

Perkins Leadership Workgroup



The National Career Clusters® Framework

The National Career Clusters Framework has been the central building block to achieving consistently designed and high-quality CTE programs. It is an organizing tool for:



Career Exploration and Advising

- Content for career interest and aptitude surveys
- Organizing structure for career exposure and exploration activities
- Evaluation tool for work-based learning content and curricular alignment



Administration and Staffing

- CTE educator credentialing guidelines
- Organizing structure for Cluster-based staff positions
- Alignment with Career Technical Student Organizations



CTE Program Design

- CTE course content and sequencing
- State-approved and local CTE programs of study
- Alignment across secondary, and postsecondary, and workforce systems



Industry Alignment and Collaboration

- Labor Market Information connection to CTE program design
- Priorities for work-based learning experiences based on Framework content
- Common terminology across CTE programs and communications for local advisory boards and postings for jobs, apprenticeships, internships, and other experiences

Why Modernize the Career Clusters® Framework?

The Need for A Modernized Framework

Since the Framework's creation in 2002, there have been tremendous shifts in the labor market, the nature of work and the workplace, and the role of technology. The original Framework does not reflect these changes.

OUR VISION FOR A MODERNIZED FRAMEWORK



Reflect the truly interdisciplinary nature of work and push the CTE community to remove silos within and across Career Clusters



Update language and groupings to better bridge industry's organization of work



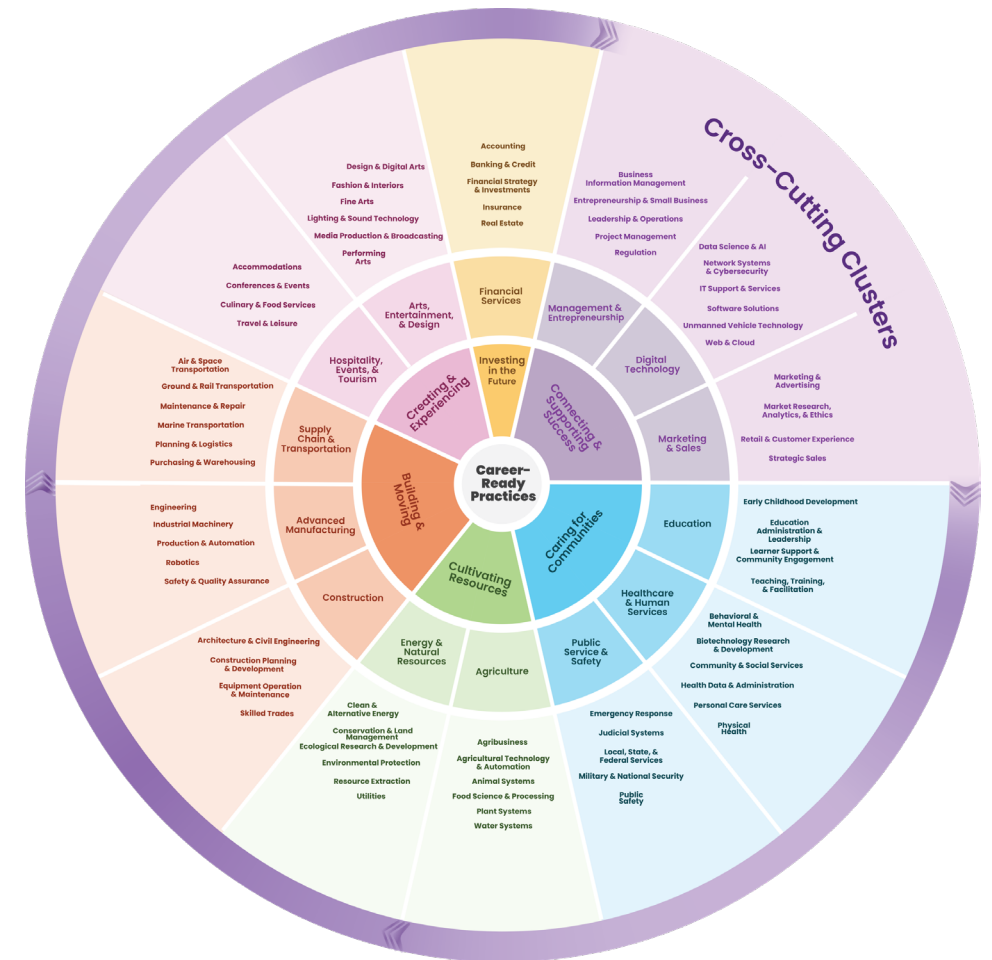
Include new sectors, skills, and approaches from across the entire world of work, while providing flexibility for the future

The Modernized National Career Clusters® Framework

Clusters are based on both sector-specific and contextualized functions instead of purely discrete industry sectors.













