

For L&I Staff Use Only	
R'CVD 20221213 TUK/bk	<i>Teri Gardner 12-14-22</i>
R'CVD 20221212 TUK/bk	<i>Teri Gardner 12-12-22</i>
R'CVD 20221202 TUK/bk	<i>Teri Gardner 12-5-22</i>
L&I Apprenticeship Consultant	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: IAM/Boeing Joint Apprenticeship Committee #154

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	12/12/2022		
Print Name: Raymond Miller		Print Name:	
Signature: <i>Raymond Miller</i>		Signature:	

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

Attach additional sheets if necessary

FROM: **IAM/Boeing Joint Apprenticeship Committee #154****IAM/BOEING JOINT APPRENTICESHIP COMMITTEE**

(sponsor name)

<u>Occupational Objective(s):</u>	<u>SOC#</u>	<u>Term [WAC 296-05-015]</u>
<u>FACILITIES CRANE MAINTENANCE MECHANIC</u>	<u>49-9043.00</u>	<u>7360 HOURS</u>
<u>METAL STRUCTURES TECHNICIAN</u>	<u>51-2092.00</u>	<u>7360 HOURS</u>
	<u>51-4081.00</u>	
<u>NC SKIN MILL OPERATOR</u>	<u>51-4044.00</u>	<u>7360 HOURS</u>
	<u>51-9161.00</u>	
<u>NC SPAR MILL OPERATOR</u>	<u>51-4044.00</u>	<u>7360 HOURS</u>
	<u>51-9161.00</u>	
<u>TOOLING INSPECTOR</u>	<u>51-9061.01</u>	<u>7360 HOURS</u>
	<u>51-9061.00</u>	

I. GEOGRAPHIC AREA COVERED:

The area under which these Standards shall apply, ~~shall be any~~ to include all installations of the Boeing Company within Snohomish, King and Pierce Counties.

II. MINIMUM QUALIFICATIONS:

Age: At least 18 years of age.

Other: 3. Applicants must never have been enrolled in, or completed an IAM/Boeing Joint Apprenticeship program. ~~Applicants must be considered eligible for hire or rehire at The Boeing Company at the time of application.~~

III. CONDUCT OF PROGRAM UNDER WASHINGTON EQUAL EMPLOYMENT OPPORTUNITY PLAN:**A. Selection Procedures:**

To determine employment eligibility with the Boeing Company, prior to the submission of an application for an IAM/Boeing Apprenticeship Program, interested persons can go to the Boeing web site:

~~For non-Boeing interested persons~~ <http://www.boeing.com/careers/>

2. All ~~internal and external~~ candidates, desiring to become an apprentice, will apply for open positions posted at the Boeing website: <http://www.boeing.com/careers/>. ~~through the Boeing Global Staffing on-line requisition system.~~ Applicant minimum qualifications will be clearly stated on the requisitions. Individuals who do not meet the minimum qualifications will be notified.

IV. TERM OF APPRENTICESHIP:

The term of apprenticeship will be 7,360 hours of reasonably continuous employment and experience in the principal operations of the trade for the following occupations:

Facilities Crane Maintenance Mechanic

V. INITIAL PROBATIONARY PERIOD:

FROM: IAM/Boeing Joint Apprenticeship Committee #154*Teri Gardner 12-15-22*

C. For the 7,360 hours apprenticeship programs, the 20% probationary period is 1,472 hours. These programs are:

Facilities Crane Maintenance Mechanic

1. Evaluation during probation:

~~From the information obtained on the weekly evaluation, the evaluating supervisor will submit a written monthly report to his or her management. The written monthly report will take into consideration the following factors: mechanical aptitude, attitude, work habits, comprehension, retention, interest, attendance, and the individual's ability to work with other employees. After the written monthly evaluation has been reviewed and approved by the first and second line management, a copy of the evaluation will be forwarded to the IAM/Boeing Apprenticeship Training Office for review by the IAM/Boeing Joint Apprenticeship Committee.~~

2. Probationary Work Schedule:

~~During the probationary work schedule, the apprentice's shift assignments may be divided between first and second shift.~~

VII. APPRENTICE WAGES AND WAGE PROGRESSION:

C. Wage Progression Schedules

For Facilities Crane Maintenance Mechanic; Manufacturing Machinist; Machine Tool Maintenance Mechanic; Maintenance Machinist; Model Maker; and NC Skin Mill Operator programs.

