

# CAREER PATHWAYS

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# Career Pathways— a Definition

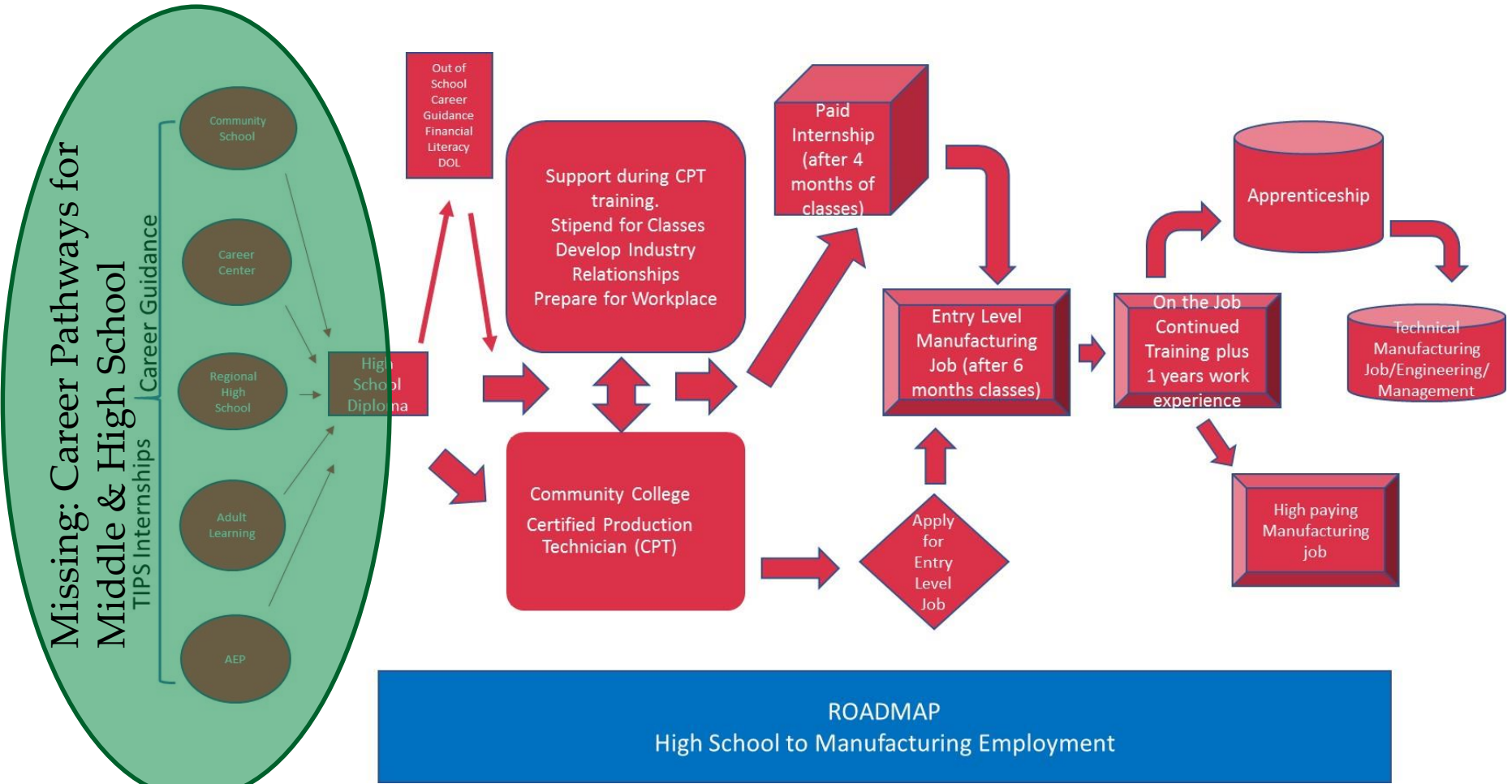


- “ A coherent, articulated sequence of rigorous academic and career [& technical] courses, commencing in the 9th grade [or earlier] and leading to an associate degree and/or an industry-recognize certificate or licensure, and/or a baccalaureate degree and beyond.” (Hull, 2004).

