Credential Engine™

Counting Credentials 2025

DECEMBER 2025

Acknowledgements

The *Counting Credentials 2025* report was produced with the generous support of Walmart, the Strada Education Foundation, and Instructure.

The findings, interpretations, and conclusions in this report are solely those of the authors and do not represent positions or policies of Walmart.

The analyses for this report were prepared for Credential Engine by the Center for Regional Economic Competitiveness (CREC). The information contained herein is solely the responsibility of Credential Engine and CREC.

We want to recognize and thank the Counting Credentials Report Team for their contributions:

CREC RESEARCH TEAM
Allison Forbes (Lead); John Ponder White (Coordinator); Marie Xu, Sarah Edwards, Tucker Plumlee, Colin Powell, Alec Romero, and William Tang

CREDENTIAL ENGINE REPORT TEAM
Scott Cheney, Deb Everhart, Jeff Grann, and Devin Peelman

WESTED RESEARCH AND PROJECT MANAGEMENT TEAM:
Beth Hart, Rajinder Gill, Erin Carter and Joanna Mathias

RESEARCH PROJECT ADVISORY BOARD MEMBERS:
Rob Coyle, 1EdTech Consortium
Ryan Currie, Microsoft
Noah Geisel, University of Colorado Boulder
Kerri Lemoie, Ph.D., MIT, Digital Credentials Consortium
Kerry McKittrick, The Project on Workforce at Harvard
Christopher M. Mullin, Ph.D., Lumina Foundation
Isabel Cardenas Navia, WorkCred, Inc.
Hironao Okahana, MPP, PhD, American Council on Education
Nate Otto, Skybridge Skills
Emily J. Passias, Ph.D., Advance CTE
Lauren Runco Bevilacqua, Solutions for Information Design (SOLID), Inc.
Nan Travers, Ph.D., State University of New York Empire State College
Michelle Van Noy, Ph.D., Rutgers University, Education and Employment Research Center

U.S. BADGE COUNT RESPONDENTS
Accredible, CertifyMe, D2L, Digital Knowledge, Digital Promise, EBSCO, eLumen, Give My Certificate, Idaho Division of Career Technical Education (SkillStack), idcert, Instructure, Level Data, Open Badge Factory, OYOclass, Participate, Pearson, Procertif, Proof of Knowledge, Schoolinks, Sertifier, Skybridge Skills, Territorium, Trebol-IT, and Virtualbadge.io.

GRAPHIC DESIGNER
Sarah Tan

PLEASE CITE AS:

Credential Engine. (2025). *Counting Credentials 2025.* Washington, DC: Credential Engine. https://credentialengine.org/all-resources/2025-counting-credentials

TABLE OF CONTENTS

Letter of Introduction

America's education and training ecosystem is experiencing an extraordinary moment of possibility. Multiple inflection points are converging to expand how today's learners and workers can access credentials and develop skills, creating more pathways to success than ever before. Higher education is reimagining its role and business model at the very time that highly qualified talent is essential to keep America at the forefront of innovation and success. Workforce training must rapidly evolve to meet the dynamic upskilling and reskilling needs of both workers and employers.

Simultaneously, the advancement of skills-based hiring and development is transforming how talent and opportunity connect, recognizing the unquestioned reality that people develop valuable skills through various pathways. When we make those skills visible and verifiable, we expand access to economic mobility for millions. This is the ideal moment to scale transparent pathways that match talent to opportunity, regardless of how skills were developed.

Realizing these opportunities require a shared ability to understand and appropriately value skills and credentials—badges, certificates, apprenticeships, certifications, licenses, degrees, etc. With 1.8 million unique credentials offered by nearly 135,000 providers across the country, students, workers, jobseekers, employers, and educators need clear, comparable information to make confident decisions.

And solutions are within reach. We can—and should—embrace and implement credential and skill transparency through the full adoption of structured, open, linked, and interoperable data (SOLID), of which the Credential Transparency Description Language (CTDL) is the de facto standard in the United States.

When we embrace transparency, we ensure that all learning counts. Workers will be empowered to articulate their own learning experiences and value and employers will be able to better understand the skills and capabilities all candidates bring to the job. Through shared language and trusted information, Credential Engine will continue to be a significant contributor to these goals.

This Counting Credentials 2025 report provides extensive insights into the evolving credential landscape. We invite your partnership as Credential Engine works toward a future where every credential is transparent and every skill is recognized.

Sincerely,

BARBARA GELLMAN-DANLEY
Board Chair
Credential Engine

President
Higher Learning Commission

SCOTT CHENEY
Chief Executive Officer
Credential Engine

CREDENTIALS OR SKILLS?

An ongoing question is whether we should focus on credentials (which include everything from diplomas, certificates, licenses, certifications, degrees, and badges) or on skills. In the simplest understanding, a credential is a collection and packaging of skills—a way to more easily convey what someone has learned. Some will have a certificate, an associate's degree, or an occupational license, any one of which might represent dozens or hundreds of skills. This report makes clear that, increasingly, credentials are being issued for smaller and more discrete sets of skills and abilities.

About Credential Engine

Credential Engine's mission is to bring transparency to all credentials and skills to reveal the marketplace of credentials, increase credential literacy, and allow students, workers, employers, educators, and policy makers to make better informed decisions about credentials and skills, and their value. To achieve this mission, Credential Engine aims to produce a comprehensive, reliable count of every unique credential offered in the United States and improve the uniformity of how all types of credentials and skills are described so they can be searched, discovered, compared, and valued.

Since 2017, Credential Engine has diligently worked to lay bare an increasingly complex landscape of U.S. credentials, and to create the building blocks to make reliable and useful credential information more accessible for students, workers, and the employers who hire them. We have created a common schema, the Credential Transparency Description Language (CTDL), that allows individuals to make "apples-to-apples" comparisons between and among credentials, allowing us to map the connecting points between credentials, skills, qualifications, competencies, jobs, education, and training opportunities—the information that so many have been looking for.

The driving force behind Credential Engine's work has been a lack of clarity about what exactly is available in terms of education and training, the value of credentials and skills in the labor market, and what enables certain individuals to benefit from those opportunities more than others. **To create a credential landscape that is transparent—accessible, discoverable, understandable, and navigable—we first must understand the landscape itself.** We needed a clearer picture of what we are all dealing with so that we can appropriately act to meet the challenge of full and meaningful credential transparency.

Meaningful credential transparency relies on all of us contributing to and using the information found in the national Credential Registry—an open data, open-access network for timely and trusted information about credentials and skills across states, regions, and the entire country. Data added to the Credential Registry uses the CTDL schema to clarify, connect, and publish the credential and skill information for others to use. The CTDL is regarded as the standard language through which these 1.8 million unique credentials and their skills can be connected, compared, and contrasted—from evaluating whether a credential leads to a specific career and higher wages or if it leads to a higher-level credential, enhancing economic momentum and mobility.

To learn more about Credential Engine and find ways to get involved, please visit **www.credentialengine.org** and/or email **info@credentialengine.org**.

Executive Summary

The Counting Credentials 2025 report counts the total number of unique credentials available in the United States and describes the rigorous process of accounting for each credential category. For the purposes of this report, a credential is any documented recognition of achievement signaling what a person knows or can do. This includes but is not limited to diplomas, badges, certificates, certifications, occupational licenses, and degrees of all types and levels.

This report identifies **1,850,034** unique credentials in seven distinct credential categories, **134,491** providers of such credentials, with total annual expenditures of **$2.34 trillion** across the full ecosystem, including by the public sector, the private sector, and individuals.

1,850,034
unique credentials

134,491
providers of such credentials

$2.34 trillion
total annual expenditures

For each credential category, the report provides the credential type definition, the typical credential provider, and the precise method by which the credential was counted. Each section includes a brief discussion of the state of the credential type, as well as suggestions for future research. The seven credential categories are:

Degrees
264,099
Title IV, non-Title IV, and degrees from foreign universities

Certificates
486,352
certificates of completion, academic certificates, and apprenticeships

Certifications
6,892
certifications

Micro-credentials
3,384
micro-credentials

Licenses
14,331
occupational licenses

Secondary School Diplomas
52,948
secondary school seals and endorsements, public school diplomas, private school diplomas, alternate diplomas, and equivalencies

Badges
1,022,028
badges

The report uses new credential categories that include similar types of credentials, regardless of credential provider. In prior Counting Credentials reports, credentials were grouped by education or training provider type.[1] This 2025 report organizes credentials into credential types that are more intuitive to understand and easier to navigate for those interested in more detailed subcategories: degrees, certificates, micro-credentials, certifications, licenses, secondary school credentials, and badges. Using these new categories, the research team provides a comparison between 2025 and 2022 counts. Readers can find detailed descriptions of all categories and subcategories below.

We note that this count of over 1.8 million credentials is larger than the 2022 report for three primary reasons: 1) a much better accounting of badges, driven primarily by a higher response rate from the major badge platform providers, 2) growth in the number of badges being developed and offered, and 3) growth in the number of certificates and the credentialing of smaller, more discreet achievements which reflect the learnings and capabilities of an individual. The number of degrees, for example, has not significantly changed; however, the growth in the number of badges and certificates offered as credentials for skill attainment, course or module completion, and assessments is more thoroughly counted in this report than ever before.

Along with an increase in credentials, there have also been increases in the number of entities issuing credentials and the overall amount of money spent in the entire marketplace. The number of providers of credentials counted in 2025 was nearly 135,000, primarily because more entities offer badges for the learning they deliver.

We also report that the total yearly expenditures by educational institutions, employers, federal and state grant programs, and the military increased from $2.13 trillion to $2.34 trillion from 2022 to 2025, respectively. For more information, see Appendices C1 and C2.

This *Counting Credentials* report, and its accompanying *Counting Credentials, In Context: The Opportunities of Digital Credentials* report can be used both to gain a broad understanding of the credential landscape, and by specific groups to help action planning and decision making. Policymakers and administrators can use this report to demonstrate the need for transparency in the credential marketplace in their states and regions and to explore the value of these various credentials to their critical industries, occupations, and educational initiatives. This 2025 report includes counts of credentials in states, and addresses the degree to which badges overlap with other credential categories, an issue highlighted in the 2022 report for further research. Educators, instructors, career and workforce support staff can use the scan of credential providers to better understand what previous experience their learners may be bringing into their academic courses, or to better evaluate Credit for Prior Learning (CPL) particularly when viewing credentials in a Credential Registry. Employers and business leaders can see at a glance the variety of learning artifacts that now exist within formal education settings and in workplace settings. This can help build trust in the use of credentials from third-party training experiences, military settings, and workforce development organizations. A broader view of credentials can serve as an impetus to open up wider applicant pools for job positions, and to support statewide shifts to skills-based hiring.

Future research can address the connections between credentials and credential categories by delineating the skills they represent, differentiating the rigor of the programming based on the time required to complete and other factors, assessing where credentials are formally linked through requirements or are otherwise "stackable," and identifying the relative value of various credentials in the marketplace. Future research can also fill gaps where credential counts still rely on estimation and extrapolation instead of complete enumeration.

Each of the categories of credentials counted in the report has its own future research section suggesting ways that the count can be further improved.

1 While a credential provider is the organization that owns or offers the credential, an education or training provider is the organization that delivers the program or instruction leading to the credential. While sometimes the credential provider and the training provider are the same organization, this is not always the case.

Findings

In this report, Credential Engine identifies **1,850,034** unique credentials in the United States, organized into seven broad categories and 14 subcategories. These credentials are offered through **134,491** credential providers, including postsecondary educational institutions, online course providers, non-academic organizations, industry and professional associations, secondary schools, and state governments. All numbers are based on the data available as of February of 2025, except for the badge data, which was collected in June 2025.

Table 1 illustrates credential counts by major category for the 2025 count numbers, the 2022 count reorganized into the new categories, the difference between the 2025 and 2022 counts, and the number of providers counted in 2025.

TABLE 1: Credential Counts by Major Categories

Credential Type	2025 Count	2022 Count	Change in Count from 2022	2025 Provider Count
Total Count	**1,850,034**	**1,076,358**	**773,676**	**134,491**[2]
Badges	1,022,028	430,272	591,756	81,597
Certificates	486,352	330,830	155,522	35,230
Micro-credentials	3,384	1,603	1,781	381
Certifications	6,892	7,051	-159	1,250
Degrees	264,099	238,271	25,828	4,305
Occupational Licenses	14,331	12,152	2,179	51
Secondary School Diplomas or Equivalents	52,948	56,173	-3,225	25,480

2 The provider counts are not deduplicated across categories, so the total number is less than the sum of the category totals, as one provider can offer credentials in multiple categories. Universities, for example, offer both degrees and certificates.