VIII. WORK PROCESSES:

C. Facilities Crane Maintenance Mechanic:

(Crane types: Overhead, Stacker, Hoist, Monorail, Lowerator)

		<u>Code</u>	<u>Hours</u>
<u>1.</u>	<u>Inspect, Maintain and Replace Crane Brakes and Ropes</u>	<u>A</u>	<u>1500</u>
<u>2.</u>	<u>Perform Frequent Preventative Maintenance Jobs</u>	<u>B</u>	<u>3000</u>
<u>3.</u>	<u>Maintain Cab Operated Cranes</u>	<u>C</u>	<u>600</u>
<u>4.</u>	<u>Troubleshoot and Maintain Crane Fluid Power Systems</u>	<u>D</u>	<u>300</u>
<u>5.</u>	<u>Troubleshoot and Maintain Crane Power Transmission Systems</u>	<u>E</u>	<u>800</u>
<u>6.</u>	<u>Lubricate Crane Systems</u>	<u>F</u>	<u>200</u>
<u>7.</u>	<u>Rebuild and Install Crane Systems</u>	<u>G</u>	<u>600</u>
<u>8.</u>	<u>Inspect, Maintain & Replace Crane Rails and Expansion joints</u>	<u>H</u>	<u>360</u>

TOTAL HOURS: 7360

[Please increment existing occupations C. through O., by one letter.]

IX. RELATED/SUPPLEMENTAL INSTRUCTION:

C. Additional Information:

Apprentices will be provided with a minimum of 144 hours of RSI per year, up to a total of 640 over the course of their apprenticeship, unless otherwise directed by the committee, in the following occupations:

Facilities Crane Maintenance Mechanic

X. ADMINISTRATIVE/DISCIPLINARY PROCEDURES:

A. Administrative Procedures:

3. Sponsor Procedures:

~~b. The Committee will cooperate with the Apprenticeship Coordinator in passing on the qualifications of applicants for apprenticeship.~~

~~e. The Committee will cooperate with the Apprenticeship Coordinator in his/her responsibilities towards the apprentice.~~

g. Evaluation during probation:

From the information obtained on the weekly evaluation, the evaluating supervisor will submit, a written monthly report to his or her management. The written monthly report will take into consideration the following factors: mechanical aptitude, attitude, work habits, comprehension, retention, interest, attendance, and the individual's ability to work with other employees. After the written monthly evaluation has been reviewed and approved by the first and second line management, a copy of the evaluation will be forwarded to the IAM/Boeing Apprenticeship Training Office for review by the IAM/Boeing Joint Apprenticeship Committee.

h. Probationary Work Schedule:

During the probationary work schedule, the apprentice's shift assignments may be divided between first and second shift.

B. Disciplinary Procedures

3. Sponsor Disciplinary Procedures:

Disciplinary actions:

b. Disciplinary Probation

- (3) During a Disciplinary Probation, the apprentice will continue to attend and maintain satisfactory Related Supplemental Instruction progress. If the apprentice is on Disciplinary Probation due to RSI deficiencies, they shall have 60 days to be in

FROM: **IAM/Boeing Joint Apprenticeship Committee #154**

good RSI standing. During the 60 days, their RSI lesson requirement will pause. They will be required to continue to go to class and complete their 4 hours of their required RSI per week or more if deemed needed by the committee. If the apprentice is delinquent in turning in accurate OJT logs, they shall have 60 days to turn in their OJT logs.

