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February 28, 2021

The Vancouver Public Schools, located in Vancouver, WA, is seeking continued approval from the Washington State Apprenticeship and Training Council as a continued certified education-based preparation program for registered apprenticeship opportunities in the state of Washington.

Vancouver Public Schools Building Trades program at Hudson's High School has been training tradesmen and carpenters since the program formed 3 years ago. The program's instructor, Erik Gunderson, has been an instructor in Washington for 15 years in the areas of Math, Manufacturing, Business Management and Entrepreneurship, and now Building Trades. He works regularly with local builders and employers in the Vancouver area such as Quail Homes and Wolf Industries to provide job shadows, internships, and in the near future, apprenticeships to students.

This new Construction Trades program at Hudson's Bay High School has great support with local employers and trades programs in the Vancouver area. Mr. Gunderson has created partnerships with all area apprenticeships in SW Washington and the Portland Metro area. He has classroom visits from these trade partners on a weekly basis to present possible career paths to the students, provide demonstrations, and regularly invites VPS students to apprenticeship sites to observe classes and equipment usage.

Erik connects regularly with our contact at PNCI to gain insight into the curriculum we have adopted (Career Connections) from the International Brotherhood of Carpenters to ensure VPS is properly preparing students for a future in an apprenticeship in SW Washington.

Vancouver Public Schools has the support of PNCI and CITC. VPS is hoping that with the partnership with these organizations, and with the addition of the support of Washington State Apprenticeship and Training Council, we can increase the number of students who are ready to enter an apprenticeship, successfully complete their training, and become productive working members in the careers of skilled trades.

Vancouver Public Schools is requesting to be put on the agenda for the next Washington State Apprenticeship and Training Council meeting for formal re-certification. Enclosed is VPS's application packet meeting all requirements for recognition. The VPS Pre-Apprenticeship Program has been in operation since in the Fall of the 2019-2020 school year.

Please contact Mark Wreath, Director of CTE, at (360) 313-1356 or at mark.wreath@vansd.org, with any questions, concerns, and information on the next steps of formal recognition.

Pre-Apprenticeship Program Overview and Desired Program Outcomes

About the Program

The Building Construction Trades program is designed to provide students with a foundational set of skills and background knowledge that will equip them for an entry-level position in a construction trade, and provide a solid foundation for further technical studies. This program is a two or three year program depending on the level of skill as they enter the program. Year one curriculum is an introduction to all the skilled trades in the building construction career field as well as basic safety and hand tools, and a student may be accepted directly into year two with teacher approval.

The program is housed at Hudson's Bay high school, in the Vancouver School District. Students meet every school day and instruction is based on the OSPI approved Core Plus for three full year courses with 180 hours of instruction each year. Students, in their third year of the program, can be placed in an internship or work experience outside of the school day to gain even more exposure to the Building Construction Trades.

Students learn about occupational safety and health workers in construction and manufacturing workshops; how to interpret drawings and schematics; how to take measurements and analyze data; the properties of common materials used in the building trades; and the quality principles and terminology employed in modern industry. Basic workshop skills needed to safely construct structures and fabricate parts will be covered, and students will be introduced to more advanced construction and fabrication techniques including welding, the use of machine tools, composites, and electrical wiring.

The instructor, Erik Gunderson, is a 15-year math teaching veteran after a year working in the manufacturing lab at Fort Vancouver HS as the math support. Erik taught Applied Algebra, teaching Algebra through the trades, and also attended multiple Washington Applied Math Council retreats. Gunderson came to the Trades program with a background in Residential Construction with further experience in residential renovations.

In year 3, students put all the tools they've learned together, and build a comprehensive structure (Shed, Tiny Home, etc)

Recruitment

VPS Career and Technical Education is seeking students who are truly interested in furthering the opportunities that a Career and Technical Education can offer. VPS CTE will offer a Pre-Apprenticeship Program to students who are seeking education with a purpose.

VPS CTE will successfully propel students into post-secondary apprenticeships with the chance to learn in a hands-on environment, build a solid knowledge foundation for the apprenticeship they are seeking, and acquire employability skills that will make them successful workers.

The VPS CTE yearly recruitment process includes:

- Scheduled visits from area high schools
- Campus highlights where current students show off current projects created and performed

- within the Pre-Apprenticeship program
- Career Night for prospective students to visit program instructors and students, and participate in a class project
- 8th Grade Career Showcase for future students interested in a career in the trades

VPS CTE will be encouraging young women to explore a career in the trades and will host a series of workshops targeted to young women and students of color.