These Clusters have both Sub-Clusters and implications for courses taken in all other Career Clusters.

The framework becomes more specific as it travels to outside of the circle.



Layer: Career Ready Practices

The **Career Ready Practices**, built on a meta-analysis of over 30 different listings of general professional skills developed by industry and educational institutions, represent the skills needed to succeed in the modern workplace. These practices should be embedded across the pre-kindergarten to workforce continuum.

 Lead as a contributing & professional employee	 Communicate clearly, effectively, & with reason	 Think critically to make sense of problems & persevere in solving them	 Collaborate productively while using cultural & global competencies
 Use digital skills & technologies to enhance productivity & make data-informed decisions	 Remain resilient in a changing workplace & world of work	 Manage time & space effectively	 Demonstrate a creative & innovative mindset
 Act as a good steward of organizational & personal finances & resources	 Navigate an education & career path aligned to strengths, work style, interests, & goals	 Consider the environmental & social impacts of decisions	 Apply appropriate academic & technical skills

Layer: Cluster Groupings



Building & Moving



Creating & Experiencing



Caring for Communities



Cultivating Resources



**Connecting &
Supporting Success**



Investing in the Future

Layer: Career Clusters

- ▶ Advanced Manufacturing
- ▶ Construction
- ▶ Supply Chain & Transportation
- ▶ Arts, Entertainment, & Design
- ▶ Hospitality, Events, & Tourism
- ▶ Financial Services
- ▶ Education
- ▶ Healthcare & Human Services
- ▶ Public Service & Safety
- ▶ Agriculture
- ▶ Energy & Natural Resources
- ▶ Digital Technology
- ▶ Marketing & Sales
- ▶ Management & Entrepreneurship

14

Career Clusters

Layer: Sub-Clusters

Caring for Communities

Education

Early Childhood Development
Education Administration & Leadership
Learner Support & Community Engagement
Teaching, Training, & Facilitation

Healthcare & Human Services

Behavioral & Mental Health
Biotechnology Research & Development
Community & Social Services
Health Data & Administration
Personal Care Services
Physical Health

Public Service & Safety

Emergency Response
Judicial Systems
Local, State, & Federal Services
Military & National Security
Public Safety

Building & Moving

Advanced Manufacturing

Engineering
Industrial Machinery
Production & Automation
Robotics
Safety & Quality Assurance

Construction

Architecture & Civil Engineering
Construction Planning & Development
Equipment Operation & Maintenance
Skilled Trades

Supply Chain & Transportation

Air & Space Transportation
Ground & Rail Transportation
Maintenance & Repair
Marine Transportation
Planning & Logistics
Purchasing & Warehousing

Cross-Cutting Clusters

Digital Technology**

Data Science & AI
IT Support & Services
Network Systems & Cybersecurity
Software Solutions
Unmanned Vehicle Technology
Web & Cloud

Management & Entrepreneurship**

Business Information Management
Entrepreneurship & Small Business
Leadership & Operations
Project Management
Regulation

Marketing & Sales**

Market Research, Analytics, & Ethics
Marketing & Advertising
Retail & Customer Experience
Strategic Sales

Creating & Experiencing

Arts, Entertainment, & Design

Design & Digital Arts
Fashion & Interiors
Fine Arts
Lighting & Sound Technology
Media Production & Broadcasting
Performing Arts

Hospitality, Events, & Tourism

Accommodations
Conferences & Events
Culinary & Food Services
Travel & Leisure

Cultivating Resources

Agriculture

Agribusiness
Agricultural Technology & Automation
Animal Systems
Food Science & Processing
Plant Systems
Water Systems

Energy & Natural Resources

Clean & Alternative Energy
Conservation & Land Management
Ecological Research & Development
Environmental Protection
Resource Extraction
Utilities

Investing in the Future

Financial Services

Accounting
Banking & Credit
Financial Strategy & Investments
Insurance
Real Estate

**Cross-Cutting Clusters

Denote careers that overlap in **all** industries, highlighting the versatile and interconnected nature of today's workforce. These careers can stand on their own or be contextualized in each Cluster and emphasize the need for adaptability in navigating the modern economy.

