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### Community College System and Grantee Collaborate to Address Advance Manufacturing Industry Needs

- Leveraging state and federal resources with a common objective
- Developing industry-informed career pathways
- Aligning curricula with industry-recognized competencies, skills and certifications as part of a sector strategy

#### Introduction

When an opportunity to address the state's need for skilled manufacturing workers beckoned, the Colorado Community College System (CCCS), the state's largest system of higher education, was at the front of the line. Nine Colorado higher education institutions, six of which are CCCS member colleges, received a Trade Adjustment Assistance Community College Career Training (TAACCCT) grant focused on developing a pipeline of skilled advanced manufacturing workers. Around the same time, the Colorado State Legislature passed House Bill 13-1165, which focused on creating manufacturing career pathways in the state.

CCCS worked collaboratively with the TAACCCT grantee, known as Colorado Helps Advanced Manufacturing Program (CHAMP), as well as state government agencies, industry associations and the workforce system, to achieve the complementary objectives of the grant and House Bill 13-1165. CHAMP is focused on increasing the attainment of manufacturing degrees and certificates that align with the industry's recognized competencies, skills and certifications. The CCCS developed industry-informed manufacturing career pathways that guide and encourage students pursuing such degrees and certificates.

#### Workforce Need

From a national perspective, the outlook for manufacturing-related occupations is strong, particularly as workers attain industry-recognized credentials. National employment projections from the Bureau of Labor Statistics indicate that employment opportunities for machinists will increase by 9.8% between 2014 and 2024, greater than the 6.5% for all occupations. The data also indicate that employment opportunities for computer controlled machine tool operators will increase by 17.5% from 2014 to 2024, higher than the national average growth rate for all occupations.<sup>1</sup> Furthermore, openings due to replacement needs will provide additional opportunities in other manufacturing-related occupations.

#### Approach

"We focused on connecting House Bill 13-1165 and the TAACCCT grant," says Brenda Perea, Instructional Design Project Manager, CCCS. "What changes in curriculum were needed? How do we showcase that back to employers? We also held monthly meeting of business advisory councils across the state where the nine CHAMP educational institutions are located. The focus of these meetings was on career pathways, curriculum and credentialing."

