

For L&I Staff Use Only

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By EH at 11:04 am, May 09, 2025

L&I Apprenticeship Consultant

Teri Gardner 5-9-25

L&I Admin

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 - 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	4/22/2025		
Print Name: Andrea Anderson		Print Name:	
Signature: <i>Andrea Anderson</i>		Signature:	

Approved By: Washington State Apprenticeship & Training Council
Signature of Secretary of the WSATC:
Date:

Attach additional sheets if necessary

<u>Occupational Objective(s):</u>	<u>SOC#</u>	<u>Term</u> [WAC 296-05-015]
CLOUD OPERATIONS SPECIALIST1	15-1232.00	2000 HOURS
CLOUD OPERATIONS SPECIALIST 2	15-1232.00	2000 HOURS
SOFTWARE DEVELOPER1	15-1252.00	2000 HOURS

II. MINIMUM QUALIFICATIONS:

Other: ~~Candidates who are not United States citizens must demonstrate work eligibility through the duration of the term of apprenticeship. Applicants must be authorized to work in the United States for an employer without requiring sponsorship now or in the future. This apprenticeship is not eligible for sponsorship and Apprenti will not provide sponsorship for applicants or apprentices.~~

VII. APPRENTICE WAGES AND WAGE PROGRESSION:

A. ~~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]
- [Please add a period (.) to the end of every work process in section VIII]

A. Network Security Administrator: Approximate Hours

~~6. DMVPN.....200~~

- ~~a. Configure Dynamic Multipoint Virtual Private Network (DMVPN) topologies~~
~~b. Troubleshoot Dynamic (DMVPN) topologies~~

6. WAN Technologies.....200

- c. Configure Dynamic Multipoint Virtual Private Network (DMVPN) topologies.
d. Troubleshoot Dynamic (DMVPN) topologies.
e. Configure, Maintain, and upgrade network environments across multiple locations on premises and in the cloud.

- [Please delete competency schedule for VIII.B. and replace with the following

B. Software Developer: Approximate Hours

1. Project Definition and Management..... 400

- 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 requirement specification documents.
 - d. Follow best practices around security, performance, and privacy optimizations.
 - e. Coordinate with beta test community, marketing, and other stakeholders.
 - f. Interpret functional requirements.
 - g. Participate in team meetings.
 - h. Estimate effort and complexity for assignments.
 - i. Prioritize assigned work.
 - j. Participate in code quality review.
 - k. Write acceptance criteria.
- 2. Software Design 200**
- a. Work with stakeholders to define and delegate requirements.
 - b. Specify and scope hardware, software and project requirements.
 - c. Block code using diagrams, mockups, or wireframes.
 - d. Identify and mitigate security threats and vulnerabilities that may arise from design decisions and any legacy code that must connect to project.
 - e. Identify logic changes.
 - a. Identify user interface changes.
 - b. Identify process changes.
 - c. Identify data changes.
 - d. Track assigned work responsibilities across team members.
- 3. Development and Implementation 600**
- a. Develop and write software code.
 - b. Connect to APIs and external libraries for relevant functions (e.g., data storage, ETL operations, image processing, payment systems).
 - c. Prepare and connect to data services required to complete application objectives.
 - d. Build and process learning sets for machine learning or adaptive algorithms.
 - e. Perform code reviews, unit testing, and bug fixes throughout the development process.
 - f. Complete programming tasks.
 - g. Configure programming environment.
 - h. Maintain existing feature(s).
 - i. Create new feature(s) as directed by senior team members.
 - j. Write efficient queries to produce desired results.
 - k. Implement computational algorithms or engage functional programming techniques as appropriate.
 - m. Implement design patterns.
 - n. Create necessary data models.
- 4. Software Testing 400**
- a. Work with development team to create test plans.

- b. Implement test cases.
 - c. Analyze results and implement solutions.
 - d. Perform revisions, repair, or expansion of existing programs to increase operating efficiency or adapt to new requirements.
5. Deployment and Maintenance..... 200
- a. Perform training for end users.
 - b. Evaluate and fix bugs.
 - c. Prepare for and assist language localization teams, QA, and preparation for distribution channels.
 - d. Completion documentation.
 - e. Maintain version control and code repositories.
 - f. Resolve merge conflicts.
 - g. Package and deploy applications (publish to server).
6. Perform other duties as assigned 200

Total Hours: 2000

Competency Schedule:

