Sum Min Max Functions</li> <li>• SQL More Complex Functions</li> </ul>	

- SQL Data Grouping
- SQL Analyzing the Data

<b>Element/Course:</b> Python	<b>Planned Hours:</b> 80
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Introduction to Python Fundamentals</li> <li>• Python Programming/ Syntax</li> <li>• Data Collection and Variable Types</li> <li>• Functions: working with numbers and strings</li> <li>• Conditional Logic</li> <li>• Data Structures: Lists, Dictionaries</li> <li>• Data Analysis library NumPy, Pandas, Descriptive Statistics</li> <li>• Visualizations in Python</li> <li>• Database Connection: Getting SQL Into Python</li> </ul>	

<b>Element/Course:</b> Data Visualization with Tableau	<b>Planned Hours:</b> 160
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Introduction to Data Visualization</li> <li>• Data Visualization Tools</li> <li>• Visual Analytics Platform</li> <li>• Introduction to Tableau</li> <li>• Tableau Prep</li> <li>• Tableau Connecting to Data</li> <li>• Tableau JOINS Aggregate Union</li> <li>• Tableau data blending and calculated fields</li> <li>• Tableau using SQL</li> <li>• Tableau Chart Building</li> <li>• Tableau Visual Analytics and Story Dashboards</li> <li>• Dashboard Workshop using Tableau</li> <li>• Tableau Tips and Tricks for Success</li> </ul>	

<b>Element/Course:</b> Data Analytics on AWS	<b>Planned Hours:</b> 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• AWS Overview</li> <li>• AWS Services</li> <li>• AWS Data Collection and Documentation Types</li> <li>• AWS Databases</li> <li>• AWS Visualizations</li> <li>• AWS Analytics</li> <li>• AWS Review Practice Application</li> <li>• AWS Tips and Tricks for Success</li> <li>• AWS Profile</li> </ul>	

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Department of Labor and Industries  
 Apprenticeship Section  
 PO Box 44530  
 Olympia WA 98504-4530



## Apprenticeship Related/Supplemental Instruction (RSI) Plan Review

For L&I Staff Use Only	
<i>SH 8/23/2024</i>	<i>Teri Gardner 8-23-24</i>
L&I Apprenticeship Consultant	L&I Admin

Program Name <b>Apprenti - 1982</b>	
Occupation <b>Web Developer</b>	
Term/OJT Hours <b>2000</b>	Total RSI Hours <b>328</b>
Training Provider <b>Apprenti</b>	

By the signature placed below, the **program sponsor** agrees to provide the prescribed RSI for each registered apprentice and assures that:

1. The RSI content and delivery method is and remains reasonably consistent with the latest occupational practices, improvements, and technical advances.
2. The RSI is coordinated with the on-the-job work experience.
3. The RSI is provided in safe and healthful work practices in compliances with WISHA and applicable federal and state regulations.
4. The RSI Plan is maintained, updated and submitted to the Department a minimum of once every 5 years (WSATC Policy 2015-01; rev, 10-21-21).
5. The RSI will be conducted by instructors who meet the qualification of the “competent instructor” as described in WAC 296-05-003:
  - a. Has demonstrated a satisfactory employment performance in her/her occupation for a minimum of three years beyond the customary learning period for that occupation; and
  - b. Meets the State Board for Community and Technical Colleges requirements for a professional technical instructor (see WAC 131-16-080 through -094), or be a subject matter expert, which is an individual, such as a journey worker, who is recognized within the industry as having expertise in a specific occupation; and
  - c. Has training in teaching techniques and adult learning styles, which may occur before or within one year after the apprenticeship instructor has started to provide the related technical instruction.
6. If using alternative forms of instruction, such as correspondence, electronic media, or other self-study, instruction shall be clearly defined.

**Signatures on next page**

**Form must be signed by Committee Chair *and* Secretary or Program's Authorized Signer**

<input type="checkbox"/> Chair	Date	<input type="checkbox"/> Secretary	Date
<input checked="" type="checkbox"/> Authorized Signer	8/22/2024		
Print Name: Andrea Anderson		Print Name:	
Signature: <i>Andrea Anderson</i>		Signature:	

**Training Provider Signature**

Approved By (Print Name): Cheri Willis	Title: Sr. Manager of Education
Signature of the Training Provider: <i>Cheri Willis</i>	
Date: 8/22/2024	

If additional training providers are needed, go to page 4.

**SBCTC**

Print Name:	Title:
Signature of the Program Administrator:	
Date:	
<input type="checkbox"/> SBCTC recommends approval	<input type="checkbox"/> SBCTC recommends return to sponsor

Program Name Apprenti - 1982 <b>Error! Not a valid bookmark self-reference.</b>	Occupational Objective Web Developer
---	---

**Note:** The description of each element must be in sufficient detail to provide adequate information for review by the SBCTC and Review Committee. To add more elements, click on the plus sign that appears below the "Description of Element/Course" field.

**Describe minimum hours of study per year in terms of (check one):**

- 12-month period from date of registration.
- Defined 12-month school year.
- 2,000 hours of on-the-job training.

