



MIDWESTERN
HIGHER EDUCATION
— **COMPACT** —

Bridging Education and Work:

How Credential Transparency Serves Learners and Employers

November 19, 2025



MHEC Host:
Carrie Wandler
Sr. Director of
Policy Initiatives



Any resources
available will be
posted on the
MHEC website.



Engage with
colleagues in the
chat. Questions in
the Q&A, please!



Please
complete
our survey.



Presenters



Cheryl Rice
Ohio Department of Higher
Education



Sri Vidya Uppalapati
Ohio Department of Higher
Education



Crystal Jones
Ohio Association of Community
Colleges



Sarah Wyatt
Credential Engine
swyatt@credentialengine.org



Jeff Grann
Credential Engine
jgrann@credentialengine.org



Website: credentialengine.org

Email us: info@credentialengine.org

Technical Information: credreg.net

Credential Finder: credentialfinder.org

Find @CredEngine on Social Media



ChatGPT 5.1 ▾



What can I help with?

+ Ask anything





What can I help with?

I want to shift into a cybersecurity career. What credentials could help me start, and what would be a good progression toward a mid-level cybersecurity analyst role? I want short programs first, then more advanced options. Please show how each step builds on the skills of the previous ones|



I want to shift into a cybersecurity career. What credentials could help me start, and what would be a good progression toward a mid-level cybersecurity analyst role? I want short programs first, then more advanced options. Please show how each step builds on the competencies of the previous ones.

Here's a **stackable credential pathway** you can use to transition into a cybersecurity career and move toward a mid-level analyst role. Each step builds on the competencies developed in the prior step, and uses publicly available credential frameworks/data that align with the ecosystem of open credential data (e.g., the Credential Engine Registry using the Credential Transparency Description Language (CTDL). [Credential Engine](#) +2

Step 1: Entry-Level Foundational Credential

Goal: Get your foot in the door with cybersecurity fundamentals.

Credentials to consider:

- A short certificate, perhaps titled "Cybersecurity Fundamentals" or "Intro to Cybersecurity" (often offered by community colleges or training providers)
- Or an industry certification such as CompTIA Security+ (while more advanced, it might serve as an early benchmark)

+ Ask anything

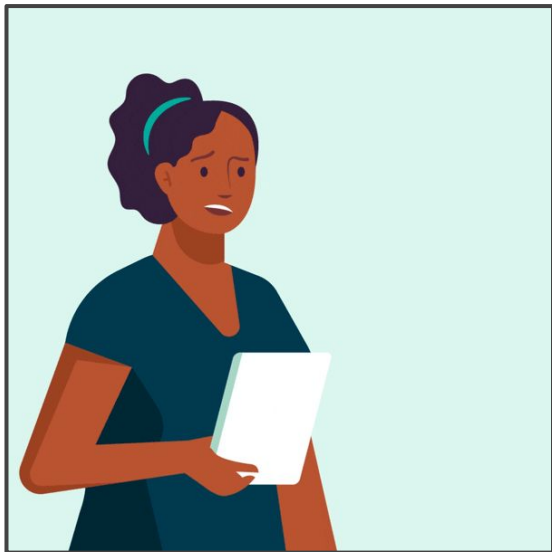


Step	Credential	CTID	Credential Type	Key Details & Location
Step 1 (Short / Foundational)	Bismarck State College – Course “CIS 140 – Cybersecurity Foundation” (North Dakota)	ce-94ae61d3-2519-4d93-a892-de132bc1d14e (credentialengine.org)	Course (entry-level)	Helps build initial cybersecurity fundamentals; North Dakota region (close-to-Midwest).
Step 1 (Short / Foundational) alternative	Workforce & Management College & Technology – Certificate “Cybersecurity + GRC” (Michigan)”	ce-ad34e14d-bbae-4e63-93ed-9e9f69f6a7b6 (credentialengine.org)	Certificate of Completion	Post-secondary level program; focuses on both tech & GRC aspects.
Step 2 (Intermediate)	Ivy Tech Community College – A.S. in Cyber Security Information Assurance (Indiana)	ce-48b8cad7-2c58-4a9c-b46a-74caa362d30b (credentialengine.org)	Associate Degree	Located across multiple Indiana campuses; provides applied cybersecurity foundation.
Step 4 (Advanced)	Bachelor of Science in Cybersecurity (National/Online)	ce-9eaa439a-1c70-407e-8d9e-ddc78d5e2e42 (credentialengine.org)	Bachelor Degree	While national/online, usable by Midwest learners; positions for mid-level analyst roles.





