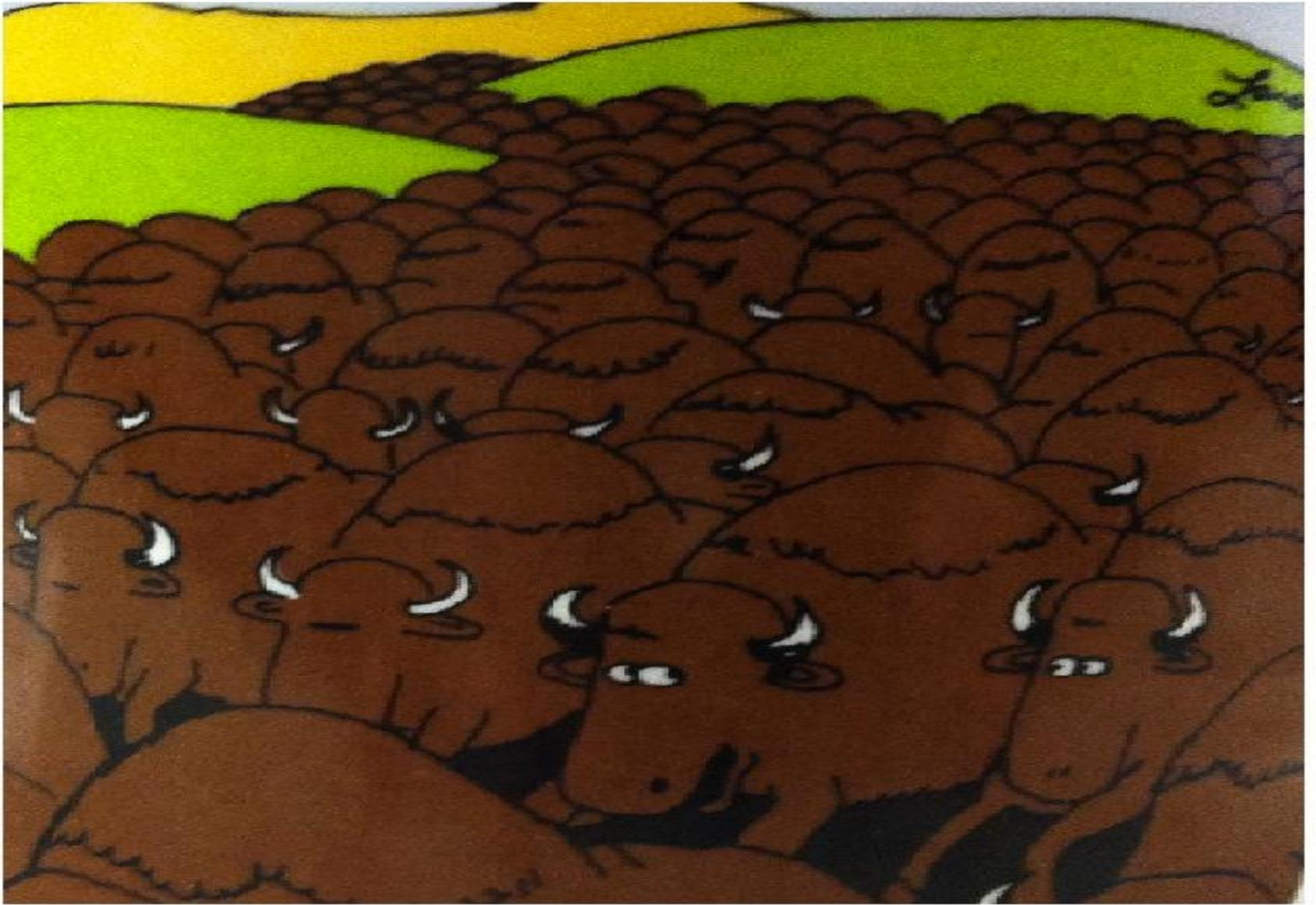


# Ohio's Transition to CTE Pathways: 10 Years in the Making

## Creating Opportunities Through Pathways

2013 National Career Clusters Institute

Isaac Kershaw, Ohio Department of Education



**"As if we all knew where we're going."**

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**Ohio**

Depart  
5/1

We are not that far away from when Ohio CTE was occupationally focused.