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Apprenticeship Section
PO Box 44530
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Journey Level Wage Rate

From which apprentices' wage
rates are computed

TO: Washington State Apprenticeship & Training Council
FROM: IAM/Boeing Joint Apprenticeship Committee #154

Occupation:	County(ies):	Journey Level Wage Rate:	Effective Date:
CRANE MAINTENANCE MECHANIC	King, Pierce , and Snohomish	\$ 47.82	9/9/2022
		\$	
		\$	
		\$	

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	12/2/2022		
Print Name: Raymond Miller		Print Name:	
Signature: <i>Raymond Miller</i>		Signature:	

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R'CVD 20221205 TUK/bk

L&I Apprenticeship Consultant

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Teri Gardner 12-12-22

Teri Gardner 12-5-22

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Apprenticeship Related/Supplemental Instruction (RSI) Plan Review

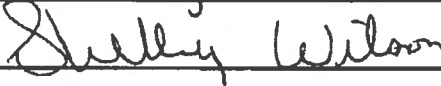
Program Name IAM/Boeing Joint Apprenticeship Committee	
Occupation Facilities Crane Maintenance Mechanic	
Term/OJT Hours 7360 hours	Total RSI Hours 640 hours
Training Provider South Seattle College	

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	12/12/2022		
Print Name: Shelley Wilson		Print Name:	
Signature: 		Signature:	

Training Provider Signature

Approved By (Print Name): Laura Kingston	Title: Interim Exec Dean, Georgetown
Signature of the Training Provider: 	
Date: 12/13/2022	

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 IAM/Boeing Joint Apprenticeship Committee	Occupational Objective Facilities Crane Maintenance Mechanic
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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: CIA - Crane Inspection (Trainee Cert) - 1 st year	Planned Hours: 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: Crane Inspection of America	
Description of element/course: This course teaches skills to improve overhead crane safety and to be better prepared for an OSHA inspection. The latest OSHA and American Society of Mechanical Engineers (ASME) crane standards are thoroughly covered, inspection checklists are provided, and students learn how to properly document the inspection. Apprentices will recognize crane types, components and terminology and the causes and results of overhead crane accidents. Apprentices will learn the Inspector's role in reducing crane accidents and liability, and practice setting up an inspection program using OSHA and ASME inspection requirements and the three levels of inspection, inspection procedures and techniques. Apprentices will recognize the differences between deficiencies and safety hazards; demonstrate the correct way to write inspection reports to provide proper documentation; inspect various structural components: sheaves, blocks, and hooks, operating mechanisms, hydraulic, pneumatic, and electrical systems, hydraulic cylinders, wire rope, operational aids and safety devices, structural, mechanical, electrical, operational and safety/liability areas of inspection. Apprentices will learn how to perform load tests; practice safe operating practices and procedures, hand and voice signals, and basic rigging procedures.	

Element/Course: Lifting & Rigging - 1 st year	Planned Hours: 50
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: South Seattle College	
Description of element/course: The apprentices will learn the practical application and safe operation of lifting equipment commonly used in industrial maintenance such as forklifts, scissor lifts, and cranes. Apprentices will learn proper and safe techniques for manual lifting, hand signaling, and radio communication. Apprentices will learn about methods of moving machinery, which includes lifting materials, supplies, and equipment such as cranes, forklifts, pallet jacks, and engine hoists. This course also covers techniques for lifting personnel such as manlifts and bucket trucks, and includes all protection training. Apprentices will learn about techniques, calculations, and equipment for rigging and rigging inspection. Hands-on experience may include forklift operation, material staging, rigging projects, crane operation, and field trips where available.	

Element/Course: Crane Rigging – 1 st year	Planned Hours: 5
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: South Seattle College	
Description of element/course: Apprentice will learn to identify rigging hardware, bridge cranes and boom cranes and describe their basic features. Describe the basic inspection checks that apply to overhead cranes and crawler cranes.	

Element/Course: Basic Fluid Power - 1st year	Planned Hours: 20
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: South Seattle College	
Description of element/course: Basic Hydraulics and Pneumatics; covers principles of mechanical maintenance, types of fluids and their characteristics. Describes components of hydraulic and pneumatic systems and their functions for maintenance procedures, including filters and strainers, reservoirs and accumulators, pumps, piping, tubing and hoses, control valves, relief valves, and actuating devices.	

Element/Course: Maintenance Fundamentals - 1 st year	Planned Hours: 25
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: South Seattle College	
Description of element/course: Apprentices will learn to identify a fluid process system and, list the common features, differentiate between steady state and transient operating conditions, define pressure, flow, level, and temperature Describe the operation of pressure, flow, level, and temperature sensors; describe energy conversions and their effects on process fluid systems. Apprentices will learn to describe the operation of a steam ejector and a condenser, define the dimensions: length, area, volume, time, mass, weight, density, speed, and electric current. Identify common English and SI units of measure and convert between English and SI units. Explain flow rate, temperature, pressure, level, and electric current and describe how variable are monitored in process systems and identify their units of measure.	

