

**Apprenticeship Learning Outcomes Assessment Report for Fall Term, 2015; Winter Term, 2016; and Spring Term, 2016**

**Assessment of Two Core Outcomes, Degree and Certificate Outcomes, and Selected Statewide Course Level Outcomes**

For the 2015-2016 Academic Year for Fall, Winter, and Spring Terms the Apprenticeship and Trades Department has elected to assess the Learning Outcomes for our Courses that have an **APR** designation. This grouping of courses are those courses that provide what is known as the **Related Training** for five Oregon State Registered Apprenticeship Training Programs. Those Apprenticeship Programs are Limited Maintenance Electricians, Manufacturing Plant Electricians, Stationary Engineers, Millwrights, and Industrial Mechanics.

Because Apprenticeship training and education is strictly regulated by the Oregon Bureau of Labor (and Industry (BOLI), assessment of these Related Training Courses offers our Department the opportunity to really assess how the Apprenticeship Students are meeting Core, Degree and Certificate, and Course Level intended outcomes in the place that really counts for them, **On the Job**.

In Oregon, all Apprenticeship Training has two parts: On the Job Training under the mentoring and direct supervision of a Journeyman Level Trades person who holds the State License or Journey Card that the student Apprenticeship is trying to obtain and the simultaneous completion of the Related Training **APR** Courses taught in our Department. Both the On the Job Training and Related Training classroom courses are subject to the standards, administrative rules, and scrutiny of the Oregon State Bureau of Labor and Industry. This process is anywhere from two to five years depending on the specific Apprenticeship Program. Most Apprenticeship students take one, three hour class per week year round to complete the Related Training Courses that we are assessing in this report.

Since each Apprenticeship Student has a Journey Level person accompanying and overseeing them daily at their worksite, Apprenticeship instruction has an imbedded assessment tool provided by the Journey Person who is required by BOLI standards to be in constant daily communication at the worksite with the Apprenticeship Student who is under their charge. There are even rules on when the Apprentice must be within the line of sight of the Journey Person and how far they can be physically separated plus there are Ratio regulations that usually allow one Apprentice to train under one Journey Person.

Accordingly, we asked each Journey Person who has an Apprentice under their tutelage to assist us in this year's assessment of our Learning Outcomes on all three levels of Core, Degree, and Course.

The following Ranking Survey packet was sent to each Journey person asking them evaluate their Apprentice on how that Apprentice, who has had at least one year of **APR** courses, compares to an Apprentice who is just beginning the Related Training Courses and who is also just starting their On the Job Training. They were asked to complete and return the survey by June 8, 2016 but we did not receive some surveys until June 23, because of busy work schedules at their plant or facility.

Greetings Journeyman or Supervisor:

I am Rick Willebrand and I am the Subject Area Committee Chairperson for the Department of Apprenticeship and Trades at Portland Community College's Swan Island Trades Center and I am asking for your help and expertise.

Currently an Apprentice (s), who is working under your supervision and mentoring, is taking his/her Related Training Courses here at PCC. These are the Courses that are required to be completed by your Apprentice so that he/she can obtain their State of Oregon License or Journey Card.

Each year our Department is asked to complete an Assessment of how well our Courses are meeting the expected learning outcomes for the College as a whole, for the Degrees and Certificates we grant, and also for our individual Courses. This year we are assessing the Apprenticeship Courses, which have an **APR** Course designation and which were taught during Fall Term 2015, Winter Term 2016, and Spring Term 2016, or during the last three terms.

We are asking that you will complete the enclosed, brief **Ranking Survey** and return it to us in the pre-paid postage envelope by June 8, 2015. Also enclosed is an instruction sheet that explains the three ranking levels of 1, 2, or 3.

This assessment is only to help us evaluate and improve our classroom instruction and is in no way an evaluation of a Training Agent, an Apprentice, or a PCC Instructor. It will never be used to assign a grade in a class. The information will only be viewed by the Apprenticeship and Trades Department and will only be shared with PCC as general statistical data and never as personal data.

I thank you for helping us improve our instruction and class room resources for your Apprentices.

Appreciatively,

Rick Willebrand

SAC Chair

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971-722-5653

Portland Community College

Assigned Apprentice Assessment

Apprenticeship and Trades

Journeyperson Evaluation

Swan Island Trades Center

Journeyperson

Apprentice \_\_\_\_\_ Signature \_\_\_\_\_

Term: Fall 2015, Winter 2016, Spring 2016 Company \_\_\_\_\_

**Core Outcomes Learning Assessment**

**1 2 3 ABILITY TO COMMUNICATE**

- Reading – estimates, work orders, parts lists, instructions, schematics
- Writing – parts lists, supply lists, reports, email, Excel reports
- Speaking –proper terminology, appropriate interactions, verbal repair/maintenance reports
- Listening-following instructions, asking suitable questions, interaction with co workers
- Visually – using computers and other technology to convey ideas and repair strategies

**1 2 3 EXHIBITS PROFESSIONAL COMPETENCE**

- Is on time to work
- Alerts supervisor if absent or late
- Dresses appropriately for job setting. Uses PPE
- Uses time effectively
- Adapts to feedback calmly
- Does not endanger self or others
- Delivers quality work

## Electrical Apprenticeship Degree Outcomes Learning Assessment

**1 2 3**

- Repair and install electrical wire devices according to licensure regulations to meet NEC and OSC.