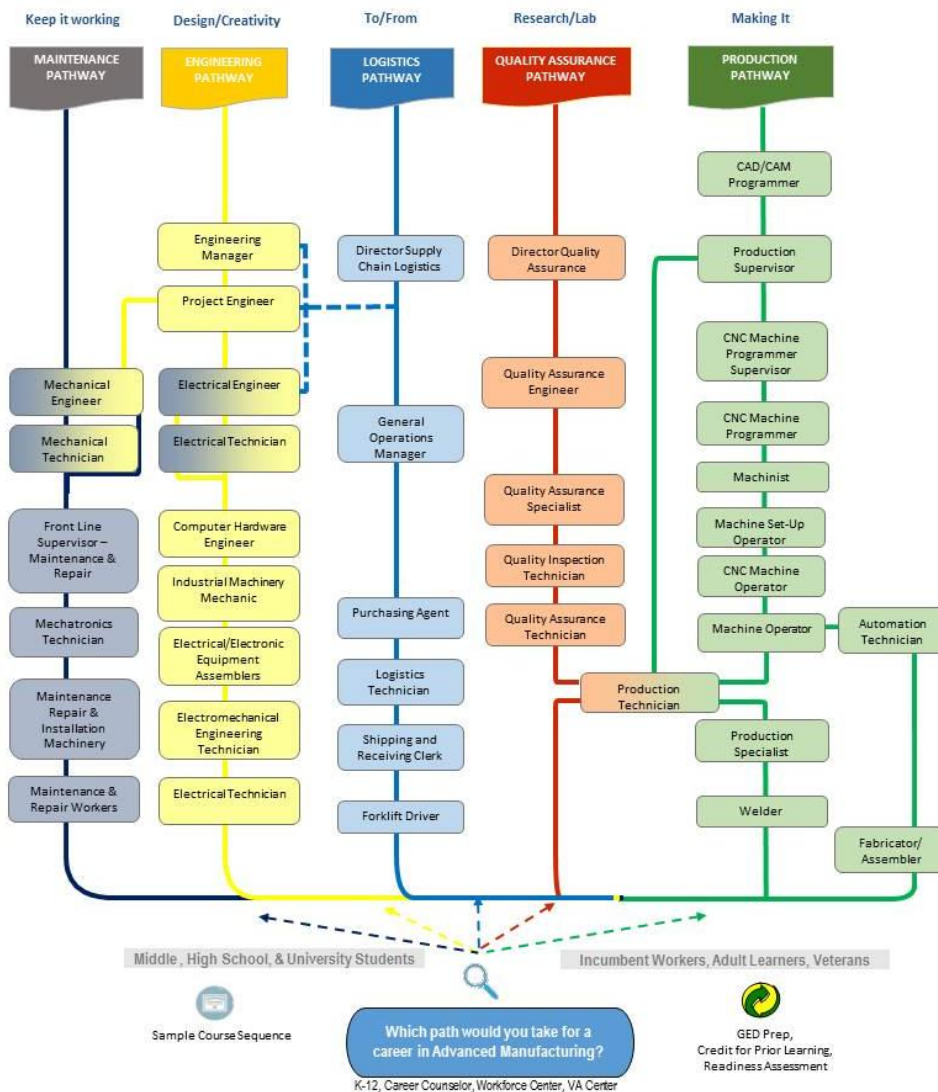
"We developed a sector strategies model to roll out our advanced manufacturing career pathways, using a 'fishbowl' approach," says Jennifer Jasinowski, Program Director, Skilled Trades and Technical Sciences, CCCS. "Industry was on the 'inside' advising other interested parties—post-secondary institutions, K-12 educators, and the workforce system—about what changes were needed to develop a prepared manufacturing workforce. Our industry partners included the Colorado Advanced Manufacturing Association and Manufacturer's Edge."

<sup>1</sup> Bureau of Labor Statistics, Employment Projection, [https://www.bls.gov/emp/ep\\_table\\_102.htm](https://www.bls.gov/emp/ep_table_102.htm)

CCCS utilized the U.S. Department of Labor, Employment and Training Administration’s (ETA) Advanced Manufacturing Competency Model in their discussion with employers. “We found that ETA’s model was a great tool for a middle ground in our conversations with employers,” says Ms. Perea, “It enabled us to start the discussion locally and move to regional conversations with employers and community colleges to find out how we get certifications to match the competencies that employers need. Our curriculum was tailored to what we were hearing from industry. All of our colleges created stackable credentials so that students could move along a career pathway with multiple entry and exit points.” “A key product emerging from these discussions is our Career Pathway Road Map,” says Melissa Martin, Director of Pathways, CCCS.

### COLORADO CAREER PATHWAY ROAD MAP

#### Colorado Advanced Manufacturing Hot Jobs thru 2024



## **Next Steps**

“The advanced manufacturing sector is changing rapidly,” says Ms. Martin. “Pathways cannot be static. We will continue to review our curricula for agility, as manifested in such initiatives as providing credit for prior learning activities and awarding digital badges that correlate to the specific industry-identified requisite skills that students have acquired. The TAACCCT grant jump-started our efforts and we are committed to keeping it going after grant funding ends. We have developed a new way to communicate with state personnel, industry and community colleges which enables all of us to speak the same language to achieve our common goals.”

## **Related Links**

Colorado Community College System

<https://www.cccs.edu/about-cccs/>

TAACCCT/CHAMP

<https://www.cccs.edu/partnering-for-success/trade-adjustment-assistance/taa-champ>

Colorado Advanced Manufacturing Industry Career Map

<https://cocareeractiontools.com/career-map>

Advanced Manufacturing Machining Digital Badges

<https://www.cccs.edu/education-services/badges/machining-level-1-badges/>