# Occupational Focus: Not a Bad Thing

- Dental Assistant
- Medical Assistant
- Nurse Assistant
- Phlebotomist
- Masonry
- Plumbing
- Custodial Services
- Carpentry
- Emergency Medical Tech
- Firefighter
- Private Security Officer
- Auto Technician
- Heavy Truck Technician
- Power Equipment Tech.
- Admin. Office Support
- Accounting
- Welding
- Precision Machining
- Early Childhood
- Teacher Preparation

# What True Pathways Have to Offer

- Promote more opportunities for students.
- Encourage breadth of programming beyond specializations.
- Encourage depth of programming to include possibilities for specialization.
- Support community as well as student interests.

# Pathway Focus



# Career Pathway Focus: A Better Way

## **Agricultural and Environmental Systems**

- Agribusiness and Production Systems
- Agricultural and Industrial Equipment
- Animal Science & Management
- AFNR Biotechnology and Food Science
- Horticultural Science
- Natural Resource Management

## **Arts and Communications**

- Media Arts
- Performing Arts
- Visual Design & Imaging

## **Business, Marketing and Finance**

- Business and Administrative Services
- Marketing
- Financial Services

## **Construction Technologies**

- Construction Design and Development
- Structural Construction
- Mechanical Electrical Plumbing Systems

## **Education and Training**

- Early Childhood Education
- Teaching Professions

## **Engineering and Manufacturing**

- Development and Design
- Manufacturing Operations

## **Health Science**

- Bio Medical Research and Development
- Allied Health and Nursing
- Therapeutic Services

## **Hospitality and Tourism**

- Culinary Arts and Food Service Management
- Lodging and Travel Services

## **Information Technology**

- Information Services and Support
- Interactive Media
- Network Systems
- Programming and Software Development

## **Law and Public Safety**

- Criminal Justice
- Fire Science/EMT

## **Transportation Systems**

- Air Transportation
- Ground Transportation

**TOTAL = 33 Pathways vs. 99 Programs**

# Example: Construction Technologies

## New Pathways

- **Structural Systems**
- **Mechanical, Electrical and Plumbing**
- **Design and Management**

## Older Pathways

- Brick, Block & Cement Masonry
- Building & Property Maintenance
- Building Technology
- Carpentry
- Heavy Equipment Operations
- Electrical Trades
- Environmental Control Technologies
- Plumbing and Pipefitting
- Construction Design-Build
- Construction— Management
- Custodial Services
- Interior Design Applications
- Wood Product Technologies

# Structuring Programs as Pathways

1. Clarify what is a Pathway.
2. Restructure content standards.
3. Create a course structure supporting flexible, consistent and transparent pathway designs.
4. Create a multipurpose assessment system.
5. Enhance postsecondary alignment opportunities.
6. Create a pathway program approval and renewal process that supports the system.

# A CTE Pathway Is...

A **CTE Career Field Pathway** is a coherent, articulated sequence of rigorous academic and career/technical courses, commencing in the ninth grade and leading to an associate degree, baccalaureate degree and beyond, an industry recognized certificate, and/or licensure. The career pathway is developed, implemented, and maintained in partnership among secondary and postsecondary education, business, and employers. Career pathways are available to all students, including adult learners, and lead to rewarding careers.

# A Pathway Must:

1. Be associated with sector(s) within an industry or encompass a function that crosses industry sectors.
2. The scope of a pathway may be influenced by size and number of opportunities in the related industry and available college programs.
3. Provide opportunities for students to prepare for a range of careers.
4. Provide students multiple employment opportunities after high school.
5. Provide opportunities for students to enter and succeed in postsecondary and continuing education programs.
6. Prepare students to transfer skills required for employment in the range of occupations aligned to the pathway.
7. Be structured so that students have the opportunity to learn knowledge and skills across the pathway as well as in specialized areas.