Credential Categories: Definitions and Methodology

This section discusses each of the credential categories and subcategories in detail. The categories are organized by major category type, with each of the categories and subcategories defined, the sources and methods of the count explained and discussed, and suggestions provided for future research.

Source Abbreviations and Acronyms

Federal Department	Subagency	Data Source
DOL – U.S. Department of Labor	ETA – Employment and Training Administration	COS – CareerOneStop
		ETPPR – Eligible Training Provider Performance Results
	OA – Office of Apprenticeships	RAPIDS - Registered Apprenticeship Partners Information Database System
ED – U.S. Department of Education	NCES – National Center for Education Statistics	IPEDS – Integrated Postsecondary Education Data System
		CCD – Common Core of Data
		PSS – Private School Survey
DOD – U.S. Department of Defense		COOL – Credentialing Opportunities Online

Non-Governmental Sources
ANSI – American National Standards Institute ICAC – International Certification Accreditation Council NCCA – National Commission for Certifying Agencies

Definitions

- **Credential:** Credentials include diplomas, badges, certificates, micro-credentials, licenses, apprenticeships, certifications, and degrees of all types and levels that represent that signal what a person knows or can do.
- **Credential Provider:** Credential providers are organizations that own or offer credentials.

Count types are characterized as either an Enumeration (Complete Count), a Partial Enumeration (Partial Count), or an Estimate (Count plus Extrapolation). These count types are defined as follows:

- **Enumeration:** Count based on a credential's registry or compilation of all known credentials in the category. It is complete and certain.
- **Partial Enumeration:** Count based on a credential's registry or compilation that does not fully cover the category across known providers. It is incomplete, but certain.
- **Estimate:** Count from partial enumeration plus an estimate of additional credentials based on extrapolation from samples of state or industry lists or count of credential granting institutions multiplied by the number of credentials offered by each institution. It is more complete than a partial enumeration, but uncertain.

Degrees

A degree is an award conferred by a college, university, or other postsecondary educational institution as official recognition for completing a program of study. Degree levels include associate's, bachelor's, master's, doctoral, and professional degrees (such as M.D. [Doctor of Medicine] and J.D. [Juris Doctor]).

Count of Degrees

The count below includes all associate's, bachelor's, master's, doctoral, and professional degrees offered in the United States. There are three subcategories of degrees for the purposes of this count: those eligible for Title IV funding from the U.S. Department of Education (ED), those not eligible for Title IV funding and offered by institutions in the U.S., and those awarded by foreign institutions (not eligible for Title IV funding), available in the U.S. via online learning platforms.

TABLE 2: Count of Degrees by Subcategory

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Degrees	**264,099**	**238,271**	**25,828**		
Title IV Degrees	260,654	233,676	26,978	Estimation	IPEDS, ETPPR
Non-Title IV Degrees from U.S. Institutions	3,249	4,541	-1,292	Estimation	IPEDS, ETPPR
Non-Title IV Degrees from Foreign Institutions	196	54	142	Enumeration	EdX, Coursera, FutureLearn

Comparison of Degree Subcategories

Information on Title IV and Non-Title IV degrees from U.S. Institutions can be found in two distinct data sources: (1) the Integrated postsecondary Education Data System (IPEDS) collected and published by the U.S. Department of Education's National Center for Education Statistics (NCES), and (2) Eligible Training Provider Performance Results (ETPPR), collected and published by the U.S. Department of Labor Employment and Training Administration (ETA).

Information on Degrees from Foreign Institutions comes from the Massive Open Online Courses (MOOC) platforms edX, Coursera, and FutureLearn, which provide opportunities to earn an academic degree (primarily bachelor's or master's) offered online by universities based outside of the U.S.[3]

The counts of Title IV and Non-Title IV degrees from U.S. institutions are estimates, as the research team accounted for the extent to which degrees awarded by multiple institutions are reported as a single entity within IPEDS. The count of Non-Title IV Degrees from Foreign Institutions is an enumeration, as it is based on the count of degrees offered by the MOOC platforms.

TABLE 3: Comparison of Degree Subcategories

	Title IV Degrees	Non-Title IV Degrees from U.S. Institutions	Non-Title IV Degrees from Foreign Institutions
Description	A Title IV degree is an award offered by a Title IV college, university, or other postsecondary education institution as official recognition for completing a program of study.	A non-Title IV Degree from a U.S. Institution is an award offered by a postsecondary institution without a Title IV designation.	A non-Title IV Degree from a Foreign Institution is an award offered by a foreign university via an online platform. Degrees offered by U.S.-based universities online are not included in this subcategory.

Degree Source and Methodology

Because the two data sources for Title IV and Non-Title IV Degrees from U.S. institutions (i.e., IPEDS and ETPPR) contain some overlap, institutions and credentials reported in both were matched and deduplicated before being counted. Institutions and their credentials were labeled as either eligible for Title IV funding or ineligible based on data from IPEDS and ETPPR. Any providers not included in IPEDS were assumed to be Title IV-ineligible, as any institution receiving Title IV funding is required to report to IPEDS. Providers reporting to IPEDS are mostly Title-IV eligible though some are not.

After the records were deduplicated and counted across both datasets, an additional extrapolation ratio was applied to Title IV degrees. This is to account for the estimated number of degrees awarded by multiple schools that are reported to IPEDS as a single unit. For example, some state college systems are reported to IPEDS as a single entity, although diplomas are unique to the individual schools within that system. The

3 These websites primarily serve as hosts for courses that other organizations design.

extrapolation ratio was determined through a review of programs listed by schools at a selection of such institutions. The count of non-Title IV degrees is also considered an estimate as Title IV-ineligible institutions (e.g., for-profit/proprietary degree-granting providers) are not required to report to IPEDS and may not submit these programs to eligible training provider lists.

Previous reports utilized Class Central's annual report to count Degrees from Foreign Institutions but this report was not updated as of March 2025. For this report, the research team pulled information directly from MOOC platforms edX, Coursera, and FutureLearn. This count is an enumeration because the websites are assumed to be complete. The research team is not aware of any alternate platforms or places where these degrees can be obtained.

TABLE 4: Degree Count Source and Method

	Title IV Degrees	Non-Title IV Degrees from U.S. Institutions	Non-Title IV Degrees from Foreign Institutions
Count Source and Method[4]	Degrees can be found in both IPEDS and ETPPR. There is an overlap between the two data sources. Where some postsecondary institutions and degrees may be listed in both sources, records are matched and deduplicated.		Researchers utilized web scraping tools to collect degree offerings from foreign institutions via MOOC platforms.

Degree Providers

Title IV degrees are awarded by postsecondary institutions approved to operate by their state department of higher education and accredited by an accrediting body recognized by the U.S. Department of Education. The degree program may be delivered at a location or satellite campus other than the main campus.

Non-Title IV degrees from U.S. institutions are typically awarded by proprietary or for-profit postsecondary institutions. Other types of institutions that offer degrees that are not eligible for Title IV funding are public institutions that are not open to the general public, such as military academies and some schools controlled by religious organizations. Non-Title IV institutions may or may not be accredited by an independent accreditor. Non-Title IV institutions are not required to report to IPEDS and might not be included in ETPPR.

The credential providers of foreign degrees are the foreign institutions that deliver their educational programs and award credentials via MOOC platforms to people in the U.S. Hence these are credentials offered in the U.S., meeting the definition of credentials included in this report, even though the providers are not located in the U.S.

4 The method for obtaining Title IV and Non-Title IV Degrees from U.S. institutions is the same.

TABLE 5: Count of Degree Providers

Credential Category	2025 Count	2022 Count	Change in Count	Sources
Degrees	**4,305**	**4,819**	**-514**	
Title IV Degrees	3,833	4,293	-460	IPEDS, ETPPR
Non-Title IV Degrees	440	526	-86	IPEDS, ETPPR
Degrees from Foreign University	32	-	-	edX, Coursera, FutureLearn

Discussion

Title IV Degree options have expanded while providers have decreased. Some of this is due to improved deduplication, as the research team has become better able to identify crossover between IPEDS and ETPPR distinctions. Non-Title IV Degrees from U.S. Institutions have also decreased along with the provider count.

Degrees from Foreign Institutions are counted separately from other non-Title IV degrees though they could be considered a subset.

Recommendations for Future Learning

- Engage in conversations with the ETA regarding possible data quality improvements to the ETPPR dataset, including additional standardization of data fields and reconciliation of data types, categories, and value ranges during the data collection process.
- Further spot-checking and reconciliation with publicly available state ETPPR to identify potential gaps.
- Investigation of CIP code assignment quality and consistency for postsecondary credentials in ETPPR.
- Search for additional sources of foreign degrees offered online in the U.S.
- Review Class Central's annual report of Degrees from Foreign Universities.
- Continue to confirm that each U.S.-based online degree program (excluded from this subcategory) is included in NCES IPEDS and in the count of Title IV degree programs.

Certificates

Certificates refer to credentials which designate participation in, and completion of, a program, training, or course signifying that the certificate holder has met predefined standards or requirements related to skills, knowledge, or competencies in a particular area. Outside of academic settings, there is no standard for the length or intensity of training or level of expertise required for a "certificate."

Training can result in a certificate within or outside of a formal academic setting. Certificates are distinct from postsecondary degrees, which typically follow academic standards.

Certificate Count

A certificate can be earned for completion of a single course or for the completion of a program or course of study. There are three subcategories: Certificates of Course Completion, Academic Certificates, and Apprenticeship Certificates of Completion. Certificates of Course Completion is the largest of the subcategories and has grown by 78 percent since the 2022 count, due to an increasing number of online learning courses offered on an increasing number of platforms. The number of academic certificates and apprenticeship certificates have increased, but only slightly by comparison.

TABLE 6: Count of Certificates

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Certificates	**486,352**	**330,830**	**155,522**		
Certificates of Course Completion	339,405	190,802	148,603	Enumeration	Course Report, codingboot camps.io, Coursera, EdX, FutureLearn, Kadenze, Swayam, Alison, ANSI, Pluralsight, Skill Success, Skillshare, Udemy, LinkedIn Learning
Academic Certificates	116,652	112,195	4,457	Estimation	IPEDS, ETPPR
Apprenticeship Certificates of Completion	30,295	27,833	2,462	Estimation	RAPIDS, Lightcast Jobs Postings

Comparison of Certificate Subcategories

The three subcategories of certificates represent different systems of skills and knowledge gained and vary in duration and intensity. A Certificate of Course Completion indicates the completion of a specific course. These courses may provide knowledge and skills and may or may not lead to another recognized credential, such as an academic certificate, degree, apprenticeship, or professional certification. Academic Certificates are awarded by postsecondary institutions for completing a non-degree program of study. Apprenticeship Certificates of Completion are awarded to learners for completing on-the-job and classroom training in an established trade or profession. Each of these subcategories is further divided and discussed in detail below.

TABLE 7: Comparison of Certificate Subcategories

	Certificates of Course Completion	Academic Certificates	Apprenticeship Certificates of Completion
Description	A certificate of course completion indicates the completion of a specific course. These courses may provide knowledge and skills and may or may not lead to another recognized credential.	An academic certificate refers to a type of award offered by a postsecondary education institution, indicating the completion of a non-degree program of study.	An apprenticeship establishes practitioners as qualified technicians in their chosen trade or profession through on-the-job training and classroom instruction.

Certificate Count Source and Methodology

Each of the three Certificate subcategories were calculated in a different way. Certificates of Course Completion were primarily calculated by web scraping online training provider platforms and aggregators, and then deduplicating by course and provider name to ensure that no course was counted twice. Academic Certificates were calculated the same way as U.S. Degrees, using IPEDS and ETPPR. Apprenticeship Certificates of Completion were calculated using the RAPIDS database and Lightcast job postings data to measure both Registered and Unregistered Apprenticeships.

TABLE 8: Certificate Count Source and Methodology

	Certificates of Course Completion	Academic Certificates	Apprenticeship Certificates of Completion
Count Source and Method	Certificates of completion were counted using web scraping to collect information on online training providers and program aggregators.	Academic Certificates can be found in both IPEDS and ETPPR. There is an overlap between the two data sources. Where some postsecondary institutions and degrees may be listed in both sources, records are matched and deduplicated.	The research team utilized both the RAPIDS database and analyzed Lightcast job postings data.