<u>Competency Step</u>	<u>Required Competency for Progression</u>
<u>1. 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>Apprentices must meet or exceed 85% of competencies listed in the work processes.</u>

- [Please delete section VIII.D. in its entirety and replace with the following]

D. Systems Administrator: Approximate Hours

- 1. Server Administrator.....500
 - a. Deploy and manage Linux distributions/Windows Server.
 - b. Update and monitor system components.
 - c. Storage solution management.
 - d. Manage file and print services.
 - e. Security encryption and audit configuration.
 - f. Monitor and configure network services.
 - g. Create availability and disaster recovery plan(s).
 - h. Troubleshoot server issues and package compatibility.
- 2. Software and Network Management.....500
 - a. Implement and manage network solutions.
 - b. Installing/uninstalling using package managers.
 - c. Building software components from source repositories.
 - d. Clustering and virtualization options for Linux systems.
 - e. Configuring virtual machines using e.g., VirtualBox, VMWare, Xen.

- f. Balance network load.
3. Users and Group Management.....300
- Configure domain controller(s).
 - Implement and manage group policy.
 - Maintain active directory domain services.
 - Supervise and monitor active directory certificate and rights management.
 - Research past resolutions and clean up notes/records on architecture and data flow diagrams or related documents.
4. Mail, Directory, and Services Collaboration.....200
- Plan and configure mailbox and client access servers.
 - Manage groupware and services (e.g., Zimbra, Horde, OpenXchange).
5. Ticket Management and Documentation300
- Work within existing task assignment and record-keeping systems.
 - Open, respond, manage, and close tickets.
 - Document resolution information.
 - Update documentation on configuration and status of servers.
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>

- [Please delete section VIII.E. in its entirety and replace with the following]

E. Cloud Operations Specialist: Approximate Hours

1. Customer Support800
- Communicate with customers to identify and scope issues.
 - Determine appropriate resolution tier (resolve or escalate).
 - Gather information from customers as needed to demonstrate the problem or determine appropriate fix.
 - Test and implement fix.
 - Manage customer account access and authenticate identity.
 - Communicate with customers on resolution, how to avoid recurrence, and any future action items.
2. Cloud Services Management.....600

- a. Create and configure hosting, storage, and computing accounts in cloud services.
 - b. Access and transfer data between systems and services.
 - c. Write basic scripts to facilitate configuration and updates to cloud accounts.
 - d. Use shell scripts to automate common tasks.
 - e. Troubleshoot availability and performance issues.
 - f. Coordinate with engineering team for more complex issues requiring escalation.
3. Ticket Management and Documentation.....400
- a. Work within existing task assignment and record-keeping systems.
 - b. Open, respond, manage, and close tickets.
 - c. Document resolution information.
 - d. Update documentation on configuration and status of servers.
 - e. Research past resolutions and clean up notes/records on architecture and data flow diagrams or related documents.
4. 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>

- [Please delete section VIII.F. in its entirety and replace with the following]

F. IT Business Analyst: **Approximate Hours**

1. IT Business Needs Assessment and Analysis.....300
 - a. Build business cases, identify requirements, and gather user stories/cases.
 - b. Understand and advise on business and legal risks of data collection and presentation as appropriate, including assessment of internal/external stakeholders and scope of release of information reported.
 - c. Interact with relevant stakeholders to define scope, parameters, and types of data needed to build reports or identify vendor solutions.
 - d. Delineate roles and access/clearance to any data sources that may be needed.
 - e. Research and evaluate industry trends, best practices, and new technologies and integrate this knowledge into current and future work activities.
 - f. Create and maintain project and process documentation.
2. Data and Process Modeling and Reporting.....500
 - a. Develop and design information gathering, analysis, and insight processes and required data/information inputs.
 - b. Apply Agile methodology to process mapping and project planning.
 - c. Create and maintain databases and the reporting tools that feed them.

- d. Administer and maintain database server tools, security, and user accounts.
 - e. Manipulate data with SQL queries.
 - f. Work with data warehouse / ETL (extraction, transformation, and load) tools and packages to ensure integrity, transaction monitoring, and performance of reports/models.
 - g. Map and integrate data relationships and cross-reference with key values or other unique identifiers.
 - 3. Data Visualization and Analysis.....800
 - a. Install and configure data reporting/business intelligence tools.
 - b. Connect and merge data sources.
 - c. Verify data integrity and accuracy.
 - d. Cognitive and perceptually aware design of data visualizations.
 - e. Build charts and representations of data in static and interactive environments.
 - f. Identify and highlight key metrics/performance indicators/decision triggers.
 - g. Configure hierarchies, filters, and other action parameters.
 - h. Produce and present visualizations and business intelligence insight reports in multiple formats as required (e.g., PDF, PowerPoint, animation/video, text narrative).
 - 4. Solutions Management.....200
 - a. Given use cases and business needs, assess software/service vendor options.
 - b. Advise or perform requirements elicitation, bid/RFP processes.
 - c. Conduct user acceptance testing of chosen solution.
 - 5. Perform other duties 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>Apprentices must meet or exceed 85% of competencies listed in the work processes.</u>