# Content Standards Support Pathways

- Concise document with broader statements.
- Oriented to Career Field vs. program/occupation.
- Reflects industry expectations not how to be taught.
- Industry and licensure requirements captured.
- Attention given to related academic content.
- Postsecondary learning outcomes included.
- Support transfer of learning across specializations.
- Uniform 21<sup>st</sup> century skills standards

# Required Business Standards

Leadership and  
Communication

Global Environment

Business Ethics and Law

Knowledge Management

Employability

Business Literacy

Financial Management

# Why Courses

- Expanded opportunities for flexible program design.
- Consistency of programming and learning.
- Alignment to postsecondary expectations.
- More transparent and understandable to customers and stakeholders.
- Aligns assessment with learning.
- Can support creative student pathways.
- Supports teacher evaluation system and development of student learning outcomes.

# Course Development Considerations

- Courses generally have a 120 hour minimum (40 minutes/day) and 280-hour maximum time requirement (90 minutes/day).
- Program must be comprised of a minimum of 4 courses.
- Capstone can be used for both in-school and out of school learning experiences.
- No courses are required as a prerequisite.
- Courses will be available across pathway and career cluster.

# Example: Law and Public Safety

## New Pathways

- Fire and Emergency Medical Services
- Criminal Justice

## Older Pathways

- Firefighter Training
- Emergency Medical Technician
- Law Career Path
- Criminal Justice
- Criminal Science
- Private Security

# Law and Public Safety Courses

<b>Criminal Justice</b>	<b>Fire and Emergency Medical</b>
<ol style="list-style-type: none"><li>1. American Criminal Justice System</li><li>2. Security and Protective Services</li><li>3. Police Work &amp; Practice</li><li>4. Investigations and Forensics</li><li>5. Correctional System &amp; Services</li><li>6. Homeland Security: Protecting America's Critical Infrastructure</li></ol>	<ol style="list-style-type: none"><li>1. Foundations of Firefighting and Emergency Medical Services</li><li>2. Firefighter I</li><li>3. Firefighter II</li><li>4. Emergency Medical Technician</li><li>5. Homeland Security: Protecting America's Critical Infrastructure</li></ol>

# Example: Construction Technologies

## New Pathways

- **Structural Systems**
- **Mechanical, Electrical and Plumbing**
- **Design and Management**

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- Custodial Services
- Interior Design Applications
- Wood Product Technologies

# Construction Career Field Courses

## Structural

- Carpentry Technical Skills
- Structural Systems.
- Structural Coverings and Finishes
- Cabinetmaking/Woodworking.
- Masonry
- Concrete and Residential Masonry
- Concrete and Residential Masonry