# Career Pathways—How

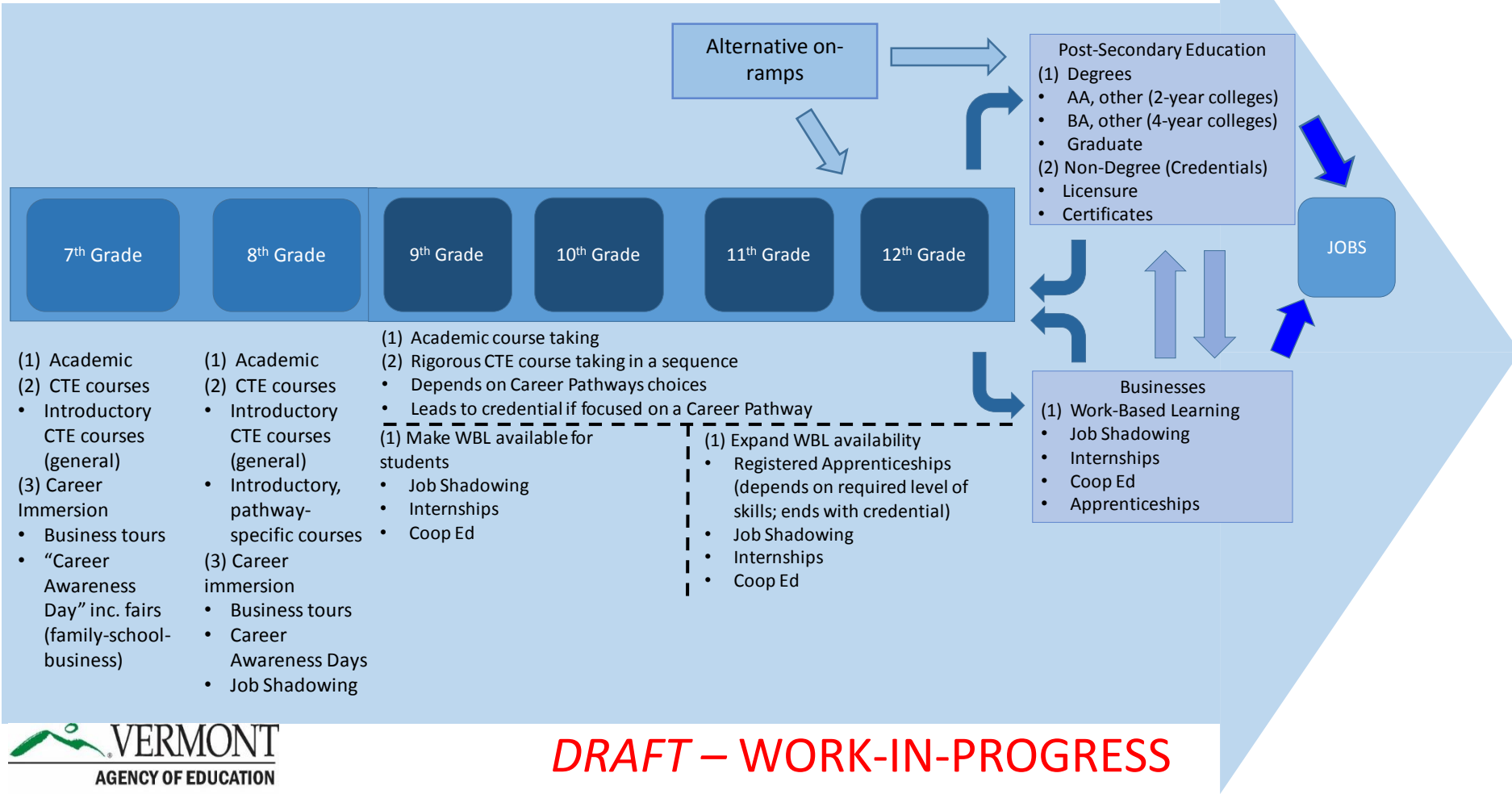
- Two-levels of operation
  - Systems
    - Education
    - Workforce
    - Supports for specific populations
  - Programs
    - Easily understood sequencing
      - » Education coursework and/or training
      - » Credentials
      - » Alignment with employer expectations

# Current Focus is on Postsecondary Pathways



Postsecondary Manufacturing Pathways chart by Rutland Regional Economic Development Corporation & Rutland Region Workforce Investment Board

