

**AY20 Expedited Program Review Template  
Updated 10-8-2019**

Submission Date: January 24, 2020

Program/s in this review: Millwright (OEC)

Specialized accrediting agency (if applicable): None

Campuses where the program is delivered: PWSC only

Members of the program review committee:

Dennis Eastman, Asst. Professor, PWSC

Steve Johnson, Assoc. Professor, PWSC

Jason Smilie, Career & Technical Coordinator, PWSC

Meg (Day) Smith, Millwright Advisory Committee, PSWC

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**1. Centrality of Program Mission and Supporting Role (700 words or less)**

The Millwright OEC aligns with PWSC, UAA, and UA mission and goals to grow and strengthen a career and technical workforce by preparing students for highly skilled occupations in precision instrumentation, welding, construction, blue print reading, turbines, generators, rigging, conveyor systems, safety, and much more. Millwrights are experts at installing, maintaining, and repairing all sizes of industrial machinery. The OEC in Millwright Program is based on a nationally recognized curriculum certified by the National Center for Construction Education and Research (NCCER) and has oversight by Carpenters and Millwrights Local 1281 to provide candidates for apprenticeship programs and the Alaska Process Industry Career Consortium.

**2. Program Demand (including service to other programs), Efficiency, and Productivity (7 year trend; 1400 words or less)**

The Millwright OEC is ideal for employers looking to affordably develop their employees' skills, or for individuals looking to change careers or increase credentials while seeking employment. According to national research, by 2025, 65 percent of jobs will require some form of post-secondary education. In many cases, credentials like the NCCER Millwright OEC is all that are necessary.

**Millwright OEC completion compared to students receiving NCCER Millwright certification:**

During the 2016-2017 and 2017-2018 academic years, students were not completing the Millwright OEC as the 6-credit internship course requirement was a barrier to completion. The majority of students were completing the five Millwright modules and receiving NCCER Millwright certification. In 2018-2019, the 6-credit internship course requirement was removed, resulting in 100% completion of the OEC and NCCER Millwright certification.

The following are trends that indicate program demand, efficiency, and productivity over the last seven years:

- The average enrollment for the millwright program is 7.43; keeping in mind the facilities can only handle 8 - 10 students to maintain a safe instructional environment.
- The Millwright program changed from an AAS and/or a certificate to an Occupational Endorsement to better meet local, regional, and statewide workforce demand. Under the previous AAS program there were only four completers; most students were only interested in completing the 5 Millwright modules to prepare for placement in a good paying job. As of 2018, the revised Occupational Endorsement eliminated the internship, which was a barrier for student to complete the Millwright certificate.
- The average student credit hour is 168.43/academic year.
- The average FTE is 11.23/academic year.

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- The Millwright class average size has been 7.43.
- The percentage of capacity in the program has been 74%.
- As of 2018-2019, average credit hours of traditional cohort completers is 25.5, but over the previous six years, it was 30.
- Data on course pass rates indicate that only two students either receive an “NB” *No Basis* grade or have withdrawn.

**3. Program Quality, Improvement and Student Success (1500 words or less)**

While completing the five Millwright course sequence, students are required to work on a project that integrates and applies what they have learned throughout the five NCCER certification modules. The Millwright Advisory Committee has commended this approach to preparing skilled applicants to fill high paying entry-level positions within their industries.

**4. Program Duplication / Distinctiveness (300 words or less)**

The PWSC Millwright program is the only program in the state that provides all five NCCER levels of instruction and training. Students in the Millwright OEC program have a 90% success rate with job placements, unless they decide to continue their academic career. Specific placement includes:

- Academic Year 18-19: Students went to work at TCC, Providence Valdez Medical Center, Pogo Mines, UAF Research Center and Hess Oil Field Services.
- Academic Year 17-18: Students went to work at Otis Elevators, Petro Star, Pogo Mines, Hilcorp, Red Dog Mine, private business, and career enhancement in the U.S. Coast Guard.
- Academic Year 16-17: Students went to work at Petro Star, Copper Valley Electric, HD Marine, Alyeska, and career enhancement in the U.S. Coast Guard.

**5. Summary Analysis**

PWSC has the only recognized Millwright program in the state and the core curriculum provides:

- students with the basic knowledge for immediate employment;
- small class size and individualized instruction;
- hands experiences that integrates theory with practice; and
- 80% – 90% placement for students looking for work as a Millwright.

Some areas of concern include:

- advances in technology with automation makes it difficult to maintain current instruction of advanced applications of equipment used in the field;
- access to remote locations to see Millwrights scope of work and use of specialized equipment on job sites make field trips a challenge;
- the Millwright work space that needs electrical and ventilation upgrades; and
- the Millwright shop is only large enough to provide training for 8-10 students safely and this restricts program growth.

Industry partners continue to offer opportunities for field trips to job sites, access to equipment, and specialized expertise that augments Millwright instruction – for example, partners have offered to help upgrade accessibility to compressors, turbines, etc., for specialized Millwright training.