Certificate Providers

There are distinct types of providers for the three subcategories of certificates. Course completion certificates can be earned from bootcamp providers, online platforms, training organizations, or educational institutions. Academic Certificates are earned from postsecondary institutions, and Apprenticeship certificates of completion are awarded by employers or a third party that oversees the training. In 2022, the research team did not count providers of online certificates of course completion but they were able to this year due to the web scraping employed by the team. The decrease in providers of academic certificates is the result of improved deduplication of institutions within the same system. The large increase in Apprenticeship providers is due to improved use of job postings data and matching from the RAPIDS database.

TABLE 9: Count of Certificate Providers

	2025 Providers	2022 Providers	Change in Count	Source
Certificates	**35,230**	**16,591**	**18,639**	
Certificates of Course Completion	6,549	-	-	Course Report, codingbootcamps.io, Coursera, edX, FutureLearn, Kadenze, Swayam, Alison, ANSI, Pluralsight, Skill Success, Skillshare, Udemy, LinkedIn Learning
Academic Certificates	8,507	10,910	-2,403	IPEDS, ETPPR
Apprenticeship Certificates of Completion	20,174	5,066	15,108	RAPIDS, Lightcast Jobs Postings

Certificates of Course Completion

TABLE 10: Count of Certificates of Course Completion

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Source
Certificate of Course Completion	**339,405**	**190,802**	**148,603**		
Bootcamp Course Completion	2,842	2,153	689	Enumeration	Course Report, codingbootcamps.io
Focused Online Learning	336,563	188,649	147,914	Enumeration	Coursera, edX, FutureLearn, Kadenze, Swayam, Alison, ANSI, Pluralsight, Skill Success, Skillshare, Udemy, LinkedIn Learning

Comparison of Certificate of Course Completion Subcategories

Certificates of Course Completion are broken down into two subcategories: Bootcamp Course Completion and Focused Online Learning certificates. Bootcamps are short-term immersive training programs that focus on practical skills. After completing a bootcamp, the learner is issued a certificate of course completion. This report only counts bootcamps with an on-site U.S. presence, online availability, or both. Focused Online Learning Certificates are awarded upon the completion of a course conducted on an online platform. This subcategory does not include online courses completed at academic institutions or courses completed for academic credit. Both counts are enumerations, as the research team was able to gather exact numbers from all sources. Both counts are enumerations, as the research team considers the count complete with exact numbers from all sources.

TABLE 11: Comparison of Certificate of Course Completion Subcategories

	Bootcamp Course Completion	Focused Online Learning
Description	Bootcamps refer to short-term immersive training programs and focus on teaching practical skills. These programs focus on hands-on training and are typically aimed at quickly preparing participants for employment opportunities in specific industries.	Focused online learning course completion certificates are awarded upon the completion of a course conducted via online platforms.

Certificate of Course Completion Count Source and Methodology

All counts of Certificates of Course Completion are enumerations. Bootcamps were counted using two bootcamp aggregators. The research team counted all available courses using web scraping to record the course titles, the number of courses, and the names of the providers. The bootcamp aggregators the research team used were Course Report and coodingbootcamps.io.

Focused Online Learning Certificates come from MOOC and non-MOOC online platforms. For MOOC data sources, the research team used web scraping to pull lists of all identified courses from MOOC platforms. These programs were then deduplicated using standardized provider names and credential titles, as well as various other cleaning processes, before summing across all platforms. For non-MOOC platforms such as LinkedIn Learning and Udemy, which host their own courses, the researchers recorded the number of courses available at the broadest possible subject levels to obtain an enumerated count of available courses with the least duplication possible.

TABLE 12: Certificate of Course Completion Count Source and Methodology

	Bootcamp Course Completion	Focused Online Learning
Count Source and Method	Using lists of bootcamps from two bootcamp aggregators, the researchers counted all available courses using web scraping to record the course titles, the number of courses, and the names of the providers.	Using a list of online data sources, the research team ran web scrapes to pull lists of all identified courses from the platforms before deduplicating using standardized provider names and credential titles.

Certificate of Course Completion Providers

Bootcamp Course Completion and Focused Online Learning are awarded by different providers. The most common providers of Bootcamp Course Completion certificates are for-profit bootcamp companies. However, there are a growing number of colleges and universities that offer traditional degrees alongside coding bootcamps, although the bootcamps are often run by separate providers, with the educational institution hiring or hosting an independent bootcamp company. While most bootcamp providers have physical locations in one country, several offer courses in multiple countries.

Focused Online Learning course completion certificates counted in this subcategory were offered by for-profit online learning providers, such as LinkedIn Learning and Udemy. The credentials are created and offered by the platform the training is delivered on. These providers vary in the subjects covered, as well as the cost, and the number of courses offered, but each provides a clear process for completing courses. The providers may require a paid subscription and/or may offer free courses (e.g., Alison offers 4,000 free courses as well as courses by fee or subscription). Whether the credential is provided by the platform, or by the organization who designed the course, varies by platform. These providers were counted for the first time in this report.

TABLE 13: Count of Certificate of Course Completion Providers

	2025 Providers	2022 Providers	Change in Count	Source
Certificate of Course Completion	**6,549**	**615**	**5,934**	
Bootcamp	787	615	172	Course Report, codingbootcamps.io
Focused Online Learning	5,762	-	-	Coursera, edX, FutureLearn, Kadenze, Swayam, Alison, ANSI, Pluralsight, Skill Success, Skillshare, Udemy, LinkedIn Learning

Discussion

This year, the research team utilized Course Report and for the first time this year, codingbootcamps.io, as aggregators. Codingbootcamps.io contributed 238 credentials from both academic and non-academic organizations. The use of web scraping, as in other credential counting, provided more information on the credentials and their providers than in previous counts. Bootcamps continue to be largely focused on aspects of IT and include topics ranging from simple programming to cyber security. This count is an enumeration, as the platforms are scraped for an exact count and the research team is not aware of any alternate platforms or places where these credentials can be obtained.

Course completion certificates are offered upon the completion of a single course and can be obtained on the path to other credentials, such as a micro-credential or a degree.

In addition to the U.S.-based and foreign universities, other organizations offering course completion certificates include U.S.-based and international businesses, nonprofits, and training organizations. This count is an enumeration, as the platforms are scraped for an exact count and the research team could not find any alternate platforms or places where these credentials can be obtained.

Both of these subcategories are expanding rapidly. The increase in bootcamp providers, and especially the increase in available focused online learning, show how rapid skills training is increasing in importance, and how more training is moving online.

Recommendations for Future Research

- Continue to identify any bootcamp-providing organizations not profiled in the Course Report or codingbootcamps.io directory and seek information on these providers.
- Identify the most frequent non-academic partners offering bootcamp course completion certificates.
- Monitor and update web scraping scripts based on website updates.
- Continue to report on the number of courses each provider offers and confirm that each platform offers unique courses.
- Identify the most frequent non-academic partners offering course completion certificates.
- To ensure timely reporting for future counts, establish when websites are updated and the best dates to pull information for the count.

Academic Certificate

TABLE 14: Count of Academic Certificates by Subcategory

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Academic Certificate	**116,652**	**112,195**	**4,457**		
Title IV	63,081	53,853	9,228	Estimation	IPEDS, ETPPR
Non- Title IV	53,571	58,342	-4,771	Estimation	IPEDS, ETPPR

Comparison of Academic Certificate Subcategories

Academic Certificates include both Title IV and Non-Title IV certificates. Title IV certificates awarded by public and nonprofit postsecondary institutions require at least one year of full-time academic effort, unless the institution also qualifies as a postsecondary vocational institution. Title IV Certificates earned at for-profit (proprietary) postsecondary institutions, or at vocational institutions, are required to provide at least 300 clock hours of instruction offered over at least 10 weeks. As a result, any certificates awarded by public, non-profit postsecondary institutions requiring less than a year, or certificates awarded by for-profit or vocational institutions providing less than 300 hours of instruction/lasting less than 10 weeks, are considered Non-Title IV. As a result, Non-Title IV certificates are frequently short-term programs that do not require full admission to an institution of higher education, such as continuing education or professional development programs. Not all non-Title IV certificates earned at Title IV institutions are reported in IPEDS. The certificates that are not reported are often considered non-credit programs. Non-credit certificate programs at Title IV postsecondary institutions are frequently less than one semester in length and may be stackable, leading to industry certifications or meeting prerequisite requirements into for-credit programs.

The count of Academic Certificates is an estimate, as the research team was required to estimate certificates that are not reported to IPEDS or ETPPR, as well as those awarded by separate institutions/ schools that are reported as a single entity in IPEDS.

TABLE 15: Comparison of Academic Certificate Subcategories

	Title IV Certificate	Non-Title IV Certificate
Description	A Title IV Certificate is an award conferred by a Title IV college, university, or other postsecondary education institution as official recognition for completing a program of study.	Non-Title IV Certificates are offered by non-Title IV institutions or certificates that do not meet the Higher Education Act Title IV eligibility requirements at Title IV institutions.

Academic Certificate Count Source and Methodology

As with degrees, counts of Academic Certificates were deduplicated across IPEDS and ETPPR. Institutions and their credentials were also labeled as either eligible for Title IV funding or ineligible based on data from IPEDS and ETPPR. Beyond the institutional eligibility qualifications also used for degrees (e.g., inclusion/exclusion in IPEDS) Academic Certificates were categorized as Title IV-eligible based on their identified program length and control of the offering institution. Certificates with a duration of one year or longer offered by Title IV-eligible non-profit institutions in IPEDS, or offered at for-profit/vocational institutions with a length of greater than 300 clock hours and at least 10 weeks (as determined through ETPPR) were labeled as Title IV certificates. Certificates with a duration of less than one year offered by Title IV-eligible non-profit institutions in IPEDS or offered by for-profit/vocational institutions with a length of less than 300 clock hours/10 weeks (as determined through ETPPR) were labeled as non-Title IV certificates. Any certificates offered by Title IV-ineligible institutions were also labeled as non-Title IV certificates.

After the records were deduplicated and counted across both datasets, additional extrapolation ratios were applied to Title IV and non-Title IV certificates to account both for certificates that may not be reported to either IPEDS or ETPPR, as well as certificates awarded by multiple schools that are reported to IPEDS as a single entity. The extrapolation ratio was determined through a review of programs at selected institutions, including Title IV institutions offering career and vocational training.

TABLE 16: Academic Certificate Count Source and Methodology

	Title IV Certificate / Non-Title IV Certificate
Count Source and Method[5]	Certificates can be found in both IPEDS and ETPPR. There is an overlap between the two data sources. Where some postsecondary institutions and Certificates may be listed in both sources, records are matched and deduplicated.

Academic Certificate Providers

Title IV certificates are awarded by postsecondary institutions approved to operate by their state department of higher education and accredited by an accrediting body recognized by the Department of Education. The certificate program may be delivered at a location or satellite campus other than the main campus.

Non-Title IV certificates are offered by both Title IV and non-Title IV institutions. All institutions that report non-Title IV certificates in IPEDS are considered credential providers. All certificates offered by non-Title IV institutions are, by definition, not Title IV eligible.

5 The method for obtaining Title IV and Non-Title IV Certificates is the same.

TABLE 17: Count of Academic Certificate Providers

Credential Category	2025 Count	2022 Count	Change in Count	Sources
Academic Certificate	**8,507**	**10,910**	**-2,403**	
Title IV	3,938	4,744	-806	IPEDS, ETPPR
Non-Title IV	4,569	6,166	-1,597	IPEDS, ETPPR

Discussion

As with Degrees, the decrease in providers is partially due to improved deduplication methods for universities from their different locations. This can be seen with the decrease in Non-Title IV certificates providers matching the decrease in degree providers. Meanwhile, Title IV certificates are expanding as an academic training option, as seen with the increase in available credentials between the 2022 report and this report.

Recommendations for Future Research

- Engage in conversations with the ETA regarding possible data quality improvements to the ETPPR dataset, including additional standardization of data fields and reconciliation of data types, categories, and value ranges during the data collection process.
- Further spot-checking and reconciliation with publicly available state ETPPR to identify potential gaps.
- Investigation of CIP code assignment quality and consistency for postsecondary credentials in ETPPR.