[Please delete section VIII.G. in its entirety

- G. Cloud Operations Specialist 2: Approximate Hours
- 1. Client Sales/account management.....200
 - a. Gather information on existing solution/application
 - b. Provide information on available cloud products and services
 - c. Develop migration plans for new customers
 - 2. Project Management.....300
 - a. Estimate timelines for completion

- ~~b. Track and coordinate activities of service units (technical, accounting, contracting, etc.)~~
 - ~~c. Report on status and outcomes internally and externally~~

 - ~~3. Customer Support200~~
 - ~~a. Communicate with customers to identify and scope issues~~
 - ~~b. Determine appropriate resolution tier (resolve or escalate)~~
 - ~~c. Gather information from customers as needed to demonstrate the problem or determine appropriate fix~~
 - ~~d. Test and implement fix~~
 - ~~e. Manage customer account access and authenticate identity~~
 - ~~f. Communicate with customers on resolution, how to avoid recurrence, and any future action items~~

 - ~~4. Cloud Services Management700~~
 - ~~a. Create and configure hosting, storage, and computing accounts in cloud services~~
 - ~~b. Access and transfer data between systems and services~~
 - ~~c. Write basic scripts to facilitate configuration and updates to cloud accounts~~
 - ~~d. Use shell scripts to automate common tasks~~
 - ~~e. Troubleshoot availability and performance issues~~
 - ~~f. Coordinate with engineering team for more complex issues requiring escalation~~

 - ~~5. Ticket Management and Documentation.....400~~
 - ~~a. Work within existing task assignment and record-keeping systems~~
 - ~~b. Open, respond, manage, and close tickets~~
 - ~~c. Document resolution information~~
 - ~~d. Update documentation on configuration and status of servers~~
 - ~~e. Research past resolutions and clean up notes/records on architecture and data flow diagrams or related documents~~

 - ~~6. Perform other duties as assigned.....200~~
-
- ~~Total Hours: 2000~~

Competency Schedule:

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

- **[Please delete section VIII.J. in its entirety and replace with the following**

J. Cybersecurity Analyst:

Approximate Hours

1. Core Competencies for Cybersecurity Analyst400
 - a. Contribute to the evaluation and selection of secure system design solutions to ensure seamless integration and compatibility of system components.
 - b. Support the creation and implementation of network security policies and protocols to protect organizational assets.
 - c. Develop and implement plans to safeguard digital assets against unauthorized access, data breaches, or accidental modification, while ensuring availability during emergencies.
 - d. Conduct risk assessments and perform security testing to validate the effectiveness of data processing systems and security controls.
 - e. Assist in formulating and refining cybersecurity policies, procedures, and best practices to enhance organizational resilience.
2. Configure and Protect Cloud Data Stores and Local Databases300
 - a. Monitor current reports of computer viruses to determine when to update virus protection systems.
 - b. Apply cybersecurity functions (e.g. encryption, access control, and identity management) to secure, confidential information as it is being transmitted and to keep out tainted digital transfers.
 - c. Monitor use of data files and regulate access to safeguard information in computer files.
 - d. Use Intrusion Detection Systems (IDS), firewalls, and honeypots.
3. Analyze Security Requirements and Configure Networked Systems300
 - a. Communicate with stakeholders to identify and scope issues.
 - b. Analyze organization's cyber defense policies and configurations and evaluate compliance with regulations and organizational directives.
 - c. Implement security configuration parameters on network devices and other technologies.
 - d. Identify potential conflicts with implementation of any cyber defense tools (e.g. tool and signature testing and optimization).
4. Monitor and Configure Access Control, Authentication, Encryption, and Cryptographic Systems, including Intrusion Detection And Penetration Testing300
 - a. Modify computer security files to incorporate new software, correct errors, or change individual access status.
 - b. Test computer system operations.
 - c. Monitor and configure access control systems.
 - d. Monitor and configure authentication systems.
 - e. Monitor and configure cryptographic systems.
 - f. Coordinate with engineering team for more complex issues requiring escalation.
5. Conduct security and risk assessments and system audits300
 - a. Implement security measures.

