



Washington Office of Superintendent of **PUBLIC INSTRUCTION**

Controls Programmer Apprenticeships

1. **Purpose:**

The purpose of this funding is to contract with a nongovernmental entity for a controls programmer apprenticeship program. Funding is provided to increase student access to the controls programmer registered apprenticeship, a high-demand, high-wage career pathway. Funding is intended to support:

- Development of student competencies through coursework and on-the-job training to satisfy the core requirements for a cross-sector of industries.
- Creation of career awareness, exploration, and preparation opportunities for students in elementary through high school.
- Development of workforce related skills that benefit all employers and trades involved with building, operating, maintaining, and optimizing the built environment, benefiting students seeking a complementary way of earning their diploma through on-the-job experience.
- Providing permeable pathways with multiple entry points at the high school level.
- Providing pathways to postsecondary credentials connecting high school and community colleges through the registered apprenticeship.
- Expansion for scalability.

2. **Description of services provided:**

Funding is provided to increase the ability of young people to access high-wage, high-demand career pathways through development of the Controls Programmer Apprenticeship program. South Kitsap School District (SKSD), in collaboration with West Sound STEM Network (WSSN), provided funding for administrative oversight and support.

Services included:

- Deployment of in-person STEM Like ME!, a career connected learning programming for middle schoolers, which included controls, HVAC, cybersecurity, IT, green energy, water quality and trades professionals.
- Support for educators to implement the 2022-2023 controls curriculum and provide training on apprentice reporting requirements, apprentice support, and liaison work between the employer and school district.
 - School districts and employers engaged in lesson planning and assessment alignment with respect to the Related Supplemental Instruction (RSI), including online RSI.
 - Participation in the Advisory Committee for the WWU Cyber Range at Poulsbo/WWU Cybersecurity Program, which further highlighted connections



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between the multi-disciplinary careers in Controls and computer science and cybersecurity.

- Co-sponsorship of a Cyber Games Family Night at Peninsula College, featuring the college's e-sports team. Discussions included the essential physical environment needed (automated climate control) for e-sports, and the essential role of an automated facility in housing computer science equipment. An artificial intelligence (AI) expert from Pacific Northwest National Laboratory demonstrated the many ways AI is being developed for commercial use (including climate-controlled facilities). The event was attended by over 140 people of all ages.
- Connected with school district counselors to maintain awareness of the apprenticeship and compliance requirements related to RSI and OJT.
- Teacher training was provided throughout the year related to Controls Programmer competencies and utilizing materials in a virtual environment. These included STEM Cafes exploring Green Energy, Clean Energy and Engineering Design, Construction Trades, Logic & Games, Space Engineering, Code.org/computer science, COSTAR and a NESSP summer workshops, and a Storytime STEM training featuring the story kits "The Boy Who Harnessed The Wind" and "My Papi Has A Motorcycle" which introduces the concepts of clean energy and engineering challenges, with an emphasis on reaching underrepresented students.
- Outreach materials about the apprenticeship were shared with students and families.

3. **Criteria for receiving services and/or grants:**

South Kitsap School District is the sole grantee as there is only one registered Controls Programmer Apprenticeship in Washington.

Beneficiaries in the 2022-23 School Year:

Number of School Districts:	2
Number of Schools:	2
Number of Students:	75
Number of Educators:	465
Other:	1 – Funds provided to West Sound STEM Network for implementation. 2 Students were employed and finished their apprenticeship. 73 students participated in RSI. 465 teachers participated in professional development directly related to deploying controls programmer virtual activities in the classroom.



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4. Are federal or other funds contingent on state funding?

☒ No

5. State funding history:

Fiscal Year	Amount Funded	Actual Expenditures
2023	\$500,000	\$500,000
2022	\$500,000	\$500,000
2021	\$350,000	\$350,000
2020	\$350,000	\$350,000

6. Number of beneficiaries (e.g., school districts, schools, students, educators, other) history:

Fiscal Year	Number of Districts
2023	2
2022	1
2021	1
2020	1

7. Programmatic changes since inception (if any):

The Controls Programmer Apprenticeship received permanent registration on April 20, 2022.

Online Related Supplemental Instruction (RSI) courses were cross-walked with all competencies within the Controls Programmer Apprenticeship.

New Partners: Pacific Northwest National Lab, Cyber Range, Western Washington University (WWU) Poulsbo, Peninsula College, Bainbridge Island School District, Sequim School District, Overcast Innovations

Initial Partners: Bremerton School District, Central Kitsap School District, Chimacum School District, Peninsula School District, South Kitsap School District, Bates Technical College, Olympic College, MacDonald-Miller Facilities Solutions, Siemens Corporation, West Sound STEM Network, ATS, Inc., Johnson Controls, Inc., Long Technologies, Chief Kitsap Academy.

8. Program evaluation or evaluation of major findings:

Two apprentices have completed the program and are working at journey-level, and an additional student has applied to the program. South Kitsap School District offered a Controls Programmer course in their 2022-23 course catalog, and 19 students enrolled. Bremerton High School again offered two RSI courses with 54 high school students enrolled.



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The school districts, (training providers) in partnership with employers, continued to engage in lesson planning and assessment alignment with respect to the RSI. On-site RSI continues and the virtual RSI modules, analyzed and evaluated by the Training Agents during COVID-related transitions to remote learning, was fully vetted and deployed. Several industry employers use the online curriculum for their current employees and any new apprentices. Employers and K-12 representatives worked together with the Controls Apprenticeship committee to further improve progress toward streamlined, easily accessible RSI.

The previous two school years, while challenging, provided opportunities for innovation and thinking differently about instruction. The funding provided in 2020-21/2021-22 yielded high return on investment with the pivot to remote learning. Controls programming professional development supported teachers to deploy interactive and hands-on activities in both in person and virtual environments. This was continued in 2022-23.

The Controls Technology Apprenticeship Committee communicated regularly. Under the tutelage of Department of Labor and Industries, the Committee split into two specifically dedicated Sponsor Committees to better serve the needs of the apprentices and grow the apprenticeships. Overcast Innovations entered as a new employer partner and plans to register as a Training Agent. MacDonald-Miller, Johnson Controls, Inc., Long Technologies, and ATS, Inc. continue to review applicants and are looking forward to employing apprentices as they finish settling in their re-employed laid-off workers.

9. Major challenges faced by the program:

Students in all districts returned to in-person instruction for the 2022-23 school year, but transition from remote learning was difficult for many students, and in particular teachers spent additional time acclimating students into basic classroom practices. RSI continued on-site and with the employer. They are continuing to work with Interplay Learning, an online provider of trades-based modules that are used in industry.

Employers faced significant lay-offs and reduction in force throughout COVID and are still prioritizing hiring their laid-off workers before turning their attention to hiring apprentices. Although COVID guidelines significantly delayed the apprenticeship development last year, the apprenticeship is seeing an increase in engagement and interested applicants.

10. Future opportunities:

A Coordinator was hired in July 2023. In an effort to increase apprenticeship opportunities, exploration has begun related to identification of additional employers with Controls Programming employees. With staff in place, the Committee expects to see an increase in outreach and apprenticeship application processing. The West Sound Technical Skills



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Center HVAC program curriculum has significant alignment with RSI coursework and will be considered as a focus for future outreach and recruitment of students.

11. Statutory and/or budget language:

\$500,000 of the general fund—state appropriation for fiscal year 2022 and \$500,000 of the general fund—state appropriation for fiscal year 2023 are provided solely for the south Kitsap school district for the controls programmer apprenticeship program.

12. Other relevant information:

N/A

13. Schools/districts receiving assistance:

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14. Program Contact Information:

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