Apprenticeship Certificates of Completion

TABLE 18: Count of Apprenticeship Completions by Subcategory

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Apprenticeships	**30,295**	**27,883**	**2,462**		
Registered Apprenticeships	27,992	27,385	607	Enumeration	RAPIDS
Unregistered Apprenticeships	2,303	448	1,855	Estimation	CREC analysis of Lightcast job postings

Comparison of Apprenticeship Certificate of Completion Subcategories

Apprenticeship Certificates of Completion includes both apprenticeships registered with the Federal Office of Apprenticeships and unregistered apprenticeships. The research team saw a large increase in unregistered apprenticeships since the previous count; this may be due to an increase in apprenticeship-like programs that companies offer internally, as well as a reflection of more precise methods of estimation. The count of Registered Apprenticeships is an enumeration, as it is based on the RAPIDS database, while the Unregistered Apprenticeships are an estimation based on Lightcast job postings. Pre-apprenticeship or youth apprenticeship programs are not included in this count.[6]

TABLE 19: Comparison of Apprenticeship Certificate of Completion Subcategories

	Registered Apprenticeships	Unregistered Apprenticeships
Description	An Apprenticeship Certificate of Completion recognizes the completion of a Registered Apprenticeship. It is a formal training contract between an employer and their employee. Upon completing on-the-job training and instructional learning with an employer, apprentices in a Registered Apprenticeship program receive an employer-approved, nationally recognized Certificate of Completion from the State Apprenticeship Agency or OA, as appropriate.	Unregistered Apprenticeship programs are offered by employers, require on-the-job and classroom training, and culminate in a certificate of completion or another industry-recognized credential. These programs are "unregistered" because they are not registered in the Registered Apprenticeship Partners Information Database System (RAPIDS) managed by the Department of Labor (DOL) Office of Apprenticeship (OA).

6 These apprenticeships are not registered with the federal government, and so by definition are not registered apprenticeships. ApprenticeshipUSA. (2025). What is a Pre-Apprenticeship Program?. https://www.apprenticeship.gov/employers/explore-pre-apprenticeship.

Apprenticeship Certificate of Completion Count Source and Methodology

The count of Registered Apprenticeship programs is provided by the Office of Apprenticeship (OA). The data was provided by the OA for Q2 of FY2025 and was calculated utilizing unique program identifiers. The OA receives data from all states quarterly and updates the annual count of the Registered Apprenticeship system's programs at the national and state levels.

Unregistered Apprenticeships were calculated by examining a sample of Lightcast job postings from the top 50 companies referencing apprenticeships in job postings and comparing these companies to the list of registered apprenticeship sponsors and employers found in the OA program data. The goal of the comparison was to determine whether any of the companies with related job postings had any apprenticeship programs registered with OA. From a sample of 50 companies, the research team found three (6%) that were both unregistered with the OA and provided some form of credential. Therefore, the research team estimated that 6% of providers posting about "apprenticeship" jobs (2,303) have at least one unregistered program. This exploration also revealed that using a keyword search for job postings will capture some inconsistencies, such as companies who run separate apprenticeship job boards or mention the word "apprentice" in their Equal Opportunity Employer clause.

TABLE 20: Apprenticeship Certificate of Completion Count Source and Methodology

	Certificates of Course Completion	Academic Certificates
Count Source and Method	The count of Registered Apprenticeship programs is provided by the Office of Apprenticeship (OA).	The research team examined a sample of Lightcast job postings from the top 50 companies referencing apprenticeships and compared these companies to the list of registered apprenticeship sponsors and employers found in the OA program data.

Apprenticeship Certificate of Completion Providers

Registered and Unregistered Apprenticeships are offered by different providers. Registered Apprenticeship programs are sponsored by an individual employer, labor organization, education institution, or industry association. Sponsors can register their program standards and apprenticeships with the Office of Apprenticeship (OA) or a State Apprenticeship Agency (SAA). The OA controls the standards and regulations and awards the Certificate in 21 states. Recognized by OA, SAAs serve as OA proxies and oversee Registered Apprenticeship programs in 30 states and the District of Columbia. Employers and their intermediaries play an important role, as they host the apprenticeship – validating the skills and knowledge gained on the job, and confirming the completion of training time and competency milestones. This indicates to the OA or SAA that a certificate can be awarded.

The provider for an Unregistered Apprenticeship is an employer, third party, or intermediary that awards a certificate of completion at the end of an unregistered apprenticeship program. These certificates of completion, awarded through programs that are not registered with OA, would not be recognized by the OA.

In the case of third parties or intermediaries representing employers that offer certificates of completion for unregistered apprenticeship programs, the strength of any completion credential depends on the employer's or intermediary's program design and rigor, as well as their standing and brand strength.

Apprenticeship Certificate Providers

TABLE 21: Count of Apprenticeship Completion Certificate Providers

	2025 Count	2022 Count	Change in Count	Sources
Apprenticeships	**20,174**	**5,066**	**15,108**	
Registered Apprenticeships	17,871	4,618	13,253	RAPIDS
Unregistered Apprenticeships	2,303	448	1,855	CREC analysis of Lightcast job postings

Discussion

This report's count is slightly higher than the previous enumeration by OA. The OA receives data from all states quarterly and updates the annual count of the Registered Apprenticeship system's programs at the national and state levels. This count is an enumeration, as the OA is the registration authority through which these credentials are obtained.

Many employers offer structured, work-based learning programs like apprenticeship programs, but such programs are not proactively documented or regulated by the federal government. It is difficult to identify these programs without a centralized database. Some sources estimate that about half of all U.S. apprenticeship programs are unregistered.[7] The definition of an unregistered apprenticeship is disputed among experts, but New America's Education Policy researchers suggested in a 2021 report that any apprenticeship program should meet three specific criteria:[8]

1. Participants are employed and paid a wage, not a stipend, and the program includes work-based learning
2. The program provides instruction in the form of formal classroom training
3. The program culminates in a credential

7 Kuehhn, Dan & Robert I. Lerman. (January 8, 2021). "Industry-Recognized Apprenticeship Programs Deserve a Chance to Thrive." The Urban Institute. https://www.urban.org/urban-wire/industry-recognized-apprenticeship-programs-deserve-chance-thrive.

8 Center on Education & Labor at New America. (2021). Apprenticeship in Review 2021. New America. https://www.newamerica.org/education-policy/reports/apprenticeshipreview/apprenticeship-in-review-2021/

While the research team investigated the Industry-Recognized Apprenticeship Programs (IRAPS) database, the federal program was abandoned in 2021. As of September 2022, 127 unregistered apprenticeship programs were listed in the database. This 2025 count does not include IRAPS because the database is no longer active. For this count, the research team compared a sample of Lightcast job postings from the top 50 companies referencing apprenticeships to the list of registered apprenticeship sponsors and employers found in the OA program data. The goal of the comparison was to determine whether any of the companies with related job postings had any apprenticeship programs registered with OA. From a sample of 50 companies, the research team found three (6%) that were both unregistered with the OA and provided some form of credential. Therefore, the research team's estimate that 6% of providers posting about "apprenticeship" jobs (2,303) have at least one unregistered program. This exploration also revealed that using a keyword search for job postings will capture some inconsistencies, such as companies who run separate apprenticeship job boards or mention the word "apprentice" in their Equal Opportunity Employer clause.

Recommendations for Future Research

- Researchers should reach out to the states and territories with potential missing information in the RAPIDS database to see if they can supplement the information.
- Unregistered apprenticeships are largely unexplored territory, and further research is required to understand the landscape. Further research should include additional conversations with the OA to understand how they are thinking about and/or tracking unregistered apprenticeships.

Micro-credentials

The definition of micro-credential is still evolving, as there is no regulatory authority or established definition even among institutions of higher education. Experts have described micro-credentials in the following ways:

- A record of focused learning achievement verifying what the learner knows, understands, or can do
- Smaller in terms of time or credits than a traditional academic award
- More targeted in the bundle of skills or study topics than a traditional academic award
- More flexible in its delivery than traditional higher education

For the purposes of this report, a micro-credential is anything calling itself a micro-credential.

Micro-credential Count

Micro-credentials are an emerging and important form of credentialing. The benefit seen in a micro-credential compared to a longer degree or certificate program is the flexibility to represent skills as well as competencies in a shorter form learning program.[9] While this flexibility can be seen as a strength of the credential type, the open definition of micro-credentials indicates there is not universal agreement on this form of credentialing or what it indicates.

TABLE 22: Count of micro-credentials

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Micro-credentials	3,384	1,603	1,781	Enumeration	Coursera, edX, FutureLearn, Kadenze, Udacity, Digital Promise

9 Oliver, Beverley. (2022). "Towards a common definition of micro-credentials." UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000381668.

TABLE 23: Micro-credential Description

	Micro-credential
Description	Experts generally describe micro-credentials as records of focused learning achievements that verify what a learner knows, understands, or can do, while being smaller in scope and time commitment than traditional academic awards.

Micro-credential Count Source and Methodology

This count is an enumeration of micro-credential programs listed by each MOOC platform and by Digital Promise. These programs were then deduplicated within and across all platforms using standardized provider names and credential titles, as well as various other cleaning processes.

TABLE 24: Micro-credential Count Source and Methodology

	Micro-credential
Count Source and Method	Using a list of MOOC data sources, the researchers ran web scrapes to pull lists of all identified micro-credential programs from MOOC platforms. Added to this count were micro-credentials from the Badge provider Digital Promise, before aggregating the final count.

Micro-credential Providers

Micro-credential providers counted here are offered by MOOC platforms, independently or on behalf of a partnering organization such as a higher education institution, or by a nonprofit organization. Some higher education institutions offer curriculum and award academic credits via MOOC platforms. In these cases, the university is the credential provider. In other cases, the micro-credential has been created by and offered by the platform provider itself.

Providers of micro-credentials were not included in the 2022 report.

TABLE 25: Count of micro-credential Providers

Credential Category	2025 Providers	2022 Providers	Change in Count	Sources
Micro-credentials	**381**	**-**	**-**	**Coursera, edX, FutureLearn, Kadenze, Udacity, Digital Promise**

Discussion

This count of micro-credentials from MOOC sources is slightly lower than the 2022 count, due to the improved deduplication between platforms, but the inclusion of the new source of micro-credentials, Digital Promise, has resulted in a more than doubling of the overall count.

Recommendations for Future Research

- Continue to support the development of standards that define "micro-credentials" as distinct from other online credentials, to allow easier identification and classification across platforms.
- Presently, only micro-credentials from these MOOC platforms and Digital Promise are reported. The research team should continue to explore other potential sources offering micro-credentials.
- As the types of organizations offering micro-credentials via the MOOC platforms continue to expand, the research team should start to identify non-academic organizations and their offerings. Many of the micro-credentials on these platforms are offered in partnership with academic institutions, but other organizations may offer these too.

Certifications

A Certification is a credential awarded by an authoritative body, such as an industry or professional association, to an individual who demonstrates designated knowledge, skills, and abilities in a particular occupation. For example, individuals can obtain certifications in a variety of occupations, including as a Project Management Professional, Certified Medical Assistant, or Certified Welder.

Certification Count

Certifications are a credential that represents competency in skills necessary for an occupation or profession. They are distinct from Certificates, because while Certificates typically require courses, and typically do not expire, Certifications require a test and typically expire.

TABLE 26: Count of Certifications

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Certifications	**6,892**	**7,051**	**-159**	**Enumeration**	**ETA COS Certification Finder, ACAP, ANSI, COOL, ICAC, NCCA**

TABLE 27: Certification Description

	Certifications
Description	A certification is a credential awarded by an authoritative body, such as an industry or professional association, to an individual who demonstrates designated knowledge, skills, and abilities in a particular occupation.

Certification Count Source and Methodology

Certifications must be carefully deduplicated between Certification Finder, a directory and search tool maintained by ETA COS, and other online aggregators. These certifications were then deduplicated using standardized provider names and credential titles, as well as various other cleaning processes. URLs were also utilized, if necessary, to determine if the matching certifications provided different credentials.

TABLE 28: Certification Count Source and Methodology

	Certifications
Count Source and Method	Certifications were downloaded from Certification Finder and deduplicated if both the certification name and provider name matched. The research team then web scraped several other certification aggregators to collect information on certifications not listed on Certification Finder.