- b. Conduct security assessments and coordinate with team to correlate threat assessment data.
- c. Perform risk and vulnerability assessments of relevant technology focus areas.
- d. Maintain deployable cyber defense audit toolkit and conduct system audits.
- 6. Develop and implement incident response and business continuity plans300
 - a. Confer with users to discuss issues such as computer data access needs, security violations, and programming changes.
 - b. Develop incident response plan.
 - c. Implement incident response plan.
 - d. Develop and implement a business continuity plan.
- 7. Perform other duties as assigned100

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:

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

- A. Minimum RSI hours per year defined per the following [see WAC 296-05-015(6)]:
 - 1. Network Security Administrator 370
 - 2. Software Developer ~~4~~ **600**
 - 3. IT Support Professional 308
 - 4. Systems Administrators 440
 - 5. Cloud Operations Specialist ~~1~~ 440
 - 6. ~~Cloud Operations Specialist 2~~ 560
 - 7. IT Business Analyst 360
 - 8. Developer Operations Specialist 640
 - 9. Technical Sales Specialist 200
 - 10. Cybersecurity Analyst 400
 - 11. Software Analyst 480
 - 12. CRM Administrator ~~210~~ **200**
 - 13. CRM/CMS Developer 320

14. Data Analyst	400
15. Web Developer	328320

XI. SPONSOR – RESPONSIBILITIES AND GOVERNING STRUCTURE

- **[Please delete and replace committee with the following. No new members, only address update]**

E. 1. c. The employer representatives shall be:

Birgit Ziedler, Secretary	Nick Curry
F5	Amazon
1420 NW Gilman Blvd, Suite 2	1420 NW Gilman Blvd, Suite 2
#9110	#9110
Issaquah, WA 98027	Issaquah, WA 98027

Hunter Davis	Robin Baker
MantraHealth	AWS
1420 NW Gilman Blvd, Suite 2	1420 NW Gilman Blvd, Suite 2
#9110	#9110
Issaquah, WA 98027	Issaquah, WA 98027

Amaris Batista
Amazon
1420 NW Gilman Blvd, Suite 2
#9110
Issaquah, WA 98027

d. The employee representatives shall be:

Lauren McGuire, Chair	Lief Zimmerman
Weyerhaeuser	F5
1420 NW Gilman Blvd, Suite 2	1420 NW Gilman Blvd, Suite 2
#9110	#9110
Issaquah, WA 98027	Issaquah, WA 98027

John Fearnside	Steven Lowe
Adobe	Comtech
1420 NW Gilman Blvd, Suite 2	1420 NW Gilman Blvd, Suite 2
#9110	#9110
Issaquah, WA 98027	Issaquah, WA 98027

Tre Ammatuna	Warren Wright, Alternate
Amazon	NCC Group North America
1420 NW Gilman Blvd, Suite 2	1420 NW Gilman Blvd, Suite 2
#9110	#9110
Issaquah, WA 98027	Issaquah, WA 98027

XIII. TRAINING DIRECTOR/COORDINATOR:

- **[Please delete and replace Training Director/Coordinator with the following. No new members, only address update]**

**Jennifer Carlson
Apprenti
1420 NW Gilman Blvd, Suite 2
#9110
Issaquah, WA 98027**

**Kyle McAlice
Apprenti
1420 NW Gilman Blvd, Suite 2
#9110
Issaquah, WA 98027**

**Andrea Anderson
Apprenti
1420 NW Gilman Blvd, Suite 2
#9110
Issaquah, WA 98027**

**Jill Hasson
Apprenti
1420 NW Gilman Blvd, Suite 2
#9110
Issaquah, WA 98027**

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RECEIVED

By EH at 10:53 am, May 07, 2025

L&I Apprenticeship Consultant

Teri Gardner 5-9-25

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 CRM Administrator	
Term/OJT Hours 2000	Total RSI Hours 200
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	4/23/2025		
Print Name: Andrea Anderson		Print Name:	
Signature: <i>Andrea Anderson</i>		Signature:	

Training Provider Signature

Approved By (Print Name): Martin Sehlin	Title: Sr. Manager of Education
Signature of the Training Provider: <i>Martin Sehlin</i>	
Date: 4/23/2025	

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	Occupational Objective CRM Administrator
---------------------------------	---