Element/Course: Shop Math – 1 st year	Planned Hours: 50
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: South Seattle College	
Description of element/course: Apprentices will develop a working knowledge and practical application of mathematics as it relates to industrial maintenance. All basic math concepts will be covered, including adding, subtracting, multiplying and dividing fractions, ratio, proportion and percentages. Apprentices will identify and apply formulas to common shop problems, manipulate formulas, simplify expressions, and solve linear equations. Number lines and Cartesian coordinates will be covered. This course will also focus on the fundamentals and applications of geometry and trigonometry. Topics include perimeters, areas, volume, trigonometric ratios and function, right angles and non-right angles. Apprentices will discuss relationships of lines, planes, angles, congruent and similar triangles, polygons and circles while performing geometric and trigonometric functions as they relate to manufacturing and aerospace.	

Element/Course: Mechanical System – 2 nd year	Planned Hours: 50
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: South Seattle College	
Description of element/course: The apprentices will learn to maintain all of the elements of a mechanical system. Apprentices will begin by exploring mechanical fundamentals such energy, mechanical forces, and simple machines. Apprentices will learn to troubleshoot, assemble, and maintain couplings, gears, pulleys, chains, sprockets, and brakes. Hands-on activities include the disassembly, repair, and assembly of mechanical systems found in industry such as gearboxes, worm drives, standard transmissions, and differential drives. Identify and describe components of power transmission systems: bearings, couplings, gears, mechanical seals, pulleys, chains, belts, clutches and brakes. Apprentices will also practice alignment skills using a simulation station.	

Element/Course: Fluid Power Systems – 2 nd year	Planned Hours: 50
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: South Seattle College	
Description of element/course: This course explores the fundamental theories and practical application of fluid power systems with a focus on system setup and maintenance. Apprentices will explore the fundamentals of hydraulic and pneumatic systems, including operation, maintenance, and safety, as well as interpreting related standards, symbols, and diagrams. Components of fluid power systems will be covered in detail, such as compressors, motors, piping and hoses, pumps, actuators, and valves. Apprentices will practice their skills in the troubleshooting and repair of hydraulic and pneumatic systems with simulator software and hands-on activities.	

Element/Course: Precision Machining – 2 nd year	Planned Hours: 50
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: South Seattle College	
Description of element/course: The apprentices will explore theory, application, and hands-on experience with precision machining practices for industrial maintenance. Apprentices will explore topics related to manual machine tool setup and operation, for saws, drill presses, engine lathes, milling machines, and grinders. Apprentices will create a layout for a machining project using measuring and layout tools and will also gain bench work experience, including hole-making and part finishing operation using hand tools. An emphasis will be placed on preventative maintenance and safety in the shop while operating machines and handling tools and materials. Apprentices will plan, machine, and inspect two projects: a C-clamp and a plumb bob.	

Element/Course: IFPS Conductors and Connectors – 3 rd year	Planned Hours: 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: Boeing Craft College	
Description of element/course: This course prepares maintenance and engineering personnel for the International Fluid Power Society Conductor and Connector certification written and hands-on tests. Material covered includes how to select, size, assemble, test, and troubleshoot conductors, connectors, and assemblies.	

Element/Course: Electrical Systems – 3 rd year	Planned Hours: 50
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: South Seattle College	
Description of element/course: In this course, apprentices will learn about industrial electrical theory, components, and equipment necessary to troubleshoot electrical problems. Apprentices will begin by learning to interpret electrical symbols, diagrams, and terminology. They will explore topics such as electric power, circuits, wiring, and transformers. This course will also cover AC theory, motors, control circuits, industrial electronics, line diagrams, circuit logic and programming, as well troubleshooting techniques. Apprentices will gain hands-on experience with electrical components, circuits, and electrical test equipment used in industry.	