Certification Providers

The Certification provider is an authoritative industry or professional association or technology provider. Certification providers are typically private or nonprofit organizations that create and promote their Certifications to professionals. They may seek accreditation from third-party accrediting organizations, though accreditation is not uniform. Certification providers may offer training materials and administer qualifying tests, or they may allow other organizations to deliver courses and administer the tests. They may maintain records of individuals who have attained certification, which may or may not be publicly available.

TABLE 29: Count of Certification Providers

Credential Category	2025 Providers	2022 Providers	Change in Count	Sources
Certifications	**1,250**	**1,586**	**-336**	**ETA COS Certification Finder, ACAP, ANSI, COOL, ICAC, NCCA**

Discussion

This year, the research team found 886 certifications not included in Certification Finder. The missing certifications will be sent to the COS team to improve their database. While the count in this category is less than that in the previous report, this reflects improved deduplication techniques across the multiple data sources, rather than fewer certifications being offered in the United States. This count is an enumeration, as the platforms are scraped for an exact count and the research team could not find any alternate platforms or places where these credentials can be obtained.

Recommendations for Future Research

- The definition of a Certification continues to evolve. The increasing engagement of academic institutions with the landscape of non-Degree credentials suggests that future research should investigate how Certifications are recognized by these organizations.
- It would be beneficial to perform a deep dive to determine the types of certifications that often need to be deduplicated or removed entirely so that future researchers can have a formal list to reference when compiling data.

Occupational Licenses

An Occupational License is an official authorization or permit issued by a governmental or regulatory body that allows an individual to legally practice a particular profession or trade. The federal government requires an occupational license for individuals to practice some professions in their jurisdiction. Workers who wish to have these jobs in licensed professions must meet state specific educational, training, and testing requirements, which state licensing boards oversee.

Occupational License Count

Occupational Licenses are government run, and government backed, credentials. This governmental involvement is one of the main distinguishing features of a License versus a Certification. The other distinguishing feature is that while a Certification is a credential of skill attainment that can be used in securing a job, a License is a credential that allows the holder to legally practice a profession. According to the National Conference of State Legislatures (NCSL): "When implemented properly, occupational licensing can help protect the health and safety of consumers by requiring practitioners to undergo a designated amount of training and education in their field."[10]

TABLE 30: Count of Occupational Licenses

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Occupational Licenses	**14,331**	**12,152**	**2,179**	**Estimation**	**ETA COS License Finder, State license registries**

TABLE 31: Occupational License Description

	Occupational Licenses
Description	An occupational license is an official authorization or permit issued by a governmental or regulatory body that allows an individual to practice a particular profession or trade legally.

10 Center for Excellence in State Occupational Licensing (2020). Occupational Licensing Final Report: Assessing State Policies and Practices. National Conference of State Legislatures. https://www.ncsl.org/research/labor-and-employment/occupational-licensing-final-report-assessing-state-policies-and-practices637425196.aspx

Occupational Licenses Count Source and Methodology

The research team downloaded the credentials in the CareerOneStop License Finder database, then compared the database to a selection of individual state license registries to estimate the number of missing licenses. The License Finder database, published in May 2024, contained 11,844 unique licenses. The research team examined state registries and Licenses listed by individual licensing authorities in four states (Louisiana, Pennsylvania, Oklahoma, and Montana) and found that these four states had varying degrees of missing licenses, with an average of 21 percent. The research team extrapolated this figure (21 percent), bringing the nationwide estimate to 14,331.

The count of occupational licenses is an estimate. States may vary in terms of complete coverage in License Finder. It is challenging to verify completeness, since publicly available lists of licenses regulated by state licensing authorities can be difficult to find.

TABLE 32: Occupational Licenses Count Source and Methodology

	Occupational Licenses
Count Source and Method	The research team downloaded the credentials in the License Finder database, then compared the database to a selection of individual state license registries to estimate the number of missing licenses.

Occupational Licenses Providers

State licensing boards act as License providers by regulating licensing with authority granted by state legislatures. Licensing boards set and update licensing requirements, manage license application and renewal processes, including fee collection, and maintain lists of Occupational License holders.

TABLE 33: Count of Occupational Licenses Providers

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Occupational Licenses	51	1,400	-1,349	Enumeration	ETA COS License Finder, State license registries

Discussion

Though improvements have been made to the centralized license database supported by the Analyst Resource Center, two sets of information seem to be persistently missing from the centralized ETA COS License Finder database: variations in license type (temporary, apprentice, intern) and variations in medical licenses, such as in nursing and nursing specializations. These discrepancies are likely due to a rolling data reporting schedule – for example, some states are more up-to-date in the database, and state regulations and reporting processes and state decisions about how and what to report to COS vary.

The decline in license providers is due to a refinement of definition. Previously, each agency that offered a license was counted individually. Under the current definition, it is the individual states, and the District of Columbia, themselves that are the ultimate providers of the credentials, as they are the authorities that grant permission for the license.

Recommendations for Future Research

- There should be a separate effort to verify which states have a publicly available and centralized list of licenses to compare with the results in License Finder. Compiling this data will allow researchers to better estimate how many licenses are missing from CareerOneStop data. Compiling these databases will also make it easier to scrape and match data across the different databases.

Secondary School Credentials

In the United States, “high school” refers to educational institutions covering grades 9 through 12. “Secondary school,” on the other hand, is a broader term that includes both middle and high school levels, typically encompassing grades 6 through 12. Thus, high school is a part of the secondary school system. The research team utilizes “high school” and “secondary school” interchangeably and regards a diploma from a high school or a secondary school as one subcategory of credential.

A Secondary School Credential is an award earned while the student is enrolled in secondary school. These credentials include diplomas, seals, and endorsements. A diploma is an academic qualification awarded upon high school graduation, typically after a course of study over four years, from grades 9 through 12. A seal or endorsement is awarded in secondary school and indicates exemplary performance or specialization in a topic.

Secondary School Credentials Count

Secondary School Credentials indicate a completed course of study, or that the requirements of such a study have been met. These requirements are determined by the individual states, and individual school districts within those states can add additional requirements or pathways for obtaining these credentials. The research team counted five different subcategories of credentials in this category: Secondary School Seals or Endorsements, High School Equivalency Diplomas, Private Secondary School Diplomas, Public Secondary School Alternative Certificates, and Public Secondary School Diplomas. Another subcategory of Secondary School Diploma or Equivalents that the research team was unable to count is Home School Diplomas. Given that there is no nationwide standard for these credentials, and that they can be awarded by the parents or any other adult interacting with the student, the research team was unable to determine their total number.

TABLE 34: Count of Secondary School Credentials

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Secondary School Credentials	**52,948**	**56,173**	**-3,225**		
Public Secondary School Diploma	28,779	34,457	-5,678	Estimation	NCES CCD, Departments of Education for each of the 50 states and DC
Secondary School Seals and Endorsements	526	-	-	Enumeration	Departments of Education for each of the 50 states and DC
High School Equivalency Diploma	51	51	0	Enumeration	GED, HiSET
Private Secondary School Diploma	11,603	11,603	0	Partial Enumeration	NCES PSS
Public Secondary School Alternative Certificate	11,989	10,062	1,927	Estimation	NCES CCD, Departments of Education for each of the 50 states and DC

Comparison of Secondary School Subcategories

Public Secondary School Diplomas are a secondary or high school graduation diploma awarded by a publicly funded secondary school. The requirements for achieving this diploma are determined by both the state and the school district. All other secondary school credentials are based on this award and its requirements.

Secondary School Seals or Endorsement are interchangeable terms for a credential earned in secondary school indicating exemplary performance or specialization in a topic. They are created and maintained by the state educational authority. The Seal of Biliteracy is available in every state and awarded for proving bilingual proficiency.

High School Equivalency Diplomas are determined by each state, territory, and protectorate and recognize competencies equivalent to those resulting from a typical secondary school program.

Private Secondary School Diplomas are secondary school diplomas offered by a privately funded secondary school institution.

Public Secondary School Alternative Certificates are sometimes described as a Certificate of Attendance or Certificate of Completion. Through Individualized Education Programs (IEP) and similar programs, students are sometimes able to graduate from high school without meeting the requirements for a standard high school diploma. All states are required by federal law to offer an alternative path to graduation for

students with disabilities. In some states, this requirement may be met by a waiver to standard graduation requirements (resulting in a diploma, excluded from this count), or by an alternative certificate, counted here. Some states have more than one type of alternative certificate. Like standard high school diplomas, these also differ by school district and are therefore multiplied by the number of public school districts in a state.

TABLE 35: Comparison of Secondary School Subcategories

	Public Secondary School Diploma	Secondary School Seal or Endorsement	High School Equivalency Diploma	Private Secondary School Diploma	Public Secondary School Alternative Certificate
Description	A secondary or high school graduation diploma awarded by a publicly funded secondary school.	A Secondary School Seal or Endorsement is a credential earned in secondary school indicating exemplary performance or specialization in a topic. They can either be a requirement for graduation or be awarded alongside a secondary diploma.	A high school equivalency diploma is an academic qualification awarded upon completing one of two national tests: (1) the General Educational Development Test (GED) or (2) the High School Equivalency Test (HiSET).	Private secondary school diplomas are provided by private institutions offering a school level of secondary or at least 12th grade.	A public secondary school alternative certificate is an academic qualification awarded upon high school graduation.

Secondary School Credentials Count Source and Methodology

The primary count sources for Secondary School Credentials are state Department of Education websites and the National Center for Education Statistics (NCES).

The count of Public Secondary School Diplomas is an estimation derived from the sum of the total number of public-school districts that offer 12th grade and the number of graduation options available in a given state – with the assumption that all public school districts offer available graduation options provided by their state. The count of public-school districts with selected characteristics by state is available from the NCES. The research team selected the following parameters for counting graduation options, including both Career and Technical Education (CTE) and non-CTE graduation options, excluding endorsements and seals, compiled from the Education Commission of the States' 50-State Comparison. Public School Alternative Certificates are calculated the same way, based on whether or not the State offers an Alternative Certificate.

Secondary School Seals and Diplomas cannot be obtained without a high school diploma, and therefore, they are additional credentials and so counting them requires reviewing each state's department of education website and searching for available seals and endorsements. As these are created and maintained by the state educational authority, they are counted at the state level, instead of the school district level, using each state's department of education website to obtain the number of unique seals and endorsements available for that state and summed across all states.

Every state is required to provide a High School Equivalency Diploma through one of the two national assessments; as this diploma is issued by the state, it is counted as one credential available per state, including the District of Columbia. No state offers two Equivalency Diplomas.

Private Secondary School Diplomas are calculated using the Private School Universe Survey from NCES. The research team counted the number of private schools that are characterized as "Secondary/High" and "Combined/Other." This is a partial enumeration, as the research team was unable to determine if any private school offers more than one diploma option.

TABLE 36: Secondary School Credentials Count Source and Methodology

	Public Secondary School Diploma	Secondary School Seal or Endorsement	High School Equivalency Diploma	Private Secondary School Diploma	Public Secondary School Alternative Certificate
Count Source and Method	This count is an estimation derived from the number of school districts in each state and the number of standard graduation options available in that state.	The research team reviewed each state's department of education website to obtain the number of unique seals and endorsements available in that state.	Every state is required to provide a high school equivalency diploma through one of the two national assessments.	The research team accessed the NCES Private School Universe Survey (PSS).	The research team reviewed each state's department of education website to determine if this credential was offered.

Secondary School Providers

State Departments of Education set baseline requirements for awarding almost all Secondary School Credentials, and set all the requirements for Secondary School Seals and Endorsements and Equivalency Diplomas. Wisconsin is the exception, as it gives school districts authority over Seals and Endorsements, resulting in 396 out of the 526 Seals and Endorsements originating from Wisconsin. The Equivalency Diploma is awarded by each state, territory, and protectorate. While the GED and HiSET tests do not vary by state, the requirements to take the tests do, and the resulting credential is awarded based on the state in which the test was taken.

While State Departments of Education set baseline requirements for graduating, individual school districts may set additional requirements, making the individual school districts the providers for Public Secondary School Diplomas and Public Secondary School Alternative Certificates. Every public school district that offers 12th grade is required to offer the state's designated alternative path to graduation. Private Secondary School Diplomas are awarded independently of the public school system and State Department of Education. Private School Diplomas are provided by private institutions offering a school level of secondary or at least 12th grade. A private secondary school is funded primarily through tuition fees, private contributions, and endowments, rather than government funding. These schools may or may not be accredited by an independent organization. The number reported here includes both stand-alone secondary schools and combined primary-secondary schools.