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: 24
Mode of Instruction (check all that apply) <input 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"> • Intro to Data Analytics and Excel Foundations • Spreadsheet Basics and Formatting • Basic Formulas and Functions • More Complex Functions • Chart Building • Pivot Tables • Data Cleaning and Error-Checking • Data Exploration • Data Model Building 	

Element/Course: CRM Platform Basic Administration	Planned Hours: 96
Mode of Instruction (check all that apply) <input 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"> • Configuration and Setup <ul style="list-style-type: none"> ◦ Assign Company Settings ◦ Configure and Manage Users ◦ Adjust Security Controls • Object Manager and Lightning App Builder <ul style="list-style-type: none"> ◦ Recognize Object Architecture and Relationships ◦ Customize the App • Sales, Marketing, Service, and Support Applications <ul style="list-style-type: none"> ◦ Conduct Campaign Management ◦ Assess Sales Productivity ◦ Automate Case Management • Productivity and Collaboration <ul style="list-style-type: none"> ◦ Describe Productivity and Collaboration Tools • Data and Analytics Management <ul style="list-style-type: none"> ◦ Harness Data Management Tools ◦ Build Reports and Dashboards • Workflow and Process Automation <ul style="list-style-type: none"> ◦ Define Workflow ◦ Understand Salesforce Flow ◦ Follow Approval Processes 	

- Fundamentals
 - Explore the platform
 - Navigate the Architecture
- The Big Picture: All Users
 - Gather Company Information and Licensing
 - Determine your Fiscal Year and Currency
 - Organize and Collaborate
 - Manage Users
 - Assess Login Security Controls
- Feature and Object Access
 - Understand Profiles
 - Define Permission Sets
 - Evaluate Field-Level Security
- Record Access
 - Determine Record Ownership
 - Establish Organization-Wide Defaults
 - Build Role Hierarchy
 - Implement Sharing Rules
 - Design Teams and Manual Sharing Requirements
 - Set Restriction Rules
- Standard Functionality Customizations
 - Understand an Object
 - Explore Standard and Custom Fields
 - Navigate Relationship Fields
 - Generate Custom Formula Fields
- The Existing User Interface (UI)
 - Customize Applications
 - Build a Home Page
 - Explore Tabs and List Views
 - Adjust Page Layouts
 - Generate Dynamic Forms
 - Incorporate Buttons, Links, and Actions
 - Design Record Types, Business Process, and Path
- Data Management
 - Back Up Data
 - Import, Export, and Update Data
 - Mass Delete and Mass Transfer
 - Use Data Quality and Cleansing Tools
- Declarative Automation
 - Learn Automation Fundamentals
 - Build Validation Rules
 - Manage Leads and Cases
 - Design Workflows and Processes
 - Outline an Approval Process
- The Future of Automation: Flow
 - Define Flow
 - Build a Flow To Update a Field
 - Build and Combine Flows
 - Deploy Flow with a Lightning Component
 - Follow Order of Execution
- New Objects

- Create a New Object
- Build a New Custom Tab
- Deploy a Change Set
- Generate a Mobile Layout
- Analytics
 - Define Report Components
 - Create Filters and Formulas
 - Implement Conditional Formatting and Charts
 - Manage Exports and Subscriptions
 - Build Dashboards

Element/Course: CRM Platform Advanced Administration

Planned Hours: 80

Mode of Instruction (check all that apply)

☐ Classroom ☐ Lab ☒ Online ☐ Self-Study

Provided by: Apprenti

Description of element/course:

- Salesforce Security and Access
 - Access the Org
 - Assign Object Permissions
 - Determine the Impact of Sharing
 - Delegate Administration
- Objects and Applications
 - Build Custom Objects
 - Determine Object Relationships
 - Design Custom Applications
 - Create Page Layouts
 - Conduct Quick Actions
- Cloud Applications
 - Use Sales Cloud Applications
 - Reference Service Cloud Applications
 - Create Experience Sites
- Data and Analytics Management
 - Import Data
 - Harness Data Quality Tools
 - Use Reporting Tools
- Environment Management and Deployment
 - Experiment in Sandboxes
 - Move Data
- Process Automation
 - Review Automation Tools
 - Define Flow
 - Describe Flow and the Save Order of Execution
 - Explore Auditing Tools
- Data Security
 - Access the Org
 - Enable Object Permissions
 - Determine the Impact of Sharing
 - Delegate Administration
- Objects, Fields, and Relationships
 - Create Custom Objects
 - Customize Fields

