

Columbia School District 206

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Career and Technical Education Career Outlook and Skills Gap Analysis

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Forward: Columbia Schools will focus to re-create the Career and Technical Education Scope and Sequence beginning in school year 2017-2018 with a focus to be fully engaged in an Industry and Business focus for courses and Student Organizations. Columbia School district is dedicated to provide students with a full-time Construction Trades/Industry instructor, even though funding is not parallel to course offerings. Lastly, Columbia Schools intends to be a Lighthouse Program for very small schools and to help lead SkillsUSA C.T.S.O. for Eastern Washington.

Rationale: In the past ten years, Columbia Schools has struggled to be involved with F.F.A. and F.B.L.A. as C.T.S.O. due to numbers and a mismatch between regional and state activities and the focus of the district program and student interest and capacity. Secondly, there is a shift from agriculture-based employment opportunities toward industry and Middle-Skills Jobs. As will become evident in the supporting industry/employment gap analysis, the greatest need for high-skills jobs is in the area of health care. The greatest need for middle-skills jobs is in the areas of manufacturing and construction. Lastly, there are disconnects between current C.T.S.O. activities and expectations for very small schools. This is not fault of C.T.E. at any level, but it is an opportunity for Columbia to forge a program that can act as a bellwether for other very small schools in Washington State and other locales.

Supporting Documentation:

1. *A Skilled and Educated Workforce 2015* by **Washington Student Achievement Council Update**
(<http://www.wtb.wa.gov/Documents/SkilledandEducatedWorkforce2015.pdf>)

“Nearly half of all U.S. jobs are at the middle skill level. Although current trends reveal a strong surge in job openings for high-skilled positions at the bachelor’s level or above, demand for skills at the mid-level remains robust. Middle-skill jobs, those that require more than a high school diploma but less than a four-year degree, now comprise about half of all U.S. jobs. They generally offer solid wages and pathways to advancement. But in many cases, employers are finding mid-level positions difficult to fill even when overall unemployment remains high. National reports have projected that nearly 50 percent of job openings will be at the middle-skill level through 2022. ⁴⁷”

2. *Monthly Employment Report – December 2017* by **Washington State Securities Department**
(<https://fortress.wa.gov/esd/employmentdata/docs/economic-reports/mer-2017-12.pdf>)

Excerpt

- Manufacturing employment rose by 2,400 overall, with 300 jobs gained in durable goods manufacturing and 2,100 jobs gained in nondurable goods manufacturing.
- Employment in construction increased by 1,500, led by gains of 600 jobs in building construction and 600 more in heavy and civil engineering.

This monthly report is cited because it also reflects the seasonal factor especially in construction. The norm is that in winter month’s construction and other middle-skills job may decrease needs; however, the increase in the middle of winter speaks strongly of a gap between demand and supply.

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3. *TRI-COUNTY ECONOMIC DEVELOPMENT DISTRICT COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY 2018 - 2022* by **Tri- County Economic Development District**
(http://tricityedd.com/wp-content/uploads/2013/03/CEDS-2018-2022_FINAL.pdf)

The following table identifies 5 of the 19 long term focus areas for three counties in Northeast Washington State that are part of the Tri-County Economic Development District. In addition the document identifies a need for K-12 educational institutions to expand their programs to increase workforce from graduates and to refocus vocational programs for regional workforce needs. Lastly, the focus on attracting new and expanding existing clean industries and manufacturing is a common theme in the report and requires a robust program of developing middle-skill programs at the K-12 level.

#	Long Term (Over 5 Year) Focus Areas for Economic Development
3	Recruit new businesses and industries to the area while supporting current industries to grow
4	Building a professional, well-trained, interested, and reliable work force
5	Increase opportunities to vocational training and higher education
7	Diversify employment opportunities
8	Encourage clean manufacturing to promote a healthier environment

4. *The Future of Middle-Skill Jobs* by **Brookings Institute, 2009**
(https://www.brookings.edu/wp-content/uploads/2016/06/02_middle_skill_jobs_holzer.pdf)

“Overall, we conclude that the demand for middle-skill workers will remain quite robust relative to its supply, especially in key sectors of the economy. Accordingly, accommodating these demands will require increased U.S. investment in high-quality education and training in the middle as well as the top of the skill distribution. Many current and future low-income workers are likely to take advantage of the added training for middle-skill jobs and thereby raise their earnings and their family’s living standards. If such investments are made on behalf of those who are currently poor, this could also lead to higher earnings and lower poverty rates for those currently at the bottom of that distribution.”