TABLE 37: Count of Secondary School Providers

Credential Category	2025 Count	2022 Count	Change in Count	Sources
Secondary School Credentials[11]	**25,480**	**25,402**	**78**	
Public Secondary School Diploma	13,825	13,742	83	NCES CCD, Departments of Education for each of the 50 states and DC
Secondary School Seals and Endorsements	450	-	-	Departments of Education for each of the 50 states and DC
High School Equivalency Diploma	51	57	-6	GED, HiSET
Private Secondary School Diploma	11,603	11,603	0	NCES PSS
Public Secondary School Alternative Certificate	11,989	9,035	2,954	NCES CCD, Departments of Education for each of the 50 states and DC

Discussion

One limitation of the analysis of Public Secondary School Diplomas is that the data sources available do not provide enough detail to count the number of diplomas offered at individual districts in each state. Some states offer a greater number of diploma options, including career and technical education or advanced academic achievement. This count is an estimate because the research team assumed that every school district offers the maximum number of graduation options allowed by its state.

While there appears to be a decrease in the count of Public School Secondary Diplomas, it is due to the researchers separating Secondary Seals and Endorsements into its own graduation credential subcategory. Starting with this count, Secondary School Seals and Endorsements are considered separate credentials from Public School Diplomas, so although they cannot be obtained without a High School Diploma, they are considered additional credentials. They also differ in that they are created and maintained by the state educational authority and therefore are enumerated rather than estimated as are secondary public diplomas.

For the previous report, the research team conducted a new investigation into these Secondary School Credentials. In the same way a traditional high school diploma indicates attainment of state academic standards, so too does an Equivalency Diploma. This is an enumeration due to how this credential is created and maintained by State Departments of Education.

11 These total numbers are deduplicated provider counts, representing each individual school district, each private secondary school, and the 50 states and DC. The school districts that offer Alternative Certificates are the same school districts that offer Public Secondary School Diplomas.

The number of Private Schools reported here includes both stand-alone secondary schools and combined primary-secondary schools. The federal survey used for this count has not been updated by the Department of Education since the previous count in 2022. Since the research team assumes that each private school offers one diploma option, this number is therefore a partial enumerated count of all available Private Secondary School Diplomas available. Additionally, while each of these schools necessarily offers at least one diploma option, it is unknown whether they offer alternative options.

As part of the previous report, the research team investigated Secondary School Credentials which led to the inclusion of Alternative Certificates of completion because they represent satisfactory completion of secondary schooling, similarly to a Diploma. They represent an alternative path to high school graduation, as required by federal law, and warrant inclusion in the count of Secondary School Credentials. This count has increased as states have expanded the ways that students can obtain a Diploma. This count is deemed an estimate given the assumption that all school districts offer Alternative Certificate options as allowed in their respective states.

Recommendations for Future Research

- Attempt to locate websites or organizations like Seal of Biliteracy to help track seal and endorsement availability.
- Continue to verify that each seal and endorsement available is created and maintained by the State educational authority.
- Future research can include investigation of a sample of states to identify additional Equivalency Diploma completion options beyond the GED and HiSET that are unique to each state.
- In the future, researchers may seek to ascertain the extent to which, if any, private secondary schools issue more than one type of diploma.
- In the future, researchers may seek to find a new database of private schools.
- Researchers should determine if there is a centralized database for alternative secondary credentials, as this count relied on individual State Department of Education websites for information.
- For the states that offer more than one diploma option, examine ways to better measure the proportion of districts that do not offer each diploma option. This will improve the accuracy of this count.
- Previous reports utilized Achieve.org as a source of graduation options by state. Search for a comprehensive list of graduation options by state that can be used in the same manner.
- Future research to search for a comprehensive list of available seals and endorsements offered by each state.

Badges

Digital Badges are electronic representations of skills and achievements that individuals earn and display online, often through platforms like learning management systems or professional networks. Since badges contain embedded metadata about skills and achievements and are shareable online, they serve as virtual tokens or signals of achievement that can be disseminated on social media, digital resumes, email signatures, and through other methods. They can also represent the completion of a course, mastery of a skill, or performance in an activity. Badges can also serve as a digital way of representing another type of credential, for example a badge offered for completion of the requirements of a certificate.

Badge Credential Count

Badges are a prolific, yet not fully understood or recognized, signal of learning made possible by the shared, distributed architecture of the web. Based on surveys of badge platform providers, which provide the digital infrastructure to award, track, and verify badges, the count shows that there are more badges available to learners in the U.S. than any other credential. This represents the increasing importance of digital credentialing. However, defining and identifying the unique function of badges among other credentials can be challenging. Badges can be awarded (1) to signify a specific achievement or mark a step along the path to achieving a particular credential; (2) as a credential of learning in and of itself; or (3) as the digital representation of a credential in a different category, such as a certificate or a degree. As a result, the research team have accounted for overlap between badges and other credential categories by estimating the share of badges that are likely to represent credentials already counted elsewhere.

TABLE 38: Count of Badges

Credential Category	2025 Count	2022 Count	Change in Count	Estimation or Enumeration	Sources
Badges	1,022,028	430,272	591,756	Estimation	Badge platform providers

TABLE 39: Badge Description and Method

	Badges
Description	Digital Badges are electronic representations of skills and achievements that individuals earn and display online. Badges serve as virtual tokens or signals of achievement that can be disseminated on social media, digital resumes, or email signatures. Badges can also serve as a digital way of representing another type of credential.

Badges Count Source and Method

The Badge count was derived from two data sources: researchers (1) received datasets of individual Badge records from four Badge platform providers and (2) sent surveys to 97 Badge platform providers. By combining these sources, the team arrived at the estimated count of Badges.

Individual Badge Records: Cleaning of the Badge record datasets included elimination of any duplicate records, as well as the use of keyword matching and text analysis to remove records that represent testing the Badge system or testing issuer accounts.[12] Keyword matching and text analysis were then performed to identify Badge records that likely represent credentials in other categories, such as certificates or degrees. URLs and email addresses provided for each Badge issuer were parsed to identify the unique domain (e.g., "harvard.edu") and top level domain (i.e., ".edu" or ".com") associated with each Badge record. The top level domain was used, in combination with the Badge/issuer name, to identify issuers located outside of the United States.[13]

Finally, URL/email domains for each Badge issuer record were matched against those identified for providers in other credential datasets. This issuer matching was combined with the previous credential type categorization to identify Badge records that were likely to represent credentials already counted elsewhere (e.g., a Badge likely representing an academic certificate, being offered by a two-year college that was included as part of a different data source). Rates of credential duplication derived from these detailed Badge record datasets were then applied to the Badge survey counts provided by Badge platform providers to produce a final estimated count of unique, unduplicated Badges. For a more complete explanation of the Badge record analysis method, see Appendix C.

Badge Survey: From the 24 Badge platform providers who responded to the survey, the research team received an aggregated count of the Badges they offer from U.S. organizations, a count of organizations that use that platform, and additional contextual information regarding their Badge system. Some Badge platform providers included counts of their Badges by learning/credential category. Researchers also cleaned and analyzed the four datasets of individual badge records to estimate what share of Badges reported by Badge platform providers in the survey would likely be duplicates of credentials counted elsewhere (e.g., Badges representing certifications, certificates, degrees already counted within their respective categories).

For more information, please see Appendix C.

12 Examples of keywords used to identify these records included "test," "sandbox," "sample," "demo," etc. This analysis utilized regular expressions (regex), which allow for greater specification of text matching patterns to avoid false positives such as a Badge for taking a test, or containing the word "contest."

13 In addition to those with U.S.-specific top-level domains such as .us and .edu, issuers with generic domains such as .com, .org, and .net were treated as U.S. providers. Country-specific domains that are frequently used by U.S.-based websites such as .io and .co were also treated as U.S. providers. Issuers with other country-code domains such as .mx, .ph, and .uk were treated as non-U.S. providers.

TABLE 40: Badges Count Source and Method

	Badges
Count Source and Method	The Badge count was derived from two data sources: researchers (1) received datasets of individual Badge records from four Badge platform providers and (2) sent surveys to 97 leading Badge platform providers.

Badge Providers

Badge providers are credentialing organizations such as educational institutions, primary and secondary schools, and professional or industry organizations, as well as employers, community organizations, and individuals recognizing achievements (such as teachers and coaches). Badge providers are as diverse as the extensive diversity of achievements for which badges are awarded.

TABLE 41: Count of Badge Providers

Credential Category	2025 Count	2022 Count	Change in Count	Sources
Badges	**81,597**	**14,921**	**66,676**	**Badge platform providers**

Discussion

The research team benefited from being able to analyze over 500,000 individual Badge records, which allowed for better understanding of the Badge universe, and they were able to use this additional information and apply it to survey responses. There are some limitations to this analysis. Individual badge records were only provided from a few Badge platform providers, and not all Badge platform providers responded to the survey. This space remains fluid, and there are platforms that the research team is not aware of.

Attempts to match individual badge records with other credentials saw some success, but there are limitations, as there can be a difference in the names and URLs that are provided. While the research team was able to make a determination about one Badge platform provider only operating in micro-credentials and complete a top-level estimate of other credential overlaps, the research team cannot be sure that the credential names and provider names that the Badge providers use match the names in the other data sources the research team used to count credentials. Even different Certification data sources abbreviate different parts of a credential name or add or omit a parenthetical if the certification is an acronym. It is worth highlighting that the datasets included Open Badge 2.0 and 3.0 standard formats. Of the two, 3.0 provided more information about the Badges, offering more insights into the credentialing landscape.

Recommendations for Future Research

- Further descriptive analysis of Badge records datasets, including the wealth of metadata provided through the Open Badge standard format, will help inform further deduplication efforts, as well as inform conversations concerning the definition of Badges as credentials of learning.
- Additional machine learning techniques should be explored and assessed for accuracy in categorizing Badges based on the type of learning/credential they represent.
- Additional scraping of URLs from non-Badge online credential sources (e.g., MOOCs) will allow for further matching and deduplication in future counts.

Appendices

Appendix A

Advances in Reporting

History of the Counting Credentials Report

This is the fifth report from Credential Engine that seeks to describe and count all credentials offered in the U.S. In the seven years since the first report was published in 2018, the research team's methods and understanding of the credential space have improved, leading to more and more complete results. The previous report in 2022 found 1,076,358 unique credentials and introduced a count of credential providers.[14] The research team has also included reports on the amount spent annually across the entirety of the nation's education and training ecosystem. This 2025 report includes provider counts on page 11 and throughout the report, counts of select credentials by state in Appendix B, and the expenditures report in Appendix C1.

14 A credential provider is an organization that owns or offers a credential. Credential providers are distinguished from education and training providers, which may provide the resources and opportunities for instruction that supports credentialing but may not have the authority to assign the credential or may not control the requirements for credentialing. Credential providers are also distinguished from regulators or accreditors that set rules and norms guiding credential design and offering.

Methods

All data collection took place in February 2025, with the exception of the badge count survey, which closed in June 2025. This year, methodological improvements helped to refine the badge count, as well as the collection of information about credentials offered online. As in previous years, the research team relied on a survey of badge providers for the initial count of the number of badges hosted on their platforms. This year, however, the research team adjusted these survey totals to account for likely overlap with credentials already counted in other categories. The research team was able to further adjust the total badge count based on information garnered from more detailed survey questions as well as from a detailed analysis of badge records based on a few key sample datasets provided by badge platform providers. Web scraping of online learning credentials also allowed the researchers to find and record more information, making it easier to eliminate duplication across platforms and other credential sources.

Badge Analysis

The term *badge* can be used in two ways: as a credential itself or as a digital record that signals/verifies a credential has been obtained. Previously, credentials represented by badges were treated as mutually exclusive of other credential categories. For this report, the research team confirmed that badges are indeed used to issue credentials that fall into other categories of credentials, such as certificates and certifications. The final count is an estimated number of badges that are distinct credentials that do not represent a credential already counted in another category. For example, there were 1,136 badges representing credentials that fit the definition of micro-credentials. As a result, these are not counted as badges and are added to the micro-credential category count. For a complete explanation of the badge analysis process, see Appendix D.