The Challenge



The credential ecosystem is large, complex, and confusing

- 1,076,358 [unique credentials](#) in the U.S. alone, including degrees, certifications, badges, apprenticeships, licenses, and more
- Nearly 60,000 providers of credentials

How do I find what programs are offered?

- Credential information is siloed and disconnected
- It's difficult to find comprehensive and quality information

How do I know which program is the right fit?

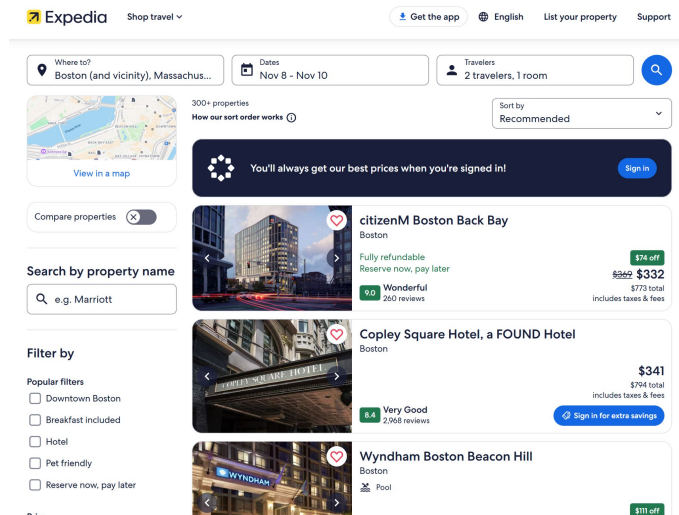
- So many variables to consider:
 - cost, location, financial assistance, time to completion
 - prerequisites, transferability, stackable to advanced programs
 - target skills and connection to career pathways





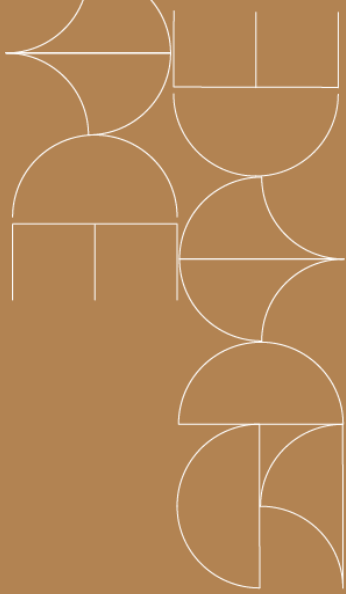

The Solution

- When you find and book travel, map a route to a destination, or browse for music online, you are tapping into **linked open data** systems on the web.
- Linked open data enables the creation of online tools that help consumers plan and optimize their journeys.
- We are doing the same for credentials by providing the technologies and tools to make them transparent, connected, and accessible.