Notes:

Clusters are listed in alphabetical order. Clusters and Sub-Clusters represent the entire world of work (see definitions).

Programs of study are simply illustrative and will be determined by state and local frameworks.

Layer: Cross-Cutting Clusters

Cross-Cutting Clusters are both a standalone Cluster but can also be combined with other Career Clusters when developing purposeful Career Pathways in CTE Programs of Studies. For example, integrating a cross-cutting cluster Digital Technology drone operations course into an agricultural career pathway.

Connecticut will recognize these as standalone Clusters to help schools create pathways and programs.

Digital Technology

Data Science & Artificial Intelligence, Information Technology (IT) Support & Services, Network Systems & Cybersecurity, Software Solutions, Unmanned Vehicle Technology, & Web & Cloud

Management & Entrepreneurship

Business Information Management, Entrepreneurship & Small Business, Leadership & Operations, Project Management, & Regulation

Marketing & Sales

Market Research, Analytics, & Ethics, Marketing & Advertising, Retail & Customer Experience, & Strategic Sales

Crosswalk:

Old Framework to
the Modernized
Framework

Original Cluster	New Cluster
Agriculture, Food & Natural Resources	Agriculture
Architecture & Construction	Construction
Arts, A/V Technology & Communications	Arts, Entertainment, & Design
Business Management & Administration	Management & Entrepreneurship
Education & Training	Education
Finance	Financial Services
Government and Public Administration	COMBINED into Public Service & Safety
Health Science	COMBINED into Healthcare & Human Services
Hospitality and Tourism	Hospitality, Events, & Tourism
Human Services	COMBINED INTO Healthcare & Human Services
Information Technology	Digital Technology
Law, Public Safety, Corrections & Security	COMBINED into Public Service & Safety
Manufacturing	Advanced Manufacturing
Marketing	Marketing & Sales
STEM	Removed —Engineering was primarily placed in Adv. Manufacturing
Transportation, Distribution & Logistics	Supply Chain & Transportation
None	Energy & Natural Resources

CTE Certifications by Cluster

Education

045 Home Economics
098 K-12 Education

Healthcare & Human Services

103 Health Occupations
109 Health Occupations
098 Trade and Industrial Occupations
090 Occupational Subject
068 School Counselor
098 Biotechnology

Public Service & Safety

098 Trade and Industrial Occupations
047 Technology Education (engineering)
ROTC and JROTC
098 Judicial Studies
098 Public Safety
041 Vocational Agriculture
110 Unique Subject Area Endorsement

Advanced Manufacturing

047 Technology Education
098 Trade and Industrial Occupations
090 Occupational Subject

Construction

047 Technology Education
098 Trade & Industrial Occupations
090 Occupational Subject

Supply Chain & Transportation

047 Technology Education
098 Trade & Industrial Occupations
090 Occupational Subject
040 Agriculture
041 Vocational Agriculture

Digital Technology

010 Business
089 Marketing
047 Technology Education
098 Trade and Industrial Occupations
090 Occupational Subjects
062 School Library Media Specialist
110 Unique Subject Area-Endorsement

Marketing & Sales

089 Marketing Education
010 Business

Management & Entrepreneurship

010 Business
089 Marketing Education

Financial Services

010 Business
089 Marketing
045 Family and Consumer Science
098 Real Estate

Art, Entertainment & Design

047 Technology Education
045 Home Economics
062 School Library Media Specialist
110 Unique Subject Area-Endorsement
098 Trade and Industrial Occupations
090 Occupational Subject