Web Scraping

In February 2025, the research team improved the counts by expanding the number and extent of online platforms scraped and analyzed. This expansion simplified deduplication across platforms and credential types. Web scraping allowed for more complete information collection from online platforms. While previously the research team was only able to gather the number of programs from online platforms, web scraping allowed for the collection of names and training providers to more accurately deduplicate programs, making sure each credential is unique. Not all online platforms could be scraped, as some ban the practice in their terms of service and others have strong anti-scraping measures in place that either slow or prevent the practice.

Integration of AI

For this iteration of the Counting Credentials Report, an open large language model (LLM) generative artificial intelligence (AI) tool was used to assist code development, web scraping, and data analysis, particularly for badge data. Future iterations of the report will continue to explore opportunities to use AI and machine learning in new and innovative ways, such as using AI to crawl the web for previously unknown credentials or using machine learning to better parse and categorize large credential datasets.

Appendix B

State Counts

Table B1 provides a state-by-state breakdown of the number of credentials offered across 10 of the credential subcategories described in this report. These counts were determined by identifying the location of the credential providers, which is not possible for all credential types. Programs offered online, such as micro-credentials and badges, are available equally in all states. Other programs, like occupational licenses, are available only in certain states. Bootcamps are available both online and in person; for this count, only bootcamps with a physical location are counted. These credential counts will not add up to the total number of credentials listed in the main report, as many states can have the same program.

TABLE B1: Credentials by State

State Breakdown	Apprenticeships	Public Secondary School Alternative Certificate	Public Secondary School Diploma	Secondary School Seals/ Endorsements	Licenses	Bootcamps[15]	Non-Title IV Certificate	Title IV Certificate	Non-Title IV Degree	Title IV Degree
Alabama	496	54	54	1	155	1	117	127	1	451
Alaska	1,066	153	153	1	137	0	601	627	18	2,648
Arizona	541	369	738	4	203	84	924	755	200	2,065
Arkansas	860	279	279	1	333	6	1,625	964	4	3,365
California	713	1,088	1,088	3	545	595	5,419	4,416	212	17,938
Colorado	662	187	374	2	171	49	762	556	8	2,404
Connecticut	1,433	0	158	1	248	151	209	482	5	2087
Delaware	287	31	31	1	283	8	153	64	52	1,026
District of Columbia	87	22	22	1	74	23	23	252	5	1,327
Florida	879	81	162	2	391	237	2,280	2,217	107	6,620
Georgia	584	400	400	5	173	79	2,079	1,446	328	4,345
Hawaii	92	1	2	1	83	4	97	105	1	646
Idaho	516	0	447	1	159	1	678	838	15	3679
Illinois	1,366	0	538	2	310	82	282	328	6	1,218
Indiana	1,752	374	1,496	5	259	0	2,137	2,099	64	8,365
Iowa	1,591	326	326	1	118	2	2,080	1,406	45	5,225
Kansas	543	285	285	1	111	10	922	910	39	2,968
Kentucky	567	173	173	1	308	1	1,053	739	178	3,165
Louisiana	358	124	372	3	102	2	711	712	64	2,182
Maine	211	252	252	1	317	1	219	273	14	1,199
Maryland	483	25	25	4	249	32	512	915	2	2,913

15 This is a partial enumeration of bootcamps, as the research team was not able to determine the location of bootcamps from one of the sources.

State Breakdown	Apprenticeships	Public Secondary School Alternative Certificate	Public Secondary School Diploma	Secondary School Seals/ Endorsements	Licenses	Bootcamps[15]	Non-Title IV Certificate	Title IV Certificate	Non-Title IV Degree	Title IV Degree
Massachusetts	734	305	610	1	137	24	629	973	6	6,201
Michigan	2,096	714	714	1	236	19	1,043	1,609	41	6,432
Minnesota	430	0	438	1	315	6	2,009	2,438	39	6,276
Mississippi	448	142	284	4	223	0	77	654	245	2,308
Missouri	1,051	471	1,413	1	167	27	1,097	1,664	224	6,851
Montana	981	0	167	1	217	8	78	282	8	1,020
Nebraska	378	272	272	1	181	11	370	393	1	2,010
Nevada	409	40	80	6	172	1	310	362	15	935
New Hampshire	830	71	71	2	160	13	286	224	2	1,222
New Jersey	2,715	0	346	1	214	443	495	971	27	3,626
New Mexico	278	0	128	1	198	30	407	590	91	1,501
New York	742	1,628	3,256	6	166	429	558	2,641	24	13,281
North Carolina	673	0	264	7	980	52	2,211	1,687	42	6,160
North Dakota	200	147	147	1	168	1	196	221	13	1,195
Ohio	1,786	0	5,586	13	104	72	1,633	1,929	148	9,354
Oklahoma	484	0	1,302	2	282	3	503	951	19	2,352
Oregon	312	621	207	1	266	1	496	746	0	2,404
Pennsylvania	1,724	683	1,366	1	135	18	1,251	2,250	262	10,225
Rhode Island	859	0	96	3	169	0	78	141	0	1,210
South Carolina	653	0	188	8	304	10	568	348	1	2,720
South Dakota	362	0	310	5	193	1	181	201	37	1,138
Tennessee	680	393	131	1	210	25	848	1,376	176	4,440
Texas	1276	1,100	2,200	6	219	91	3,233	3,086	86	11,561
Utah	656	89	89	1	116	36	538	465	51	2,283

State Breakdown	Apprenticeships	Public Secondary School Alternative Certificate	Public Secondary School Diploma	Secondary School Seals/ Endorsements	Licenses	Bootcamps[15]	Non-Title IV Certificate	Title IV Certificate	Non-Title IV Degree	Title IV Degree
Vermont	197	109	109	1	153	0	48	74	0	759
Virginia	1,539	584	438	7	287	34	839	1134	34	4,100
Washington	390	0	279	1	181	135	2,488	1,843	163	6,072
West Virginia	702	0	62	1	231	1	150	456	31	1,506
Wisconsin	814	396	792	398	302	146	1,264	1,104	9	3,993
Wyoming	303	0	58	1	101	1	171	147	0	693

Appendix C1

Report on Education and Training Expenditures in the U.S.

This is the third report issued by Credential Engine to estimate U.S. spending on training and education. Education and training investments by individuals, businesses, and governments provide a multitude of benefits to society. They can improve individuals' employability after graduation, increase their earnings potential, and positively impact their well-being. These investments enhance the nation's innovation and technology capacity, spur economic growth, and bolster global competitiveness.[16]

Understanding the total *spending* on education in the U.S. helps policymakers, employers, and other stakeholders better understand the extent and nature of these investments as a whole.

The total yearly expenditures by educational institutions, employers, federal and state grant programs, and the military increased from $2.13 trillion measured in the 2022 report to **$2.34 trillion** measured for this report.

16 Runde, Daniel, Romina Bandura, and Madeleine McLean. 2023. "Investing in Quality Education for Economic Development, Peace, and Stability." Center for Strategic & International Studies. https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-12/231220_Runde_Investing_Education.pdf?VersionId=n_FLsZ472BYCHGLpAe0G6JnLqMCQ5ely.

Methodology

This report analyzes the total education and training expenditures spent by educational institutions, employers, and federal and state grant programs and other funded programs that are dedicated to workforce training across the U.S. It draws on the latest available data to provide an overview of how the nation invests in skills development and credential attainment.

This report largely follows the same methodology used in the 2022 report. Most spending estimates are drawn from administrative data reported to the federal government. Researchers used administrative sources to fill data gaps through enumeration and extrapolation of survey results. Table C1 below outlines analytical methods for each category.

TABLE C1: Analytical methods

Category	Method
Educational Institutions	
Elementary and Secondary Education (K-12)	Enumeration[17]
Title IV Degree-Granting Institutions of Higher Education (IHEs)	Enumeration
Non-Title IV Degree-granting Institutions of Higher Education (IHEs)	Enumeration & Extrapolation
Private Education and Training Organizations (Non-degree)	Enumeration
Employer-Sponsored Training	
Employer Direct Training Expenditures	Enumeration & Extrapolation[18]
Employee Earning During Training	Enumeration & Extrapolation
State and Federal Government Funding	
State-Funded Education and Workforce Development Systems, Schools, and Programs	Enumeration
Federal Workforce Development Grant Programs	Enumeration
U.S. Military Training and Education (Active Duty)	Enumeration

17 Enumeration refers to complete accounts of spending.

18 Extrapolation refers to making estimates based on small-sample survey results.

This edition of the report has made minor updates to the methodology to improve clarity of reporting and results without diminishing comparability to the previous edition. For example, this edition combines formal and informal training instead of separating them. The expenditure figures presented in this edition are not adjusted for inflation. The figures may not reflect total spending, despite efforts to be as comprehensive as possible, as some sources may not have been captured in the analysis.

Detailed data sources and calculation methods across all 9 categories are discussed in Appendix C2.

Findings

Based on the most recent data, academic education from kindergarten through college represented the largest share of expenditures for credential attainment and skills development, accounting for 63.34% of total expenditures estimated for this report.

Employer spending on workplace upskilling represented 30.6% of total expenditures.

State and federal government funding for workforce training represented only 6.06% of total expenditures. Active-duty U.S. military training accounts for less than 1% of total expenditures.

Below are the findings for each category in more detail:

From academic year 2021-2022, the most recent years with available data, educational institutions, including K-12 elementary and secondary schools, Title IV and Non-Title IV degree-granting Institutions of Higher Education (IHEs), and non-degree private education and training organizations,spent $1.48 trillion on education, accounting for more than 60% of the overall education and training expenditures estimated for this report. Both K-12 institutions and Title IV degree-granting IHEs spent 9.4% and 3.4% more respectively than the amounts calculated in the 2022 report. However, spending for non-Title IV degree-granting institutions and non-degree private education and training organizations has declined by 30% and 60% respectively compared to the 2022 report.

TABLE C2: Expenditures breakdown for educational institutions

Category	Expenditures
Elementary and secondary education (K-12)	**$945.0B**
Public schools	$870.0B
Private schools	$75.0B
Title IV Degree-granting IHEs	**$506.1B**
Public schools	$330.1B
Private nonprofit	$163.8B
Private for-profit	$12.2B
Private education and training organizations (non-degree)	**$29.7B**
Non-Title IV degree-granting IHEs	**$1.1B**

Employer-sponsored training consists of employer direct training expenditures and employee earnings during training that covers both public and private sector data from 2022, 2023, and 2024. For this 2025 report, researchers found that $715.87 billion was spent annually on employer-sponsored training, representing approximately a 20% increase from the 2022 report.

TABLE C3: Expenditures breakdown for employer-sponsored training

Category	Expenditures
Employee Earning During Training	**$560.49B**
Employer Direct Training Expenses	**$155.38B**
U.S.-based corporations and educational institutions with 100 or more employees	$101.8B
Firms with less than 100 employees	$44.7B
Firms with less than 20 employees	$8.9B
Firms with between 20 and 99 employees	$35.8B
Training expenditures for government agencies outside of education	$8.9B
Federal government (civilian)	$1.1B
State and local government (other than education)	$7.7B

Based on data from 2022 and 2023, state and federal governments spent $141.7 billion on education and training, a 30% increase from the 2022 report. This category includes state-funded education and workforce development systems, schools, and programs; federal workforce development grant programs; and U.S. military training and education. Federal workforce development grant programs experienced the highest increase at 43.6%, followed by state-funded programs with an approximately 4% increase.