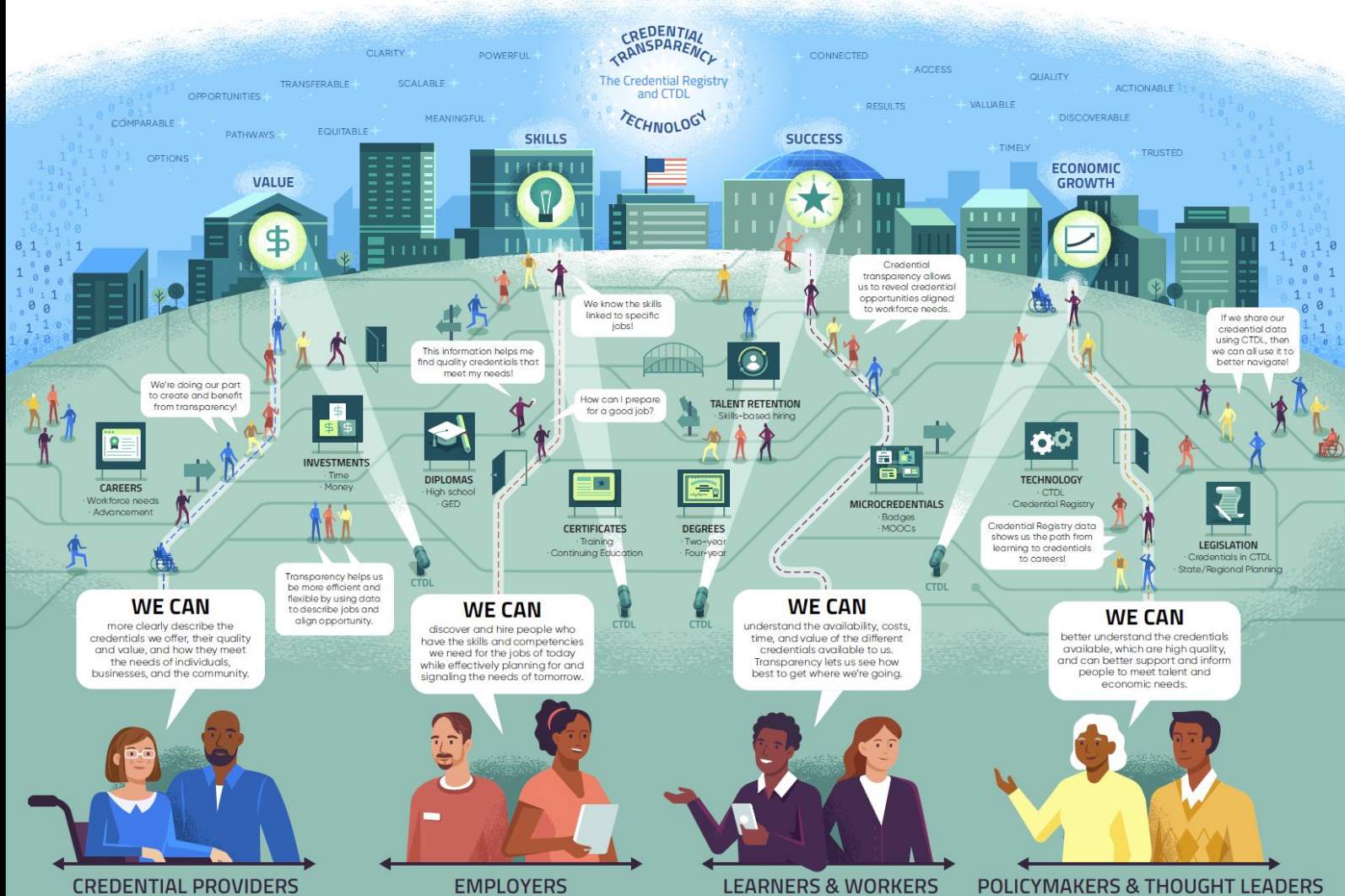


Credential Engine is a non-profit whose mission is to map the credential landscape with clear and consistent information, fueling the creation of resources that empower people to find the pathways that are best for them.





**Together, we're building a linked
open data network that everyone
can access for timely and trusted
information about credentials.**





Credential Engine Overview

Stakeholders Need Transparent Credential Data



Learners & workers

Understand the availability, costs, time, value, and stackability of the different credentials available to make the most effective education and career choices.



Credential providers

More clearly describe the credentials offered, including their quality and value, and how they meet the needs of individuals, businesses, and the community.



Policymakers & thought leaders

Understand the credentials available within a state, identify and promote high-value and in-demand pathways, and improve the quality of statewide data systems.



Employers

Discover and hire people who have the skills and competencies for the jobs of today, and effectively plan for and signal the needs of tomorrow.