- Build Master Detail and Lookup Relationships
- Determine Benefits of Relationship Fields
- Implement Additional Relationship Types
- Efficiency with Lightning Apps
 - Build Lightning Applications
 - Select Tabs
 - Understand Page Layout Editor
 - Apply Quick Actions
 - Follow Record Type and Business Process
- Data Quality
 - Follow the Data Quality Lifecycle
 - Enforce Data Quality
 - Follow Validation Rules and Formula Functions
 - Eliminate Duplicates
- Salesforce Flow
 - Identify the Right Automation Tool
 - Understand Flow
 - Migrate to Flow
 - Implement Flow and the Order of Execution
- Flow: Building from Scratch
 - Build a Flow: The Basics
 - Build a Flow: Resources and Elements
 - Manage Collection
 - Create a Flow
- Flow: Considerations and Troubleshooting
 - Assess Considerations
 - Determine Limitations
 - Troubleshoot
- The Approval Process
 - Define an Approval Process
 - Create an Approval Process
 - Troubleshoot an Approval Process
- Automation Audits and Extensions
 - Follow the Order of Execution
 - Harness Auditing Tools
 - Extend Beyond Automations
- Advanced Reporting
 - Create Custom Report Types
 - Generate Exception Reports with Cross Filters
 - Bucket Data
 - Conduct Historical Reporting
 - Extend Summaries in Reports and Dashboards

Element/Course: <input type="text" value="Element/Course"/>	Planned Hours: <input type="text" value="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	
Provided by: <input type="text" value="Click or tap here to enter text."/>	
Description of element/course:	
<input type="text" value="Click or tap here to enter text."/>	

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

Element/Course: Element/Course	Planned Hours: 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 Provided by: Click or tap here to enter text. Description of element/course: Click or tap here to enter text.	

Additional Training Providers (if necessary)

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By EH at 10:52 am, May 07, 2025

L&I Apprenticeship Consultant

Teri Gardner 5-9-25

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 Software Developer	
Term/OJT Hours 2000	Total RSI Hours 600
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	4/23/2025		
Print Name: Andrea Anderson		Print Name:	
Signature: <i>Andrea Anderson</i>		Signature:	

Training Provider Signature

Approved By (Print Name): Martin Sehlin	Title: Sr. Manager of Education
Signature of the Training Provider: <i>Martin Sehlin</i>	
Date: 04/23/2025	

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	Occupational Objective Software 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: Introduction to Computer Science	Planned Hours: 30
Mode of Instruction (check all that apply) <input 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"> • Data types – Strings, numbers and booleans • Data structures – Arrays and objects • Persistence – Local storage, session storage and JSON (JavaScript Object Notification) • Code structure – Code organization, common patterns and project scaffolding 	

Element/Course: Introduction to Standard Development Practices and Tools	Planned Hours: 16
Mode of Instruction (check all that apply) <input 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"> • Software Development Lifecycle (SDLC) <ul style="list-style-type: none"> • Agile Software Development vs Waterfall and other methodologies • User stories, pair programming, retrospectives and problem domains • IDE (Integrated Development Environment) Syntax highlighting & linting <ul style="list-style-type: none"> • Discoverable shortcuts • Scope awareness • Extensibility • Power editing – Multiline edits, pasteboard history and rapid file switching • Symbol autocomplete • Git <ul style="list-style-type: none"> • Version control systems – Distributed VCS, Branch, Merge and Diff • Github – Gitflow, Fork and Pull requests • Config – Remotes and Default behaviors • Operating system <ul style="list-style-type: none"> • File management • Admin permissions • Package management • Local web server • Task supervision • Command line <ul style="list-style-type: none"> • Navigation • Secure connections & private keys • File content control 	

Element/Course: Web Development with HTML and CSS	Planned Hours: 40
Mode of Instruction (check all that apply) <input 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"> • HTML (Hypertext Markup Language) <ul style="list-style-type: none"> ◦ Semantic HTML (tags, document object model, syntax) ◦ Structure ◦ Classes ◦ IDs ◦ Attributes ◦ Forms • CSS (Cascade Style Sheet) <ul style="list-style-type: none"> ◦ Style – Typography, color, design and animations ◦ Layout – Box model, grid, fluid/flex and responsive design ◦ Syntax – Selectors, how “cascading” works and pseudo-classes, inheritance ◦ Browser-specific CSS parameters and cross-browser compatibility issues 	