Retainment

VPS CTE is focusing on students' long term career goals. The VPS Pre-Apprenticeship Program will create many opportunities for students to see fast-track career and financial enhancement an apprenticeship program can offer. Second year students and first year seniors will be given the chance to participate in job shadows and internships with various apprenticeship programs in our area. Through these opportunities, students experience the benefits of pursuing and successfully completing an apprenticeship.

VPS CTE Pre-Apprenticeship programs will schedule employer advisory members to visit classrooms for both a hands on skills demonstration and to provide information on all the different trades programs. Information provided by advisory members will include employment opportunities, tips on application process, starting wage and progressions, as well as sharing their personal career paths. VPS will work with partners to bring in presenters who are non-traditional to the specific trade.

We have a specific program coordinator at the school who meets with students of color and women, counseling them through struggles, and communicates with their teachers about their situations and how teachers can help meet the needs of the student. Our schools also have Advocates, adults who work with students who have barriers to success, and daily encourage them. These Advocates meet with teachers and develop unique Individual Education Plans that help the students be successful.

Dual Credit

Students who complete the 3 years of this program are eligible to receive a 3rd math credit from this class along with getting a CTE credit. This Meets a tough graduation requirement for many of our students. Mr. Gunderson is a National Board Certified Math Teacher (Adult/ Young Adult) and he integrates lessons into the work they are already doing on projects, so they go deeper and are reminded of the connections to their previously taught schooling.

We are working on creating alignment with English and Writing, and will hopefully have this available to students in the upcoming years.

Although we do not currently have an articulation with a local community college, we do have a strong relationship and alignment with the Carpenters Apprenticeship program (PNCI). Students who complete our program receive Certificates that are entered into their nationwide registry and are evaluated during and weighted in an apprenticeship application.

Safety Training

Safety is the very first unit covered at the beginning of each year and reinforced throughout the year with a safety briefing to begin each day of instruction. General Safety consists of 38 hours of lecture with reinforcement of safety principles throughout the remainder of the course. This course is an introduction to OSHA along with the basic principles. It also covers heat and cold stress safety, stairway and ladder safety, hazard identification, control of hazardous materials, the Hazard Communication Program, job hazard analysis, personal protective equipment, lockout/tagout, ergonomics in the workplace, electrical safety and fire prevention. When these subjects have been covered, the students complete a final test on them.

Employability Skills

This program, as well as all CTE programs in Vancouver Public Schools, is required to address leadership and 21st Century employability skills during the program. This is accomplished through a variety of ways. The Building Construction program uses an end of course technical skills assessment to measure understanding of 21st Century Skills through Precision Exams. Skills covered throughout the course are as follows:

- Critical thinking
- Creativity
- Collaboration
- Communication
- Information Literacy
- Media Literacy
- Technology Literacy
- Flexibility
- Leadership
- Initiative
- Productivity
- Social Skills

Students who complete the assessment with a score of 80% or better are awarded a state recognized industry certification signed by the state superintendent and our local superintendent.

A student Career and Technical Education Student Leadership Organization (CTSO) is also part of each of the VPS programs. Building Construction students are members of Skills USA and use curriculum embedded in the instructional framework to cover lessons addressing 21st century skills as well as employability skills. Students are also coached to compete in both leadership and technical skills competitions regionally each year.

Finally, we have members of our advisory committee participate in classroom instruction through project demonstrations, information sharing on opportunities in each of the skilled trades, mock interviews and resume workshops. The success of our program hinges on participation from our employer base to both share technical knowledge and inform students of opportunities.

Physical Fitness

Each student has a graduation requirement to complete both a Health and PE class, but we understand this alone will not prepare a student for work in the trades. In addition to the school requirement, our program students are introduced to stretching, ergonomics (how to safely lift up to 50lbs), and

importance of diet and exercise.

Math Skills

Students are not required to complete an entry-level math assessment to be accepted into the program. We believe this could be a barrier to some students. What this program offers is imbedded math instruction in each year of the curriculum directly aligned to application in projects. Introduction and reinforcement of basic math skills include conversion of decimals to common fractions and decimals to fractions, ratio, proportions and percentages, linear measurements in both English and metric, basic algebra, basic geometry, and area/volume calculations. Examples of some math lessons and grading rubrics are included in this application.