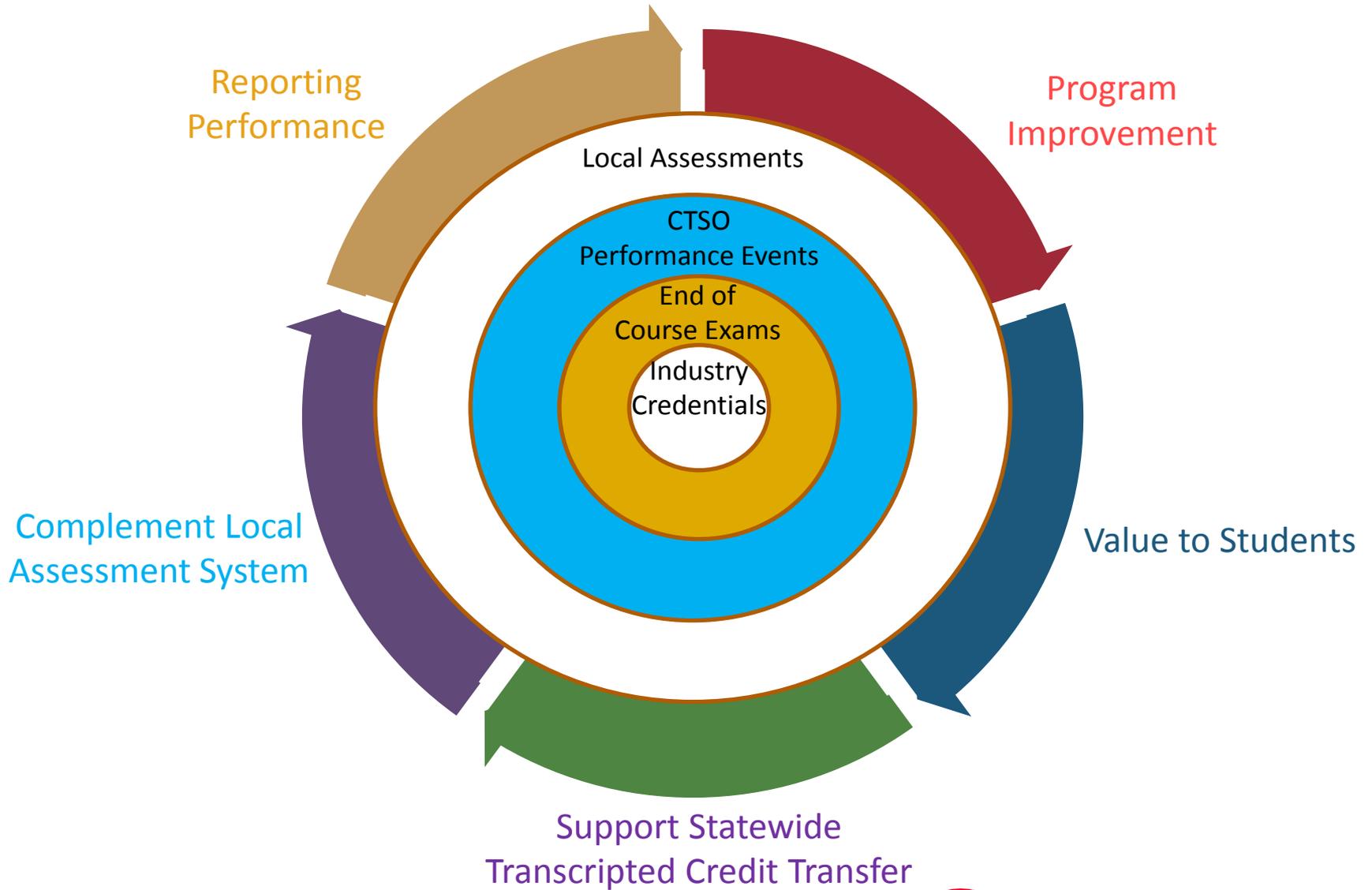
## Mechanical/Electrical/Plumbing

- Mechanical, Electrical, Plumbing Technical Skills
- Electricity Wiring
- Residential Electric Systems
- Commercial Electricity
- Plumbing and Pipefitting and Technical Skills
- Residential and Commercial Plumbing Applications.
- Heating and Cooling
- HVAC Refrigeration
- Sheet Metal
- Telecommunications
- Alternative Power Generation Systems
- Powerline/Hi-Voltage Power

## Design and Facility Management

- Planning Reading
- Architecture Design – Structural and MEP
- Architecture Design – Site and Foundation Plans
- Construction Management
- Remodeling/Renovation
- Facility and Building Maintenance
- Custodial Services.
- Interior Design.
- Heavy Equipment Operations
- Construction Site Preparation

# Career-Technical Education Technical Assessment Redesign



# Highlights of Assessment Features

- All pathways with will have a test.
- Pathway tests are comprised of end of course (EOC) exams.
- Any combination of EOC tests can be used to calculate a total test score.
- Concentrators must have taken at least 3 exams.
- Pretest development underway.
- Recognition for student achievement.