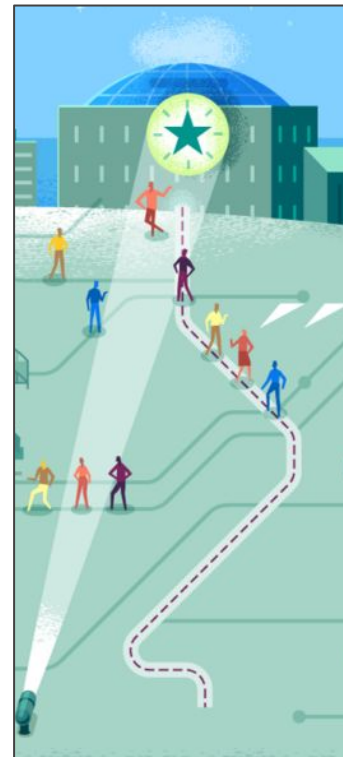
Education to Work



Value of Publishing Jobs & Occupations

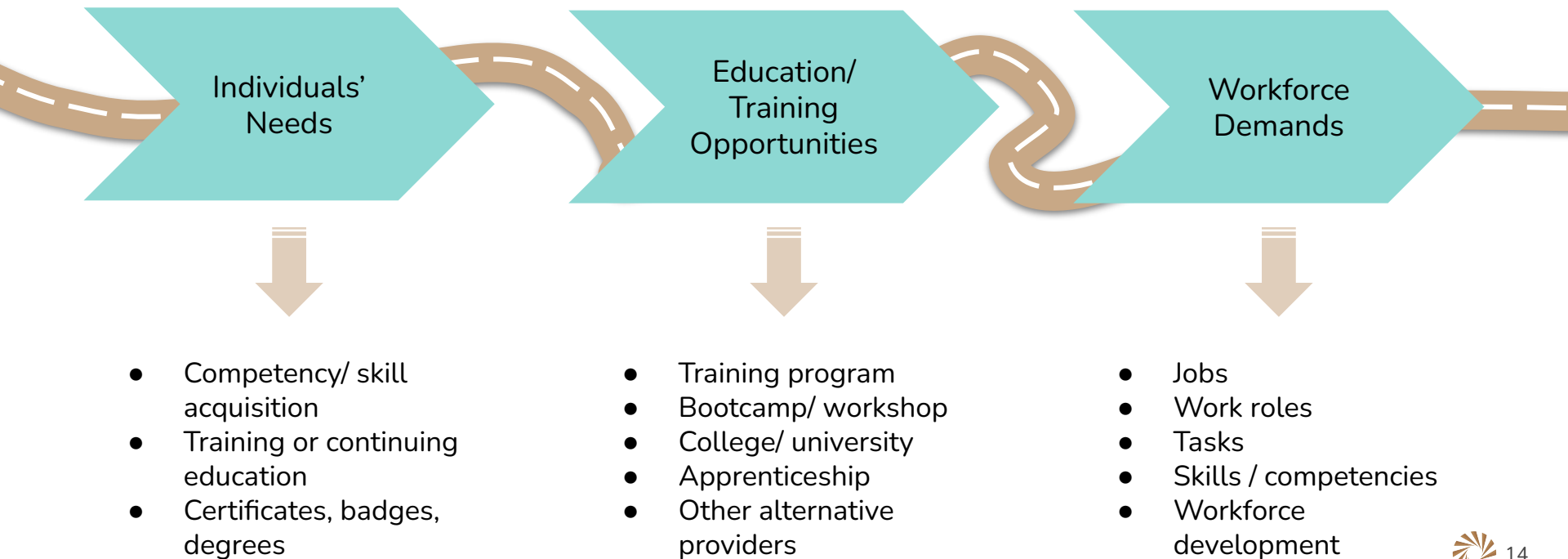
Create connected learning-to-career ecosystems

- Close the skills gap by articulating pathways from education to employment
- Show the credentials, competencies & skills that lead to the workforce
- Empower learners with critical information that leads to good jobs
- Enable employers to define the skills they look for + find qualified job candidates
- Give states + regional agencies the tools to create skills-based talent marketplaces
- Highlight in-demand jobs + occupations using state or regional LMI data
- Identify credentials of value by connecting them to high-value occupations
- Make public sector jobs information transparent and actionable





Linked Open Data Pathways



Bridging the Gap - Learning & Working



- **Occupation** - Profession, trade, or career field that may involve training and/or a formal qualification.
- **Job** - Set of responsibilities based on work roles within an occupation as defined by an employer. Job describes an abstraction or template that specific job postings or openings could be instances of.
- **Work Role** - Collection of tasks and competencies that embody a particular function in one or more jobs.
- **Task** - Specific activity, typically related to performing a function or achieving a goal.