Hospitality, Events & Tourism

045 Home Economics
046 Vocational Home Economics
098 Trade and Industrial Occupations
090 Occupational Subject

Agriculture

040 Agriculture
041 Vocational Agriculture
110 Unique Subject Area-Endorsement

Energy & Natural Resources

040 Agriculture
041 Vocational Agriculture
047 Technology Education
098 Trade and Industrial Occupations
090 Occupational Subject

Department of Labor: Definitions and Data

High-Skill – Occupations located in Connecticut with education and training requirements of the following: any postsecondary education including some college, no degree, postsecondary nondegree award, or associate's, bachelor's, master's, and doctoral or professional degrees"; work experience of at least five years or more; or more than twelve months of on-the-job training, an apprenticeship, or an internship or residency.

High-Wage – Annual wage greater than CT's 2025 median wage across all occupations (\$57,870).

In-Demand – Top half of occupations within each cluster based on number of openings.

Perkins Plan and Industry Recognized Credentials (IRCs)

Building/Growing Programs to align to the new Career Clusters including IRCs

- Allowable use of funds.
- School districts can use IRCs to connect student career pathways with real-world opportunities.
- Employers access a skilled talent pool with industry-validated competencies.
- IHEs align programs with workforce needs, providing credentials that boost employability.

Five-Year Comprehensive Plan for Education



Strategic Priority: Create opportunities for all students to explore multiple career pathways through coordinated and rigorous programs that are developed in partnership with institutions of higher education and local/regional employers and that align with economic opportunity and advance students in careers of their choice.

Indicator: By 2028, the percentage of students earning an industry recognized credential (IRC) will increase.

IRC Defined

An **Industry Recognized Credential** (IRC) is a certification that validates an individual's knowledge, skills, and competencies within a specific industry. Developed, offered, or endorsed by nationally or regionally recognized industry associations or organizations representing a substantial portion of the industry sector, IRCs set industry standards and serve as benchmarks for employers. It also enhances employability and supports professional growth.

IRC Data Collection and Reporting

Data Collection

- Districts will submit data to CSDE using the Student Achievement Module (SAM)
- SAM was introduced in 2021-22 and is housed within the Teacher-Course-Student (TCS) application
- SAM is used currently to collect Seal of Biliteracy information
- Districts will submit IRC data for 2025-26 by August 19, 2026

Public Reporting

- Starting with 2025-26, data about IRCs earned by Connecticut high school students will be reported on EdSight.
- The first reporting of 2025-26 data is expected sometime in Winter 2027.
- In a future year, the CSDE will explore the feasibility of incorporating these data within an indicator in the Next Generation Accountability System.

Additional Information

IRC Application

- The CSDE IRC Application process allows school districts, higher education institutions, and community organizations to request the addition of IRCs to the CSDE IRC Registry.

The CSDE IRC Registry

- Strengthens the connection between education, workforce needs, and industry standards
- Creates consistency and transparency for students across the education to career pipeline

Next Steps

- Publish the CSDE IRC Registry
- Host informational webinars
- Create opportunities for continuous learning, revisions, and adaptations!

Questions & Answers

CSDE Contacts

Kyllie Freeman

State Perkins Director, Education
Consultant, Academic Office

Kyllie.Freeman@ct.gov

*Perkins RESC Assignments: ACES,
EDAdvance, Industry Recognized
Credentials*

Harold Mackin

Education Consultant, Academic Office

Harold.Mackin@ct.gov

Perkins RESC Assignments: CREC, LEARN

Sean McKeown

Associate Education Consultant,
Academic Office

Sean.McKeown@ct.gov

*Perkins RESC Assignments: ACES,
EASTCONN, CES*

Karen Amaker

Director, Workforce Development and Career
Readiness, Office of Strategic Planning

Karen.Amaker@ct.gov

Industry Recognized Credentials

Katie Atkinson

Education Consultant, Office of Strategic
Planning

Katie.Atkinson@ct.gov

Industry Recognized Credentials

Ajit Gopalakrishnan

Chief Performance Officer, Performance Office

Ajit.Gopalakrishnan@ct.gov

Renée A. Savoie

NAEP State Coordinator, Education Consultant,
Performance Office

Renee.Savoie@ct.gov

Thank You!