# Other Assessments Accepted

- End of Course assessments associated with proprietary courses that have state recognized curricula, tests and professional development.
  - CASE, Project Lead the Way, High Schools of Business.
  - Automated Materials Joining and Health Informatics.
- Selected governmental license exams that could serve as End of Course assessments.
  - Firefighter I & II and Emergency Medical Technician B

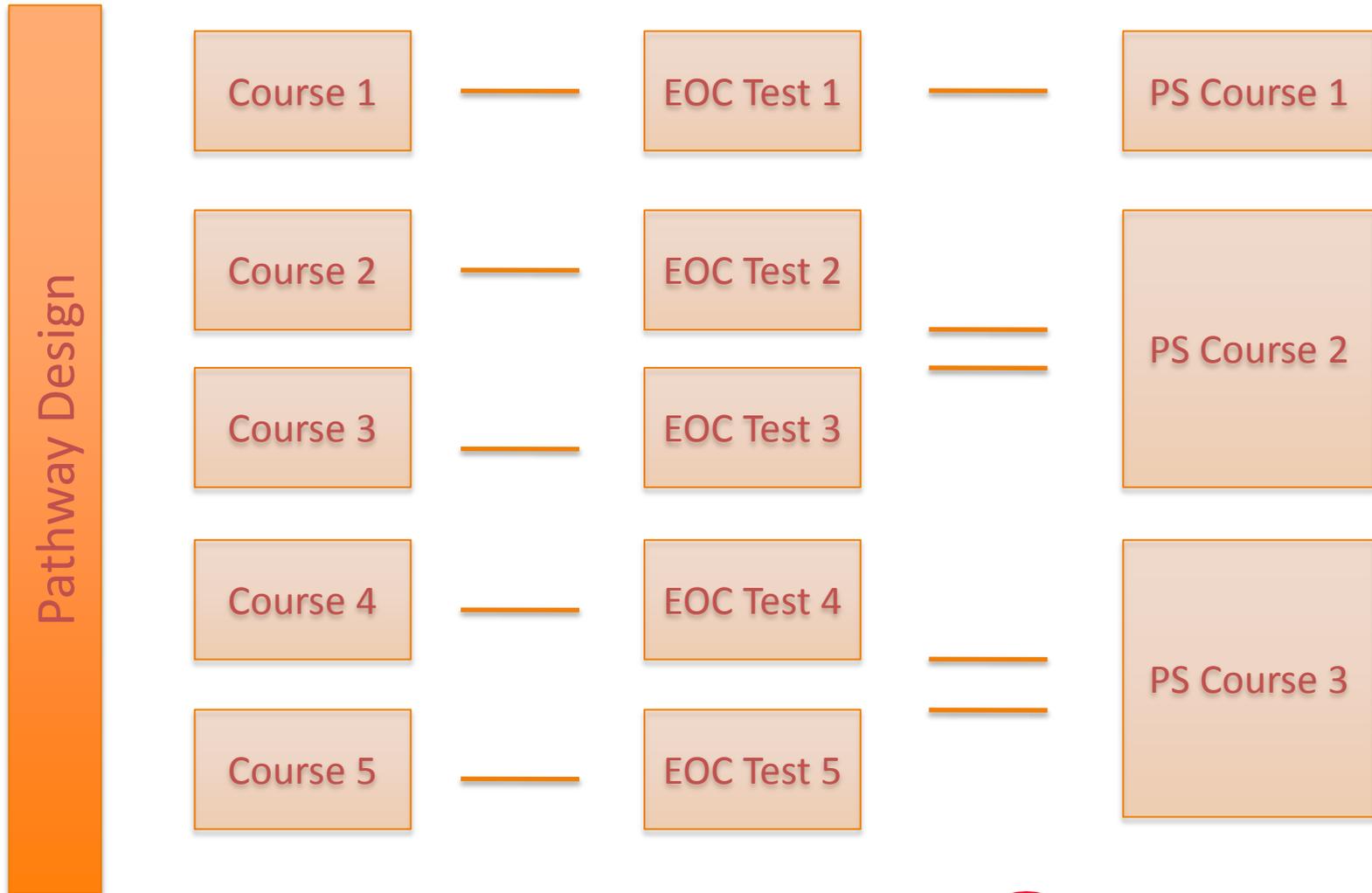
# Role of Industry Credentials

- To what extent are we chasing credentials vs. buying into industry credentials that have value to businesses in our communities.
  - “*Credentials are relevant to employers only to the extent that it leads to more productive employees.*”
- Challenges with Industry Credentials:
  - Test quality
  - Credential availability to the student
  - Degree of industry acceptance
  - Alignment with more flexible Pathway programming