5. *Back to Work: Middle-Skill Jobs in the STEM Economy* by **The Rand Corporation, 2016**
(<https://www.rand.org/blog/2016/08/back-to-work-middle-skill-jobs-in-the-stem-economy.html>)

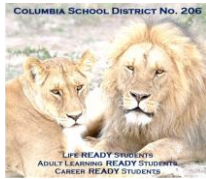
“This year, Congress is expected to reauthorize the Perkins Act, which provides funds to states to develop and implement career and technical education programs. This act is expected to promote deeper connections between K-12 school systems, community colleges, and labor market demands. Though focused largely on high schools, there are ample opportunities for adult training with Perkins that can build off of, and be integrated with, local strategies and priorities.”

6. *How Career and Technical Education Can Help Students Be College and Career Ready: A Primer.* **American Institute of Research, 2013.** (<http://www.aypf.org/wp-content/uploads/2013/04/CCRS-CTE-Primer-2013.pdf>)

“Increasing the numbers of Americans with education, skills, and training needed for the economy is a multilayered strategy. Some of the steps to achieving this goal include making teaching and learning in secondary schools more rigorous, engaging, and relevant; ensuring that more students are college and career ready; increasing high school graduation rates, especially for lower performing students; providing opportunities for youth to learn about and experience careers; and smoothing the transition to postsecondary success (Balfanz, Bridgeland, Bruce & Hornig Fox, 2013). While addressing these issues will require significant changes across the entire education system, increasing opportunities for students to participate in high-quality career and technical education is an existing comprehensive strategy that impacts them all.”

Findings:

1. Students from very small schools attend and are successful at four-year colleges and advanced degree programs at a higher per capita rate than other schools. The precise reason for this outcome is not well documented and is not well represented in the literature. However, there is a growing suggestion that there is a nexus between students who participate in a rich C.T.E. program in high school and degree completion at the university level (The Role of Career and Technical Education: Implications for the Federal Government. Cohen & Besharov. March 21, 2002).



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2. There is a documented need for middle skill level training at the county, tri-county, regional, state, and national level. Middle Skill Level training buds from rich experiences in a high school program predicated on learning and skills acquisition that are foundational to many professions and vocations. The focus of a high school program is to provide (1) each student who transits through the high school a set of transferable skills (Tier 1); (2) a subset of students will access the program with a deeper and practical application process to prepare for post-graduation training (Tier 2); and a group of students will specialize in an area that will become post-secondary training, internship, or entry into the workforce (Tier 3).
3. The environment for a thriving Career and Technical Education Program is extremely different for a very small school district/high school than for a school that is larger. In many cases very small schools have terminated C.T.E. programs because the standard model for a C.T.E. Program is not aligned with their population or needs. In a very small school district/high school, funding may only exist to support a part-time C.T.E. teacher, students may not be able to access C.T.E. courses all four years of high school due to scheduling conflicts and a broader post-secondary plan, and traditional C.T.S.O. opportunities serves the median size program well. The aforementioned is not a statement of complaint, but rather an opportunity for very small schools to create a program that reflects the employment, education, and life needs of the twenty-first century.

Conclusions:

- A successful C.T.E. program for a very small school district/high school must focus on (1) providing transferable life skills to all students, (2) create a learning environment to improve post-graduation success for all students, and (3) provide work-ready middle skill level graduates for the workforce.
- Columbia School Career and Technical Education Program will institute a Student Leadership program that utilizes structures, frameworks, and opportunities from the SkillsUSA C.T.S.O. Furthermore, Columbia will be a leader in Eastern Washington to create SkillsUSA activities focused for small and very small school chapters. Due to the small size and the cross-fertilization between S.T.E.M., Information Technology, Manufacturing, and Architecture and Construction.

Scope and Sequence:

CLUSTER/Course	7	8	9	10	11	12
INFORMATION TECHNOLOGY						
Introduction to Computer Systems and Science (110701)						
Computer Programming (110201)						
Webpage/Multimedia Design (110801)						
AP Computer Programming Principles (110201)						
MANUFACTURING						
Junior High Machine Shop Technology (7th & 8th Grade) (480503)						
High School Machine Shop Technology(Grades 9-12) (480503)						
Metal Shop (480511)						
Woods (480701)						
ARCHITECTURE AND CONSTRUCTION						
High School Construction (460201)						
SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS						
Sustainable Design and Technology (030198)						

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