Occupation

Job

WorkRole

Task



Department of
Higher Education



Ohio's Credential Engine Data Enrichment Journey

The Heart of Education

Vision for Ohio

Empowering the Workforce through Credential Transparency

- Ohio envisions a thriving economy driven by an empowered and skilled workforce.
- By updating and integrating Credential Engine (CE) into marketing and advising processes, Ohio will become a national leader in credential transparency, workforce alignment, and lifelong learning.

Overall, by fostering a credential ecosystem, Ohio will cultivate a resilient, future-ready workforce that meets the dynamic demands of the modern economy.

Ohio's Postsecondary Ecosystem

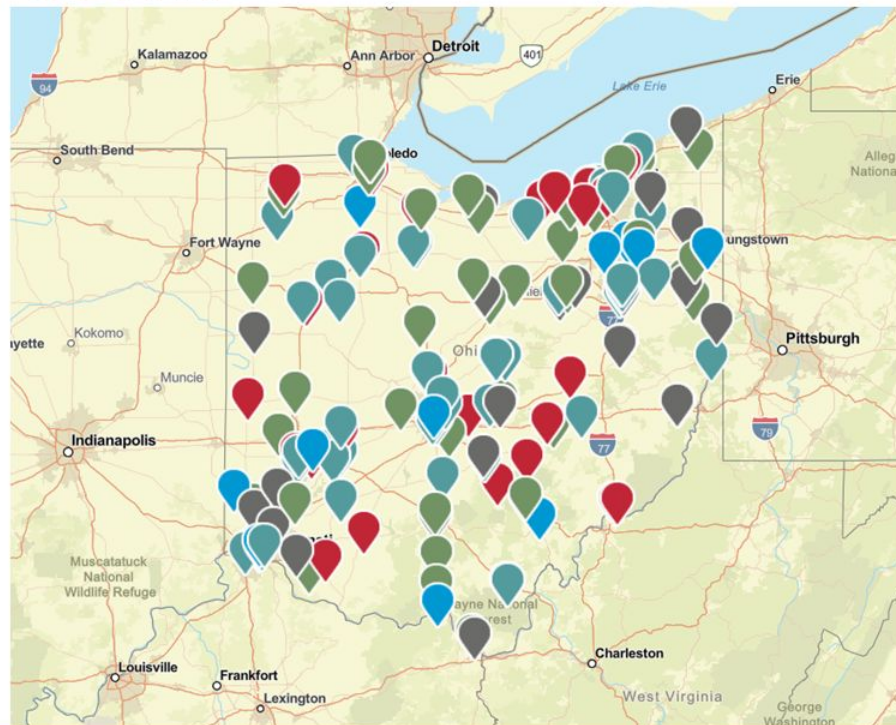
22 Public Community Colleges

14 Public Universities

24 Public University Regional
Campuses

49 Ohio Technical Centers

52 Independent Colleges and
Universities



Department of
Higher Education

HigherEd.Ohio.gov

Ohio's Journey with CE

2019 to 2025

Institutional Involvement

- Voluntary participation (2019-2020)
- ODHE bulk uploads on behalf of all publics (2022-2023)

ODHE-led engagement

- Webinar series around optional data enrichment (2022-2024)