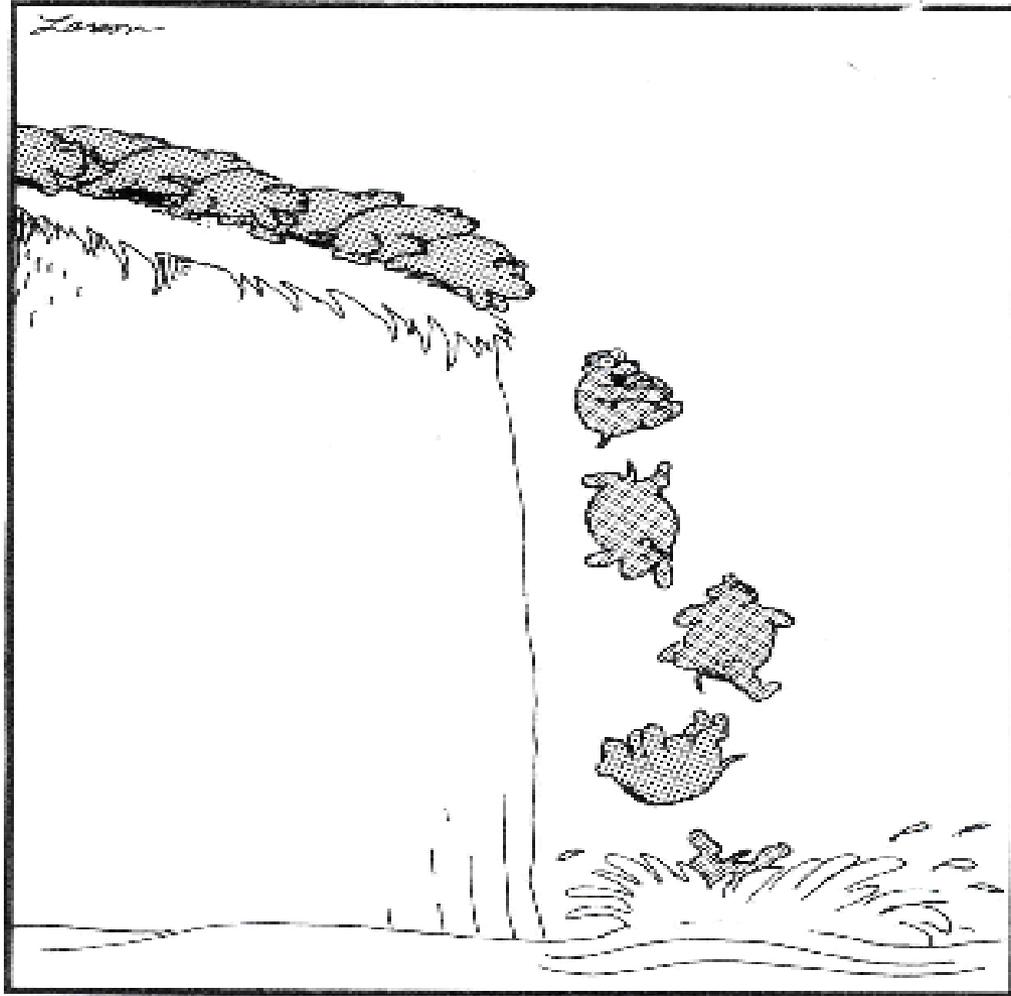
# Supporting Pathway Development

- Certificate and apprenticeship programs now approved for program of study development.
- Postsecondary educators are engaged in secondary content standards development.
- Postsecondary educators are engaged in validation and benchmark setting of assessments.
- Postsecondary educators are engaged in alignment of new secondary CTE courses with postsecondary offerings.
- 63 Postsecondary courses have been aligned with secondary CTE courses and are being considered for articulated credit.

# Support Transcribed Credit Transfer



# Creating Pathways That Lead To Success



"Cannonbaaaaaaaaaa!!!!!!!"