Students can earn a 3rd year math credit through this class, as Mr. Gunderson teaches the standards necessary to meet and succeed in the trades, following the Frameworks set forth by the Core Plus Construction Curriculum.

Participant Population

The Building Construction program is a district wide magnet program, so all students in our district can transfer into the host school. Below are the current statistics in our program. We track student demographics each year and focus recruitment to increase both female and non-dominate race students.

Average Class Headcount: 25

Students of color: 47%

Free and Reduced Lunch: 80%

Gender: Male 78%, Female 12%

Formal agreements with Registered Apprenticeship Programs

The VPS Building Construction program has a formal MOU with:

- Northwest Carpenters Institute (PNCI)

Program Outcomes

The VPS Building Construction program of study has three years of instruction, with the first year an introduction to all of the Building Trades and the next two years focused on construction. Outcomes are listed and assessed as part of the Career Connections curriculum that was developed by the International Brotherhood of Carpenters. Successful completion of each year of the program, as measured by the provided rubric, is recognized with a completion certification that is loaded into the Carpenters training institutes national database. In addition to specific and more advanced areas, student participants gain proficiency in the following areas:

- Workshop/Worksite Safety
- Quality Principals
- Measurement and Inspection
- Blueprint Reading and Schematics
- Use of Hand and Power Tools
- Basic Welding
- Basic Electrical Wiring
- Basic Plumbing Installation and Repair

Enrollment Data for Advanced Building Construction Courses (Years 3 and 4)

Year	Enrolled (began)	Completed	Registered Apprentices
2019-2020	15	6	0
2020-2021	24	5	0
2021-2022	23	8	TBD

**Although we have not had students enter an apprenticeship program directly, yet, we do have students entering directly into the workforce or enrolling in non registered/recognized programs.*

** District wide total enrollment (including Intro to Construction Trades) has grown from 74 in 19-20 to 108 in 21-22.*

Covid Affects

During the previous 2 years, hands-on classes such as Building Trades were negatively affected by being Remote, where students were not in the classroom working with their hands. This was especially hardfelt for students who learn best through experiential learning. Many of our students who would have entered apprenticeships may have taken other paths or followed other interests, as reading online versus being in the classroom may have created barriers to success for our students.

Enrollment & Retention Summary

Many students begin in Year 1, but do not complete the entire 3 year program. This happens for a variety of reasons. Many students take the Introductory class to see if the trades is a path for them, but find they are not a good fit for the trades. Others move schools and so our lack of retention is due to moving out of the district. Some students become deficient in credits, and need to move to a "Credit Recovery" class to catch up on failed Core classes since this class is an elective.

Memorandum of Understanding
between
Hudson Bay High School, Vancouver, WA
and
Pacific Northwest Carpenters Institute

Teri Gardner 3-7-22

Rec 03/07/2022
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This Memorandum of Understanding, entered into on this 1st day of March 2022, describes the agreed-upon expectations between Vancouver School District No. 37, Clark County, Washington and the Pacific Northwest Carpenters Institute (PNCI) in regard to the Building Construction Trades Program of Study at Hudson Bay High School (HBHS).

PNCI will support the teacher implementing the Career Connections curriculum from the Carpenters International Training Fund. Upon request from the teacher, a PNCI Career Connections Outreach Specialist will award a Certificate of Completion for each student who successfully completes each year of designated curriculum (three Certificates). These Certificates will be entered into the UBC National Database annually for the student's future benefit. Upon completion of all three years of curriculum and attainment of all three Certificates of Completion, PNCI will grant these students preferred status (conditional application status) when they apply and an interview for either the Carpentry or Exterior Interior Specialist Apprenticeship programs at PNCI.

HBHS Building Construction Trades Program will use the UBC Career Connections curriculum and assessments as primary instructional tool for years two and three in the Program of Study. HBHS instructor will be open to audits of fidelity to the curriculum and projects as requested by PNCI's Career Connections Outreach Specialists.

Career Connection Outreach Specialists from PNCI and the NW Carpenters Union will support HBHS efforts to implement the Career Connections curriculum and serve on the district's CTE Advisory Committee.



Miguel Montañó
Assistant Director
Pacific Northwest Carpenters Institute



Bill Oman
Executive Director of Teaching & Learning
Vancouver School District #37



Either party, for any reason, may terminate this MOU by giving 30 days written notice