Ohio's Gates Grant

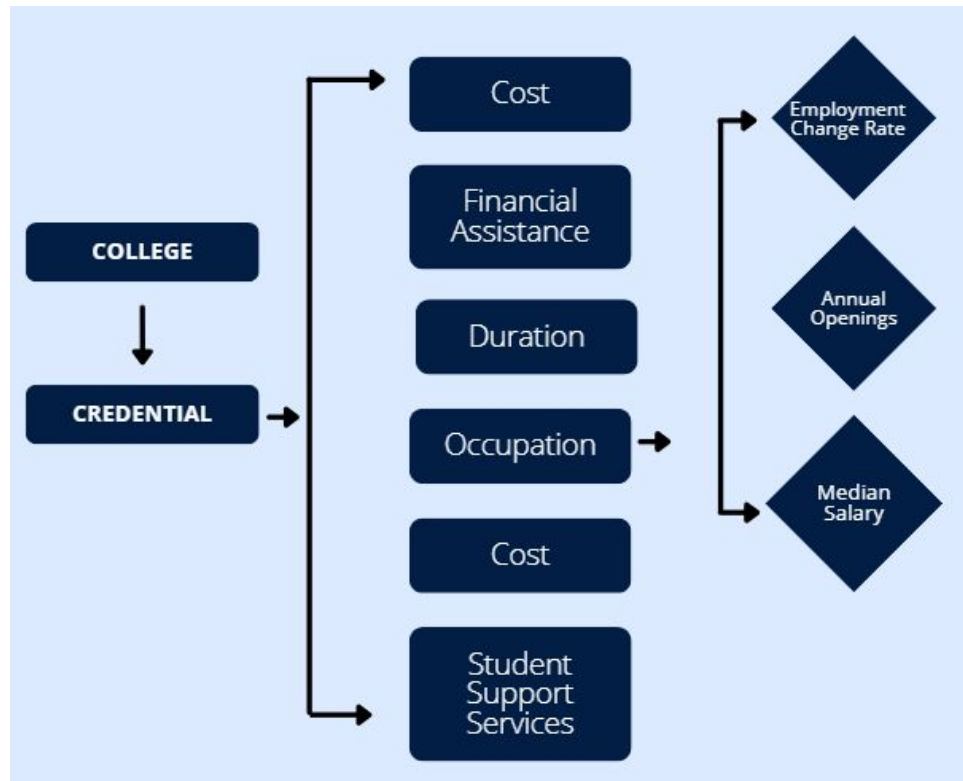
March 2025

Ohio Association of Community Colleges

- Required participation from all 22 colleges, with stipends available from the grant
- Goal: data enrichment of existing uploads to improve quality of finder
 - For-credit credentials offered
 - Credential description
 - Credential webpage
 - Program duration
 - Program cost
 - Available financial assistance
 - Student support services



Working Together: ODHE, OACC, JFS






Registry Example

<https://credentialfinder.org/credential/88677/Cybersecurity>

Credential Name



Associate's Degree
Cybersecurity
Zane State College
Last updated: Oct 28, 2025

Requirements, Costs, and Time

How to earn the Credential

Cost Information

Credential Costs (1)

Time to Complete

Estimated time to complete: 64 Hours

Cost & Duration

Cost Profile

Cost include Tuiton and Fee's

Cost Details

\$12,736.00

Occupations & Support

Connections

Related Resources

Is Preparation For 4 Occupations

Has Support Service (15)

Occupation name, and description

- Computer and Information Systems Managers
- Database Administrators and Architects
- Information Security Analysts
- Network and Computer Systems Administrators

Associated KSAs for Occupation from DOL

Knowledge Embodied 10 Competencies

Ability Embodied 10 Competencies

Skill Embodied 10 Competencies

Related Outcome Metrics

Coming soon

Ohio's Gates Grant

May 2025 – August 2025

designated for colleges to enrich data (this will include monthly engagements to provide assistance and updates).

May 2025 - December 2025

designated for the OACC to collaborate with the Marketing and Communications Professionals Council and other stakeholders to develop statewide/regional marketing plans to support prospective student interest to align with the latter part of Fall 2025, Spring 2026, and Summer/Fall 2026 terms.

January 2026 – April 2026

to implement statewide/regional marketing campaigns and award stipends for enriched data.

Updates on Data Enrichment

- Wage outcomes with Ohio Department of Jobs and Family Services
- Transfer values with Ohio Department of Higher Education, Transfer and Articulation team
 - Institutions considering how to list transfer values
- Stackable credential pathways, pilot testing with Lorain County Community College
- Graduation/completion outcomes with Ohio Department of Higher Education, Data team
- Support services – complexity varies by institution



Ohio Community Colleges

The Ohio Community College Credential Registry Project is pleased to offer a grant opportunity to incentivize participation in publishing comprehensive credential data. This grant, funded by the Gates Foundation, is supported by the Ohio Department of Higher Education and the Ohio Association of Community Colleges, with funding allocated based on community college participation.