Element/Course: Machine Automation Theory – 3 rd year	Planned Hours: 50
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: South Seattle College	
Description of element/course: This course explores advancing technologies in manufacturing relevant to industrial maintenance with a focus on programmable logic controllers (PLCs). The course begins with a review of electrical and PLC safety. Apprentices will explore topics such as PLC hardware, installation, maintenance, and programming. Apprentices will learn how to troubleshoot problems that occur with PLC hardware and software. This course incorporates hands-on activities that utilize PLC software and simulators.	

Element/Course: Advanced Mechanical Systems – 3 rd year	Planned Hours: 5
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: South Seattle College	
Description of element/course: Apprentices will learn different elements and types of mechanical seals (gaskets and packing), vibration analysis, and shaft alignment. Apprentices will learn shaft misalignment and the tools used for alignment, and alignment methods.	

Element/Course: Materials, Process, and References – 4 th year	Planned Hours: 50
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: South Seattle College	
Description of element/course: In this course, apprentices will explore metallurgy, material properties and characteristics, related standards, and processes commonly used to manipulate materials. Apprentices will begin by learning about material composition and characteristics of the five basic metals: steel, stainless steel, cast iron, aluminum, and brass (copper). This course will then explore manufacturing processes used to manipulate metals, such as machining, casting, and forging, as well as processes that change their chemical composition, including heat treatment. The apprentices will also learn about and practice inspection techniques such as hardness testing and non-destructive testing (NDT) techniques with modern equipment. Projects for this course include materials testing, heat treatment, case hardening, casting, and material sample identification. Throughout the course, apprentices will research materials and processes in a shop reference, <i>Machinery's Handbook</i> .	

Element/Course: Maintenance Machining – 4 th year	Planned Hours: 50
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: South Seattle College	
Description of element/course: The apprentices will explore intermediate-level theory, application, and hands-on experience with machining practices for industrial maintenance. Apprentices will learn about CNC machines, drives, positioning systems, feedback methods, and sensors, as well as maintenance and safety topics. Apprentices will learn advanced techniques for operating lathes, milling machines, and other machine tools in order to create their culminating project, a gear puller, which they can use for maintenance work. Apprentices will explore additional machining topics important for industrial maintenance, such as key seats and keyways, restoring and removing threads and bolts, and fastening and assembly techniques.	

Element/Course: Maintenance Concepts – 4 th year	Planned Hours: 5
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: South Seattle College	
Description of element/course: Apprentice will learn the aspects of intermediate and preventative maintenance basics and practices and practice reliability centered maintenance.	

Element/Course: Electrical Troubleshooting – 4 th year	Planned Hours: 10
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: South Seattle College	
Description of element/course: Apprentices will learn to troubleshoot electrical safety issues, failures, and other problems in manufacturing and other industrial settings. Topics covered; best practices for electrical troubleshooting safety, diagnosing and repairing a variety of faults common in electrical circuits, learn how to properly use a multimeter, lockout/tagout execution, identify defective components, safely find faulty wiring, and utilize safe techniques when troubleshooting programmable logic controllers.	

Element/Course: CIA - Crane Inspection (Certification) - 4 th year	Planned Hours: 40
Mode of Instruction (check all that apply) <input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Lab <input type="checkbox"/> Online <input type="checkbox"/> Self-Study Provided by: Crane Inspection of America	
Description of element/course: Apprentices will receive certification for demonstrated knowledge to improve overhead crane safety and be prepared for an OSHA inspection, learn the latest OSHA and ASME crane standards, utilize inspection checklists, and demonstrate how to properly document the inspection. Apprentices will be able to explain crane types, components and terminology; causes and results of overhead crane accidents; the Inspector's role and liability; practice setting up an inspection program; OSHA and ASME inspection requirements, the three levels of inspection, inspection procedures and techniques; Apprentices demonstrate knowledge between deficiencies and safety hazards; write inspection reports; inspect structural components; practice safe operating practices and procedures. Apprentice will have a gained a minimum of 3 years' experience working in a capacity of operation, maintenance, repair, inspection, safety or supervision with overhead cranes.	

Additional Training Providers (if necessary)

Click or tap here to enter text.

Print Name Training Provider

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Title of Training Provider

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Print Name Training Provider

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