# VT Career Pathways—A Vision for Secondary Education



# Career Pathways—Must

Have multiple entry and exit points

Transition seamlessly from secondary to postsecondary

Allow for college credit and industry certifications in high school

Strengthen strong work-based learning in partnership with business & industry

Have state-wide and regional workforce relevance

# Focused Areas

Construction

Advanced Manufacturing

**ADVANCED MANUFACTURING**  
Career Pathways Description

High School

**COURSES**

MIDDLE SCHOOL

- Exploratory

ACADEMIC

- 4 English
- 3 Mathematics
- 3 Science
- 3 Social Studies
- Electives

PATHWAY COURSES

- Pre-Tech
- Manufacturing Processes
- Mechanical Projects and Material Behavior
- Engineering and Advanced Manufacturing

**COLLEGE CREDIT**

DUAL ENROLLMENT

- 2 courses
- State University of New York-Delhi
- NHTI-Concord

FAST FORWARD

- At least 1 course
- VT State Colleges

EARLY COLLEGE

- Senior year HS / Junior year College
- Tuition free college courses

**WORK-BASED LEARNING**

- Job shadow
- Internship

**CERTIFICATIONS**

- National Institute for Metalworking Skills (NIMS)
- American Welding Society Structural Certification (AWS)
- Shielded Metal Arc Welding (SMAW) limited thickness
- Flux-Cored Arc Welding (FCAW)
- Heartsaver CPR
- OSHA 10

Post-Secondary

**TRAINING**

- On-the-Job Training
- Apprenticeship

**2-YEAR COLLEGES**

CERTIFICATES

- Certified Production Technician Certificate

DEGREES

- Electrical Engineering Technology, Associate of Engineering (AE)
- Mechanical Engineering Technology, Associate of Engineering (AE)

**4-YEAR COLLEGES**

UNDERGRADUATE

- Manufacturing Engineering Technology (BS)
- Mechanical Engineering (BS)
- Electromechanical Engineering Technology (BS)

GRADUATE

- Mechanical Engineering (MS; PhD)



# Construction

- ✓ VT TPM re-affirmed work of CTE center programs, and identified opportunities to strengthen secondary curriculum
- ✓ Identified employer credential needs
- ✓ Employers reviewed and recommended a curriculum and credential (NCCER)
  
- ❑ Educate adults in the education system about opportunities in CTE, develop materials to support career guidance in the construction paths
  
- ❑ Re-model some construction programs to increase opportunities for trades education
  
- ❑ Create implementation system for NCCER and continue to improve employer recognition of NCCER credentials
  
- ❑ Increase non-degree adult training opportunities via adult CTE
  
- ❑ Improve articulation of credentials and CTE program completion to college and university programs
  
- ❑ With DOL, increase options students for registered apprenticeships and systematize how student secondary student K&S is articulated to registered apprenticeship

# Advanced Manufacturing

- ✓ Analyzed LMI
- ✓ Targeted regions based on employment projections
- ✓ Obtained commitment from CTE Directors in those regions
- ❑ Engage employers to determine skill and knowledge needs using Competency Model from US DOL.
- ❑ Engage sending middle/high school faculty and administration
- ❑ Include post-secondary partners
- ❑ Co-develop curriculum with academic and technical teachers to help make connections early
- ❑ Select credential(s) and pre-select/recommend dual enrollment courses for students on the path
- ❑ Develop externship opportunities for CTE teachers
- ❑ Support robotics and computer science implementation in elementary and secondary schools

# CTE VISION

Through a public process, the Agency will have created a strategic vision and goal setting process for CTE.

Online “CTE Perception Survey” coming by the end of March.

Stakeholder session being planned for June.

# Concerns from the Field

- Inequities in how high schools within a CTE region recognize student work in a CTE program
- Inequities in awarding credit for DE courses (i.e. is a college level math class a math credit or an elective credit)

## Concerns from the Field - 2

- Multiple sets of proficiencies across a region and multiple ways of approaching those proficiencies is making it difficult for CTE centers.
- High schools have implemented techniques to deflect students from getting first hand information about the options available at CTE centers.
- Special education rate in CTE is on the order of 30% while general education is something on the order of 15%.

# Concerns from the Field - 3

- “As our high schools work to create more flexible paths to proficiency there are going to be more kids seeking singleton opportunities at their home school and staying enrolled at home rather than choosing the full immersion at the CTE centers.”
- Translated: High schools plan on developing or are already developing programs intended to take the place of those offered at the CTE centers.



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