Project Expectations

Minimal Information Upload:

- Publish minimum data on all for-credit credentials offered at the institution to the Credential Registry. Include specific program websites.

Gates Foundation Grant Requirements:

- Includes minimum data point above.
- Three key equity data elements must be included for each credential:
 - Duration: The expected time it takes to complete the credential.
 - Cost: General cost information for completing the credential. While detailed cost breakdowns (specific dollar amounts) are preferred, general information is acceptable if necessary.



Next Steps

- Completing the Gates Grant with OACC and the CCs
- Working with the public universities to update their information using the success of the CCs
- Working with the Ohio Technical Centers to get CE accounts and begin uploads
- Working with Ohio Department Jobs and Family Services to explore enriching data for wages and outcomes, as well as potential for sharing information around Eligible Training Provider List

Contact Information

Ohio Department of Higher Education

Cheryl Rice, Ph.D., crice@highered.ohio.gov

Sri Vidya Uppalapati, suppalapati@highered.ohio.gov

Aaron Hobbs, ahobbs@highered.ohio.gov

Ohio Association of Community Colleges

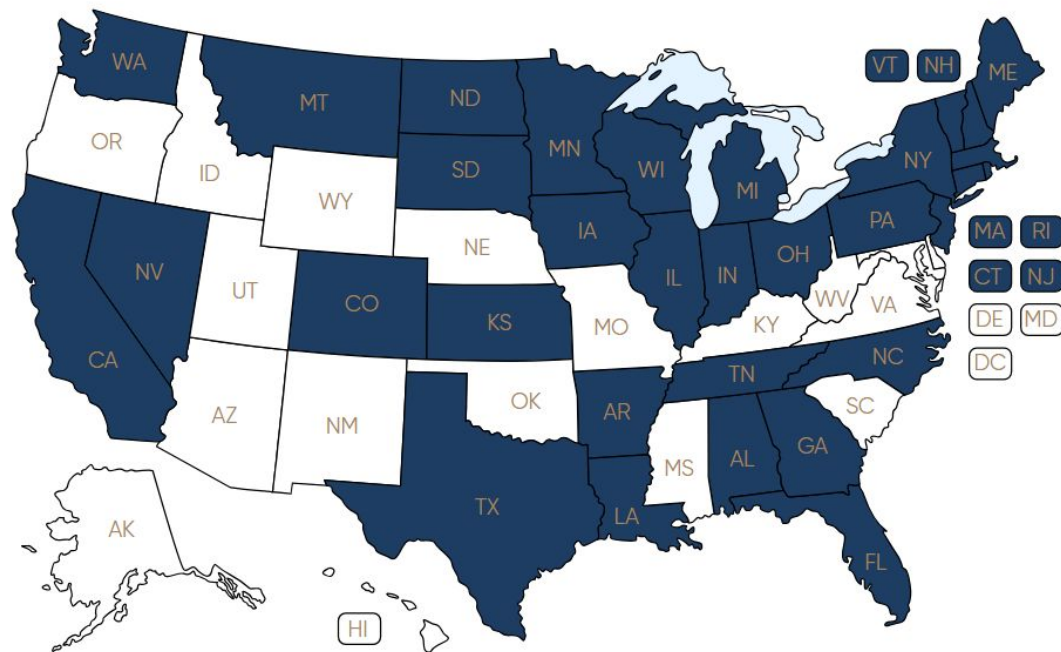
Crystal Jones, Ed.D., cjones@ohiocc.org





Connections in your Context



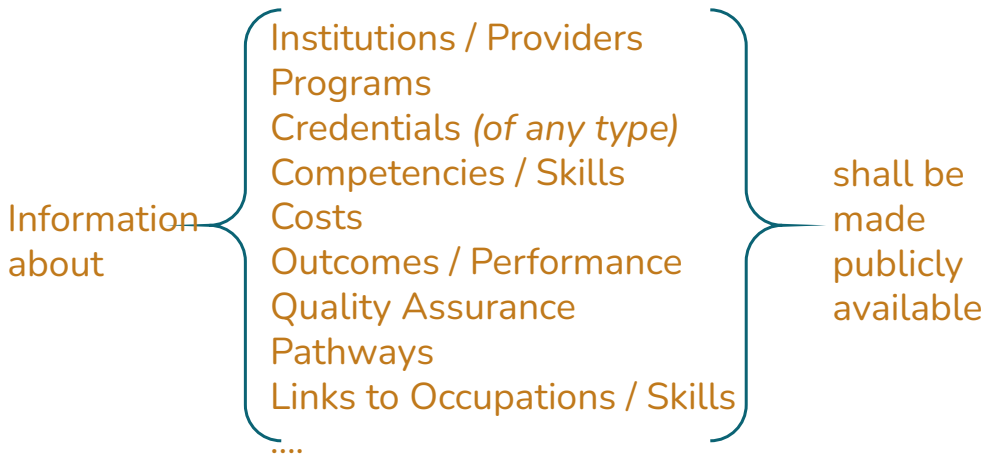


The work is already underway in 35 states and regions, and across 2 regional consortia of states.



Policy to Support Credential Transparency

- 1: Identify key stakeholders such as the Chair of the education, workforce, labor, and budget committee.
- 2: Make contact with all of them and express your desires, concerns and solutions.
3. Include the below credential transparency language in applicable policies.



This is the essential additional language

“Including through the use of structured, open, linked and interoperable data formats”

“, such as the credential transparency description language schemas.”





CTDL Voluntary Assessment Tool

The CTDL-VAT provides general sections that are applicable to **all products and services using CTDL and the Credential Registry**. In addition, the tool has sections that you can customize according to your needs to ensure that products and services you're vetting are aligned with your specific use cases.