Element/Course: Web Development with JavaScript	Planned Hours: 40
Mode of Instruction (check all that apply) <input 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"> • Fundamentals – Variables, syntax, style, REPL (Read-Eval-Print Loop), data types and data structures • Control Flow – “for” loops, “if” statements, “if...else” statements and “while” and “do while” • Functions – Declarations, expressions, parameters & arguments and function scope • Objects – Object oriented programming, properties, methods and constructors • Events – Listeners, handlers and types • The JavaScript DOM (Document Object Model) vs HTML DOM • Test and debug JavaScript code • Develop React applications that incorporate JavaScript to fetch data from APIs and manage application state 	

Element/Course: Programming in Python and Software Testing Basics	Planned Hours: 50
Mode of Instruction (check all that apply) <input 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"> • Flow control <ul style="list-style-type: none"> ◦ Conditionals ◦ Iterators • Object-oriented programming <ul style="list-style-type: none"> ◦ Classes & instances ◦ Attributes & methods & properties ◦ Inheritance & composition ◦ Duck typing & special methods • Functional programming <ul style="list-style-type: none"> ◦ Comprehensions ◦ Generators ◦ Lambdas ◦ Decorators • REPLs & debugging • 	

- Software Testing Intro
 - Types – Unit, functional, integration, performance, acceptance and regression
 - Tools – Pytest & Python unittest, factories & fixtures and mocks & stubs
 - TDD – Outside-in refactors and tests as design tool
 - A/B testing and manual QA techniques
 - Blackbox testing and automation

Element/Course: Object-oriented Programming (C#, Java, Objective-C)	Planned Hours: 200
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Mode of Instruction (check all that apply)

☐ Classroom ☐ Lab ☒ Online ☐ Self-Study

Provided by: Apprenti

Description of element/course:

- Computer Hardware Interaction
 - Components and addressing (clocks, caches, registers, types of memory)
 - Numbering systems and computer math
 - Converting bin/hex/decimal systems
- Configuring a development environment (e.g., Eclipse, Visual Studio)
- Understanding code compiling
 - Interpreted languages and runtime compiling vs native execution
 - Bytecode translation
 - “Porting” code
 - Architecture customization and constraints (e.g., x86 vs. ARM)
- Language syntax and statements
 - Defining variables and objects
 - Classes vs. types
 - Simple operators, IF logic
 - Fundamental debugging methods
- Assignment and arithmetic operators
 - Structured programming, decision structures
 - Loop structures and arrays
- Manipulating data
 - Connecting to databases
 - Structuring data objects
 - Returning or exporting data
- Interface design
 - Human/computer interaction basics
 - User interface objects
 - Responsive design
 - Automated interface builders/auto layout tools
 - Web-based frontends
 - Packaging UI for mobile applications
- Memory and performance management
 - Garbage collection
 - Releasing memory
 - Freeing up CPU time
 - Performance optimization techniques
- Comments and documentation methods and significance

Element/Course: Data Structures & Algorithms	Planned Hours: 80
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Mode of Instruction (check all that apply)

☐ Classroom ☐ Lab ☒ Online ☐ Self-Study

Provided by: Apprenti

Description of element/course:

- Linear data structures – Linked lists, Stack, Queue

- Tree data structures – Binary heap, priority queue, binary search tree and trie trees
- Graphs – Directed, undirected, weighted and shortest path algos
- Sorting algorithms – Merge, Insertion, Quicksort and Radix
- Machine learning & data science algorithms
 - Unsupervised learning – k-means
 - Supervised learning
 - k-nearest neighbor
 - Linear regressions

Element/Course: Application Development

Planned Hours: 128

Mode of Instruction (check all that apply)

☐ Classroom ☐ Lab ☒ Online ☐ Self-Study

Provided by: Apprenti

Description of element/course:

- Applied Capstone Project
 - Apprentice or employer-directed project goals
 - Establishing client specs (from assignment brief
 - Distributing work across teams
- Testing and integrating code into larger projects
 - Continuous delivery, Software-as-a-Service considerations
 - Production vs. testing infrastructure
- Submission review and commits
 - Peer feedback and code review sessions
 - Knowing when to push a “final” build
- Integrate and apply material delivered in other RSI elements
 - Define project scope and identify performance, delivery, and security objectives
 - Establish code repository and store project files
 - Wireframe or prototype project
 - Time management
 - Delegation of tasks (if group project)
 - Build functional code using Agile or assigned methodology, with Git or other repository tracking tools
 - Testing techniques and preparation for deployment
 - Error handling and failing gracefully
 - User experience considerations
- Presentation and demonstration of projects to clients/peer review audiences