Element/Course: Introduction to Computer Science & Web Development	Planned Hours: 30
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
Provided by: Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Data types – Strings, numbers and booleans</li> <li>• Data structures – Arrays and objects</li> <li>• Persistence – Local storage, session storage and JSON (JavaScript Object Notification)</li> <li>• Code structure – Code organization, common patterns and project scaffolding</li> <li>• Overview of web development – CRUD (Create, Read, Update, Delete), HTTP (Hypertext Transfer Protocol), REST (Representational State Transfer) and request/response Cycle</li> </ul>	

Element/Course: Introduction to Standards Development Practices and Tools	Planned Hours: 30
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
Provided by: Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Agile Software Development – User stories, pair programming, retrospectives and problem domains</li> <li>• IDE (Integrated Development Environment)– Atom, chrome development tools, debugging, and linting code functionality and style</li> <li>• Git <ul style="list-style-type: none"> <li>○ Git vs. GitHub, git clone, git init, git status</li> <li>○ Adding, committing and pushing</li> <li>○ Forking a repo, pull requests, git status and branches</li> <li>○ Team workflow issues and organization</li> </ul> </li> </ul>	

Element/Course: Web Development with HTML and CSS	Planned Hours: 60
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
Provided by: Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• HTML (Hypertext Markup Language) <ul style="list-style-type: none"> <li>○ Semantic HTML - &lt;article&gt;, &lt;section&gt;, &lt;header&gt;, &lt;footer&gt;</li> <li>○ Structure</li> <li>○ Classes</li> <li>○ IDs</li> <li>○ Attributes</li> <li>○ Forms</li> </ul> </li> <li>• CSS (Cascade Style Sheet) <ul style="list-style-type: none"> <li>○ Style – Typography, color, design and animations</li> <li>○ Layout – Box model, grid, fluid/flex and responsive</li> </ul> </li> </ul>	

- Syntax – Selectors, how “cascading” works and pseudo-classes

<b>Element/Course:</b> Web Development with JavaScript	<b>Planned Hours:</b> 48
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Fundamentals – Variables, syntax, style, REPL (Read-Eval-Print Loop), data types and data structures</li> <li>• Control Flow – “for” loops, “if” statements, “if...else” statements and “while” and “do while”</li> <li>• Functions – Declarations, expressions, parameters &amp; arguments and function scope</li> <li>• Objects – Object oriented programming, properties, methods and constructors</li> <li>• Events – Listeners, handlers and types</li> <li>• The DOM (Document Object Model)</li> </ul>	

<b>Element/Course:</b> MVC (Model View Control) Design: Controllers	<b>Planned Hours:</b> 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Routing – URL (Universal Resource Locator) design and Page.js <ul style="list-style-type: none"> <li>○ URL design</li> <li>○ Page.js <ul style="list-style-type: none"> <li>▪ Push-state – History API (Application Program Interface), managing state and FSMs (Finite State Machines)</li> <li>▪ Middleware – Context and Next</li> <li>▪ Route matching &amp; placeholders</li> </ul> </li> </ul> </li> <li>• Rest <ul style="list-style-type: none"> <li>○ Noun: Resource representations – .json, .html, etc...</li> <li>○ Verb: Method – GET, POST, PUT, etc...</li> </ul> </li> <li>• External APIs (Application Program Interface)</li> <li>• Modularity</li> </ul>	

<b>Element/Course:</b> MVC Design: Views	<b>Planned Hours:</b> 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• DOM (Document Object Model) Manipulation</li> <li>• Selectors – element/id/class, attribute and pseudo-selectors &amp; filters</li> <li>• jQuery methods – Chaining and getters &amp; setters</li> <li>• DOM Events – Delegation, jQuery methods and browser interaction</li> <li>• Mobile-first development</li> <li>• Responsive design – Flexible media, breakpoints, viewport settings and percentage-based layouts</li> <li>• Templates – Abstraction with placeholders, regex, and libraries/ handlebars</li> <li>• Visual design – Color palettes, typography and icon fonts</li> <li>• SMACSS (Scalable and Modular Architecture for CSS) organization</li> <li>• States – JS hooks and new node</li> </ul>	

<b>Element/Course:</b> MVC Design: Models	<b>Planned Hours:</b> 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Online <input type="checkbox"/> Self-Study	
<b>Provided by:</b> Apprenti	
Description of element/course: <ul style="list-style-type: none"> <li>• Local data <ul style="list-style-type: none"> <li>○ JSON – Validation, parse and stringify</li> <li>○ localStorage/ sessionStorage – getters and setters</li> </ul> </li> </ul>	



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L&I Apprenticeship Consultant	L&I Admin

Department of Labor and Industries  
 Apprenticeship Section  
 PO Box 44530  
 Olympia WA 98504-4530



## Journey Level Wage Rate

From which apprentices' wage rates are computed

TO: Washington State Apprenticeship & Training Council  
 FROM: Apprenti - 1982

Occupation:	County(ies):	Journey Level Wage Rate:	Effective Date:
CRM/CMS Developer	All	\$ 31.25 / HR	8/22/2024
Web Developer	All	\$ 33.65 / HR	8/22/2024
Data Analyst	All	\$ 33.65 / Hr	8/22/2024
		\$	

Sponsors must submit the journey-level wage at least annually or whenever changed to the Department.

**Form must be signed by Committee Chair and Secretary or Program's Authorized Signer**

<input type="checkbox"/> Chair	Date	<input type="checkbox"/> Secretary	Date
<input checked="" type="checkbox"/> Authorized Signer	8/22/2024		
Print Name: Andrea Anderson	Print Name:		
Signature: <i>Andrea Anderson</i>	Signature:		