## Course Level Outcomes Learning Assessment

**1 2 3**

- Calculate voltage drop.
- Demonstrate safe working conditions in accordance with state and federal regulations.
- Solve electrical equations using trades specific mathematical formulas.
- Draw and interpret industrial blueprints and schematics.
- Use test equipment to make electrical measurements.
- Describe various troubleshooting techniques for trade-specific equipment.
- Use the general theories of magnetism, electromagnetism, and magnetic flux to discuss, explain, and apply the general operating principles of motors, transformers, inductors, capacitors, and generators for both A/C and D/C currents as applied to the workplace.
- Use lighting fundamentals, battery theory, trade-specific math, NEC rules for fuses and receptacles to discuss, explain, install, and repair electrical devices in the workplace.
- Use the basic principles of electrical theory to discuss, explain, and calculate how electrical current flows in conductors and electrical circuits as applied to the workplace.
- Knowledge & use of basic tools

Portland Community College

Apprenticeship and Trades

Swan Island Trades Center

Apprentice \_\_\_\_\_

Assigned Apprentice Assessment

Journeyperson Evaluation

Journeyperson

Signature \_\_\_\_\_

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**Industrial Mechanics and Maintenance Technology Apprenticeship Degree Outcomes Learning Assessment**

**1 2 3** Repair, install, and maintain a variety of industrial equipment using trade specific tools and techniques in compliance with state regulations.

**Course Level Outcomes Learning Assessment**

**1 2 3**

Demonstrate safe working practices, including rigging and lock-out/tag-out, according to state and federal regulations

Analyze the properties of materials and how they apply to trade specific fabricating applications.

Calculate elementary algebraic equations and formulas

Apply OSHA practices in relationship to a specific trade

Read and Interpret trades specific plans and drawings

Define lubrication processes with trade-specific industrial materials and equipment.

Identify mechanical and/or electrical industrial systems

Describe procedures for proper removal and disposal of hazardous materials

Calculate areas, volumes, lengths, angles, speeds, velocities, pressures, temperatures, volts, amps, ohms, and watts in facilities and industrial settings in order to the repair, maintain, install, and operate mechanical equipment

Use power transmission theory to service, install, maintain, analyze, and replace different types of power transmission systems found at an industrial worksite

Safely rig and move heavy industrial equipment using strapping and strap-slings in tandem with overhead cranes, tower cranes, mobile cranes, boom cranes, hoists and forklifts

Perform preventive and corrective maintenance for industrial equipment and facilities using lubricant manufacturers' specifications and equipment history applied to the lubrication of moving parts. Meet industry standards for correct lubrication

Knowledge & use of basic tools

# **Learning Outcomes/Skills Assessment Levels**

**Evaluation of an Apprentice should be based on comparison to entry level, first year, Apprentices who are just beginning to log OJT Hours.**

## **Level 1- Limited**

Limited demonstration and application of knowledge and skills.

Apprentice exhibits limited skill and speed, applies few learned skills and knowledge and struggles to perform task, does not complete task or requires excessive supervision from Journeyperson.

## **Level 2 - Basic**

Basic demonstration and application of knowledge and skills.

Apprentice exhibits basic skill and speed, applies knowledge and uses developing skills to perform task, completes tasks with some supervision from Journeyperson.

## **Level 3 - Advanced**

Demonstrates advanced comprehension and is able to apply essential knowledge and skill.

Apprentice exhibits advanced skill and speed, applies knowledge and uses proficient skills to perform task, completes task with an amount of supervision considered appropriate by Journeyperson.

We asked one hundred eleven Apprenticeship Students to hand carry a Learning Assessment packet to each of their respective Journey Persons and request that the Journey Person complete and return it by the June 8 deadline. The response was a gratifying forty-two percent return. We had set a thirty percent return as acceptable to make the Ranking Survey a valid assessment tool and were glad that we were able to exceed that mark.

The information collected was entered into a chart similar to an excel spreadsheet so that the SAC could do a better side by side comparison of the data. We accepted that any movement above forty per cent (40%) from the beginner's level #1 was good evidence that an apprentice was meeting the intended outcomes for the Core, Degree, and Course outcomes.

Here are the highlight results of that data evaluation: Generally -

Only six percent (6%) of all forty seven (47) failed to substantially move to a more basic or advanced level.

Fifty one per cent (51%) consistently scored in level #2 with about thirty percent (30%) of those students also scoring substantially in level #3.

Forty two per cent (42%) consistently scored in level #3.

Of most interest to our SAC were the rankings for our Apprentices in the Core Outcomes of Professional Competence and Communication. Our SAC feels that these results of this Ranking Survey were both excellent and gratifying: Generally -

Seventy six percent (76%) had moved into the level #3 – Advanced in Communication after at least three terms in the **APR** courses.

Sixty seven per cent (67%) had moved into Level #3 – Advanced in Professional Competence after at least three terms in the **APR** courses.