Benefits for buyers:

- **Find CTDL-ready products:** Efficiently identify solutions that meet CTDL requirements for your specific use cases.
- **Streamline vendor assessment processes:** Use pre-written functionality questions and data tables that can be used as-is or customized for your needs.
- **Make informed decisions:** Use a well developed and up-to-date analysis framework to define clear, detailed requirements as a basis for decisions.

Step-by-step instructions <https://credentialengine.org/ctdl-vat/>





The OPEN Opportunity

Utilizing publicly available data from **authoritative sources** to build on and expand existing data in the registry. Examples of data published through OPEN: IPEDS, National list of Professional Associations that offer credentials, national list of workforce boards, OSHA credentials, SACSOC Accreditations, WIOA performance indicators.

What OPEN provides:

- **Increase Data Availability:** Transform publicly available credential data into structured linked open data (LOD).
- **Jumpstart and Grow:** Support new data owners with pre-built linked data and allows organizations to take ownership.
- **Fill in the Gaps:** Publish data that connects existing data together for a fuller understanding.





CTDL xTRA Tool

CTDL xTRA is an open-source, **AI-powered web application** that extracts and transforms public credential information from public web pages into structured, linked open data using CTDL. This process turns unstructured website content into Credential Registry bulk upload-ready CSV files, **significantly reducing the time and effort** needed to publish high-quality credential data.

What CTDL xTRA Does:

- Accepts a **public URL** for courses, programs, or competencies
- **Extracts content** from the webpage
- **Transforms data** to match Credential Registry bulk upload templates
- **Validates** that extracted data matches the original content
- **Outputs a CSV file** ready for upload and publishing

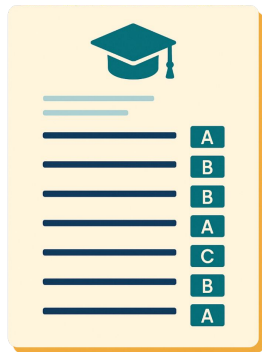




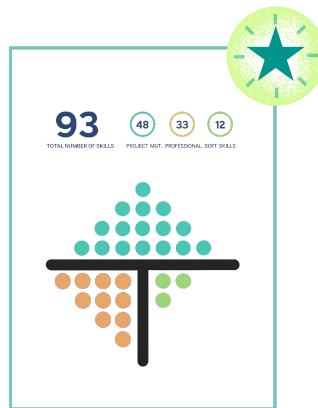
Skill Profiles: Matching to jobs with AI



Course catalogs



College transcripts



Skills profiles



Jobs

Learn more at <https://credentialengine.org/unlocking-skills/>



Group Discussion