The Colorado Blueprint & STEM Roadmap

How they Connect to PLTW

Colorado Blueprint Overview
**Sector Strategies Coming of Age:**

EDUCATION, WORKFORCE & ECONOMIC DEVELOPMENT

I. Education ➔ Career Pathways

II. Workforce Development ➔ Sector Strategies

III. Economic Development ➔ Industry Clusters

**Sector Partnerships: The Keystone to Connecting Career Pathways to Industry Cluster Growth**

Strategic Partners create a Career Pathway System based on industry needs. Partnership synergies moderate demands for industry networking, growth, innovation. Sector Partnerships align education and training programs with industry needs to produce ready-employable workers. Workers graduate with industry-approved credentials that meet them right.
Career Pathways

Engaging Education Partners
In April 2012, the U.S. Departments of Education, Labor, and Health and Human Services issued a joint commitment to:

“promote the use of career pathways approaches as a promising strategy to help adults acquire marketable skills and industry recognized credentials through better alignment of education, training and employment, and human and social services among public agencies and with employers.”

### SIX KEY ELEMENTS FOR DEVELOPMENT OF CAREER PATHWAYS SYSTEMS

1. Build Cross-Agency Partnerships & Clarify Roles
2. Identify Sector or Industry and Engage Employers
3. Design Programs
4. Measure System Change & Performance
5. Align Policies & Programs
6. Identify Funding Needs & Sources
A COMPREHENSIVE CAREER PATHWAYS SYSTEM

- Identify Needs and Gaps
- Plan
  - Define Skill Sets
  - Identify Entry & Exit Points
  - Consider Incentives and Workplace Experiences
- Implement – Promote
- Improve
- Expand
- Repeat

System Outcomes:
- Financially sustainable, aligned career pathway systems for youth & adults
- Increased number of skilled workers with credentials of value to the labor market
- Greater cost efficiencies by reducing duplication of services

Career Pathways Approach
## Roles of Partners

<table>
<thead>
<tr>
<th>Partners</th>
<th>Roles in Developing Pathways</th>
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<tbody>
<tr>
<td>Workforce Agencies</td>
<td>Provide labor market information&lt;br&gt;Engage employers&lt;br&gt;Recruit and make referrals&lt;br&gt;Assist with job search and placement&lt;br&gt;Provide funding for training&lt;br&gt;Provide skills assessments</td>
</tr>
<tr>
<td>Educational Institutions</td>
<td>Design programs&lt;br&gt;Develop curricula&lt;br&gt;Create links between credit and non-credit&lt;br&gt;Assist with financial aid&lt;br&gt;Provide support services&lt;br&gt;Adult basic education</td>
</tr>
<tr>
<td>Human Service Agencies</td>
<td>Provide support services&lt;br&gt;Recruit and make referrals</td>
</tr>
<tr>
<td>Economic Development</td>
<td>Provide labor market information&lt;br&gt;Engage employers</td>
</tr>
<tr>
<td>Employers</td>
<td>Help to develop industry relevant curricula&lt;br&gt;Provide training facilities and equipment&lt;br&gt;Provide internships/job shadowing&lt;br&gt;Provide employment</td>
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**THE COLORADO EDUCATION INITIATIVE**

Building a Talent Pipeline - STEM
PLTW Conference
September 2014
STEM
Science, Technology, Engineering, Math

Why STEM

- STEM jobs are growing
- STEM jobs pay more
- STEM skill requirements are growing in non-STEM sectors
- STEM drives innovation
- STEM education is a vehicle to upward social mobility
- STEM literacy leads to civically engaged Coloradans and strong communities
- STEM education is critical to building a local talent pipeline
### Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>2011</td>
<td>Objective V: Educate and train the workforce of the future</td>
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<tr>
<td>2012</td>
<td>ELC STEM Committee and STEM Action Plan</td>
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<tr>
<td>2013</td>
<td>Colorado Education Initiative and Gill Foundation partnership</td>
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<tr>
<td>2014</td>
<td>Release and implement STEM Roadmap</td>
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### Goals

<table>
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<th>Goal</th>
<th>Description</th>
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<tbody>
<tr>
<td>#1</td>
<td>State Strategy to Sustain and Advance STEM Education</td>
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<tr>
<td>#2</td>
<td>Support All Students P-12 in Achieving STEM Literacy</td>
</tr>
<tr>
<td>#3</td>
<td>Build a Local STEM-Ready Talent Pipeline</td>
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Partners

- Coordinate implementation
- Cross-agency alignment and support
- Lead implementation
- Advise and evaluate implementation

Colorado STEM Education Roadmap

Release

- Governor release at COIN
- Announce board of advisors
- Back-to-school campaign
- Build awareness

Colorado STEM Education Roadmap
Pathway To Engineering

Collaborative, rigorous, and relevant, PTE students solve open-ended problems; learn and apply the engineering design process; and develop teamwork, communication, and critical thinking skills.
Pathway To Engineering

Courses:
• Introduction to Engineering Design
• Principles of Engineering
• Digital Electronics
• Aerospace Engineering
• Biotechnical Engineering
• Civil Engineering and Architecture
• Computer Integrated Manufacturing
• Engineering Design and Development

Steps to Connect?
Thank You!

Jennifer Jirous
STEM Program Director
Colorado Community College System