Element/Course: Introduction to Cloud Technologies

Planned Hours: 16

Mode of Instruction (check all that apply)

☐ Classroom ☐ Lab ☒ Online ☐ Self-Study

Provided by: Apprenti

Description of element/course:

- Private vs Public Cloud
- Physical Server vs Cloud Server
- Cloud Computing
- Cloud Migration
- Serverless Computing
- Containers

Additional Training Providers (if necessary)

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By EH at 10:53 am, May 07, 2025

L&I Apprenticeship Consultant

Teri Gardner 5-9-25

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 Web 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	4/23/2025		
Print Name: Andrea Anderson		Print Name:	
Signature: <i>Andrea Anderson</i>		Signature:	

Training Provider Signature

Approved By (Print Name): Martin Sehlin	Title: Sr. Manager of Education
Signature of the Training Provider: <i>Martin Sehlin</i>	
Date: 4/23/2025	

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	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: 40
Mode of Instruction (check all that apply) <input 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"> • Data types – Strings, numbers and booleans • Data structures – Arrays and objects • Persistence – Local storage, session storage and JSON (JavaScript Object Notification) • Code structure – Code organization, common patterns and project scaffolding • Overview of web development – CRUD (Create, Read, Update, Delete), HTTP (Hypertext Transfer Protocol), REST (Representational State Transfer) and request/response Cycle 	

Element/Course: Introduction to Standard Development Practices and Tools	Planned Hours: 80
Mode of Instruction (check all that apply) <input 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"> • Agile Software Development <ul style="list-style-type: none"> ○ Agile Principles and Manifesto ○ Key Agile Methodologies (Scrum, Kanban, XP) ○ The Agile Development Process ○ Collaboration and Communication ○ Continuous Feedback and Improvement ○ Version Control and Continuous Integration (CI) ○ Test Driven Development (TDD) ○ Agile Tools • IDE (Integrated Development Environment)– Atom, chrome development tools, debugging, and linting code functionality and style • Software best practices <ul style="list-style-type: none"> ○ Object oriented programming ○ Debugger/Breakpoints ○ Industry perspectives ○ Dependency management ○ Style guides and linters • Git <ul style="list-style-type: none"> ○ Git vs. GitHub, git clone, git init, git status ○ Adding, committing and pushing ○ Forking a repo, pull requests, git status and branches ○ Team workflow issues and organization 	

Element/Course: Web Development with HTML and CSS	Planned Hours: 60
Mode of Instruction (check all that apply) <input 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"> ● HTML (Hypertext Markup Language) <ul style="list-style-type: none"> ○ Semantic HTML - <article>, <section>, <header>, <footer> ○ Structure ○ Classes ○ IDs ○ Attributes ○ Forms ● CSS (Cascade Style Sheet) <ul style="list-style-type: none"> ○ Style – Typography, color, design and animations ○ Layout – Box model, grid, fluid/flex and responsive ○ Syntax – Selectors, how “cascading” works and pseudo-classes 	

Element/Course: Web Development with JavaScript	Planned Hours: 60
Mode of Instruction (check all that apply) <input 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"> ● Fundamentals – Variables, syntax, style, REPL (Read-Eval-Print Loop), data types and data structures ● Control Flow – “for” loops, “if” statements, “if...else” statements and “while” and “do while” ● Functions – Declarations, expressions, parameters & arguments and function scope ● Objects – Object oriented programming, properties, methods and constructors ● Events – Listeners, handlers and types ● The DOM (Document Object Model) 	

Element/Course: MVC (Model View Control) Design Pattern	Planned Hours: 80
Mode of Instruction (check all that apply) <input 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"> ● Core Concepts of MVC Pattern ● MVC with a Programming Language <ul style="list-style-type: none"> ○ HTML/CSS/JavaScript ○ Client-Side MVC <ul style="list-style-type: none"> ■ Angular, React (with Redux) or Vue.js ○ Node.js/Express ● Data Flow and State Management ● Performance Considerations ● Unit Testing MVC Components ● Implementing RESTful APIs ● JSON ● Modern Variations of MVC <ul style="list-style-type: none"> ○ MVVM, SPA, Microservices 	

Element/Course: Element/Course	Planned Hours: 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	
Provided by: Click or tap here to enter text.	
Description of element/course:	

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Additional Training Providers (if necessary)

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