TABLE C4: Comparisons of expenditures with previous reports (Numbers are in billions)

Note: All numbers are reported in nominal terms (not adjusted for inflation)

	2025		2022		2021	
	Count	% of Total	Count	% of Total	Count	% of Total
Educational Institution						
Elementary and Secondary Education (K-12)	$945	40.39%	$864.0	40.51%	$789.0	41.42%
Title IV Degree-Granting Institutions of Higher Education (IHEs)	$506.08	21.63%	$489.4	22.95%	$468.1	24.57%
Non-Title IV Degree-Granting Institutions of Higher Education (IHEs)	$1.12	0.05%	$1.6	0.08%	$1.3	0.07%
Private Education and Training Organizations (Non-Degree)	$29.74	1.27%	$74.6	3.50%	$51.0	2.68%
Total Educational Institution Expenditures	**$1,481,94**	**63.34%**	**$1,429.6**	**67.03%**	**$1,309.4**	**68.74%**
Employer-Sponsored Training						
Employer Direct Training Expenditures	$155.38	6.64%	$130.6	6.12%	$138.8	7.29%
Employee Earning During Training	$560.49	23.96%	$463.8	21.75%	$377.3	19.81%
Total Employer-Sponsored Expenditures	**$715.87**	**30.60%**	**$594.4**	**27.87%**	**$516.1**	**27.09%**
State And Federal Government Funding						
State-Funded Education and Workforce Development Systems, Schools, and Programs	$90.18	3.85%	$70.1	3.29%	$55.0	2.89%
Federal Workforce Development Grant Programs	$41.37	1.77%	$28.8	1.35%	$15.8	0.83%
U.S. Military Training and Education (Active Duty)	$10.15	0.43%	$9.9	0.46%	$8.5	0.45%
Total State and Federal Government Funding Expenditures	**$141.70**	**6.06%**	**$108.8**	**5.10%**	**$79.3**	**4.16%**
Overall Total	**$2,339.5**	**100%**	**$2,132.7**	**100%**	**$1,904.8**	**100%**

Conclusion & Recommendations

The estimated **$2.34 trillion** spending in education and training, along with **1,850,034** unique credentials counted by the *2025 Counting Credentials Report* provides a useful insight into the education and training landscape in the U.S. This information allows stakeholders to assess investments and adjust future funding priorities for education and workforce training that strengthen the current and future American workforce.

The following are additional areas for improvement:

- **Data updates:** Expenditures for the employer-sponsored training section were estimated largely based on information provided from the 1995 Bureau of Labor Statistics' Survey of Employer Provided Training – Employee Results. It has been 30 years, however, since the last survey and information, such as the average number of hours workers spend on training, may have changed compared to three decades ago. Unfortunately, there are no other resources that can substitute for this survey, which may affect the accuracy of these results.
- **Higher visibility of non-Title IV academic institutions:** Non-Title IV academic institutions play a role in training the American workforce, regardless of their degree-granting status. Non-Title IV academic institutions offer non-traditional students (i.e., adult learners, working professionals) an alternative pathway to achieve a credential (i.e., certificates, badges and micro-credentials) besides an academic degree. **Although non-Title IV institutions are ineligible to receive Title IV funding, they provide more flexibility for individuals without a high school diploma to pursue further education and allow organizations to provide innovative curricula.**[19] Making Non-Title IV academic institutions more visible will help researchers and policymakers understand expenditures of non-Title IV institutions and offer additional support.

19 Brown, Jessie, and Martin Kurzwell. n.d. "The Complex Universe of Alternative Postsecondary Credentials and Pathways | American Academy of Arts and Sciences." American Academy of Arts & Sciences. https://www.amacad.org/publication/complex-universe-alternative-postsecondary-credentials-and-pathways/section/4.; Title IV eligibility requires programs only admit students who have obtained at least a high school diploma.

Appendix C2

Data Sources and Detailed Methods

Educational Institutions

$975.25 billion

Elementary and Secondary Education (K-12)

AMOUNT	$945 billion
COVERAGE	Total expenditures for all public and private elementary and secondary schools
TIME PERIOD	School Year 2021–2022
DATA SOURCES AND METHODS	▪ Data obtained from Table 106.20, 2022 Digest of Education Statistics, National Center for Education Statistics (NCES), U.S. Department of Education.[20] ▪ NCES obtains public school system expenditures ($870.00 billion) through the annual National Public Education Finance Survey of state education agencies.[21] NCES estimates private school expenditures ($75.00 billion) based on enrollment data provided through the Private School Universe Survey of 50,821 schools and per-pupil expenditure data from older surveys, adjusted for inflation.[22]

20 "Expenditures of Educational Institutions, by Level and Control of Institution: Selected School Years, 1899-1900 through 2021-22." 2022. National Center for Education Statistics. https://nces.ed.gov/programs/digest/d22/tables/dt22_106.20.asp?current=yes.

21 "National Public Education Finance Survey." 2022. Common Core of Data. National Center for Education Statistics. https://nces.ed.gov/ccd/files.asp.

22 "Private School Universe Survey (PSS)." n.d. National Center for Education Statistics. https://nces.ed.gov/surveys/pss/.

Title IV Degree-Granting Institutions of Higher Education (IHEs)

AMOUNT	$506.08 billion
COVERAGE	Education-related expenditures for all Title IV degree-granting institutions of higher education (public, private nonprofit, private for-profit). Title IV institutions are those eligible to offer federal student financial aid.
TIME PERIOD	School Year 2021–2022
DATA SOURCES AND METHODS	▪ Data obtained from Tables 334.10, 334.30, 334.50, 2022 Digest of Education Statistics, National Center for Education Statistics (NCES), U.S. Department of Education. NCES obtained these data through the Finance Component of the Integrated Postsecondary Education Data System (IPEDS).[23, 24, 25] ▪ In 2021-2022, IPEDS collected data from 3,779 postsecondary institutions in the United States and other jurisdictions eligible to participate in Title IV Federal financial aid programs. All Title IV institutions are required to respond to IPEDS.[26]

Non-Title IV Degree-Granting Institutions of Higher Education

AMOUNT	$1.12 billion
COVERAGE	Education-related expenditures for all non-Title IV degree-granting institutions of higher education (public, private nonprofit, private for-profit)
TIME PERIOD	School Year 2021–2022
DATA SOURCES AND METHODS	▪ The 2025 credential count identifies 706 non-Title IV schools (including institutions listed in IPEDS and ETPL) and 4,373 non-Title IV degrees. 198 non-Title IV institutions reported to IPEDS in 2021, and 25 of these include education expenses, across 7 relevant expenditure categories (expenditures for instruction, research, academic support, student services, institutional support, auxiliary services, and net grant aid to students), which totals $264 million.[27] The average expenditure per school listed in IPEDS is $10.5 million.

23 "Total Expenditures of Public Degree-Granting Postsecondary Institutions, by Purpose and Level of Institution: Fiscal Years 2009-10 through 2021-22." 2022. National Center for Education Statistics. https://nces.ed.gov/programs/digest/d23/tables/dt23_334.10.asp?current=yes.

24 "Total Expenditures of Private Nonprofit Degree-Granting Postsecondary Institutions, by Purpose and Level of Institution: Selected Fiscal Years, 1999-2000 through 2021-22." 2022. National Center for Education Statistics. https://nces.ed.gov/programs/digest/d23/tables/dt23_334.30.asp?current=yes.

25 "Total Expenditures of Private For-Profit Degree-Granting Postsecondary Institutions, by Purpose and Level of Institution: Selected Fiscal Years, 1999-2000 through 2021-22." 2022. National Center for Education Statistics. https://nces.ed.gov/programs/digest/d23/tables/dt23_334.50.asp?current=yes.

26 "Degree-Granting Postsecondary Institutions, by Control and Classification of Institution and State or Jurisdiction: Academic Year 2021-22 [CORRECTED]." 2022. National Center for Education Statistics. https://nces.ed.gov/programs/digest/d22/tables/dt22_317.20.asp.

27 See IPEDS Glossary for definitions of each expenditure category: "IPEDS 2024-2025 Data Collection System." n.d. https://surveys.nces.ed.gov/ipeds/public/glossary.

- The estimated overall expenditure is calculated by multiplying the estimated average per school expenditure with the estimated total number of schools and reducing the expenditure to 15% of the original estimation.
  - ($263,261,151 ÷ 25) × 706 × 15% = $ 1,115,174,235.64 ($1.12 billion)
- The reduction to 15% of total expenditure was chosen to reflect that the small sample of 25 schools that register with IPEDS and provide information on expenses are more likely to be larger and wealthier than the remaining institutions not reporting to IPEDS. For example, Hillsdale College, which is a non-Title IV institution that reports to IPEDS, has a total spending of $145.5 million across 7 education expenditure categories, almost at least 4 times the amount for other non-Title IV institutions that report to IPEDS. This discount to 15% is necessary to more accurately capture the expenditure estimation for the missing 681 schools that are likely to have smaller expenditures than the sample of 25 found through IPEDS.

Private Education and Training Organizations (Non-degree)

AMOUNT	$29.74 billion
COVERAGE	Private nonprofit and for-profit organizations that grant only certificates, such as business schools, computer training programs, and technical and trade schools.
TIME PERIOD	Calendar Year 2022

DATA SOURCES AND METHODS	• The Economic Census of the U.S. Census Bureau includes approximately 4.2 million business locations—large, medium, and small—which covers most industries and geographic areas of the U.S. and Island Areas. Participation in the Economic Census survey is mandatory. 2022 Table EC2200BASIC provides information from the survey on expenditures by industry, including industries where education and training are the primary product.[28]
	• The list includes:
	  ▪ Business and Secretarial Schools (NAICS 61141)
	  ▪ Computer Training (NAICS 61142)
	  ▪ Professional and Management Development Training (NAICS 61143)
	  ▪ Technical and Trade Schools (NAICS 61151)
	  ▪ Fine Arts School (NAICS 61161)
	  ▪ Sports and Recreation Instruction (NAICS 61162)
	  ▪ Language Schools (NAICS 61163)
	  ▪ All Other Schools and Instruction (NAICS 61169)
	  ▪ Educational Support Services (NAICS 61171)

28 U.S. Census Bureau, "All Sectors: Summary Statistics for the U.S., States, and Selected Geographies: 2022," 2022. Economic Census, ECN Core Statistics Summary Statistics for the U.S., States, and Selected Geographies: 2022, Table EC2200BASIC, 2022, https://data.census.gov/table/ECNBASIC2022.EC2200BASIC?q=Economic+census.

Employer-Sponsored Training

$715.87 billion

Employer Direct Training Expenditures

AMOUNT	$155.38 billion
COVERAGE	Public and private sector employees
TIME PERIOD	Calendar Year 2022, 2023

DATA SOURCES AND METHODS	▪ In 2023, U.S.-based corporations and educational institutions with 100 or more employees spent an estimated $101.8 billion in training expenditures, according to the 2023 Training Industry Report.[29] Direct training expenditures include training budgets, training staff payroll, and spending on external products and services.
	▪ Based on the 2023 report, the average training per learner expenditure is $954. The adjusted average spending per learner is as follows:
	  ▪ $1,420 per learner for companies between 100 and 999 employees;
	  ▪ $751 per learner for companies between 1,000 and 9,999 employees; and
	  ▪ $481 per learner for companies with 10,000 or more employees.
	▪ Training expenditures for firms with fewer than 100 employees were not included in the 2023 Training Industry Report. The few available studies indicate formal workplace training is relatively rare in the smallest firms (under 20 employees).[30] Additionally, the 1995 Survey of Employer-Provided Training (SEPT95) conducted by the Bureau of Labor Statistics (BLS) indicated that on average, the number of formal training hours for workers in firms of 50-99 employees was 60.7% of that for workers in firms of 100-499 employees and 49.4% of that for workers in firms of 500 or more employees.[31]
	▪ Considering the above research findings, the estimated 2023 training expenditure for firms of under 100 employees is $44.7 billion, as follows:
	  ▪ Firms with less than 20 employees: According to the Census Bureau, these firms employed 31,198,614 workers in 2022. The research team estimates the workplace training expenses to be $8.86 billion based on the assumption that workplace training spending is 20% of the average spending per learner for companies of between 100 and 999 employees.
	  ▪ $1,420 × 31,198,614 × 20% = $8,860,406,376 ($8.86 billion)

29 Freifeld, Lorri. 2023. "2023 Training Industry Report." Training. https://trainingmag.com/2023-training-industry-report/

30 Bernice Kotey and Cathleen Folker, "Employee Training in SMEs: Effect of Size and Firm Type—Family and Nonfamily," Journal of Small Business Management, 2007, 45(2), pp. 214-238.

31 Frazie, Harley, Maury Gittleman, Michael Horrigan, and Mary Joyce. 1998. "Results from the 1995 Survey of Employer-Provided Training." Bureau of Labor Statistics. https://www.bls.gov/opub/mlr/1998/06/art1full.pdf.

- Firms with between 20 and 99 employees: According to the Census Bureau, these firms employed 38,832,024 workers in 2022.[32] The research team estimates the workplace training expenses to be $35.84 billion based on the assumption that workplace training spending is 65% of the average spending per learner for companies of between 100 and 999 employees.[33]
    - $1,420 × 38,932,024 × 65% = $35,841,958,152 ($35.84 billion)

- The research team also estimates approximately $8.88 billion in training expenditures for government agencies outside of education, as follows:
    - Federal government (civilian): According to the Bureau of Economic Analysis (BEA), the federal government employed 2,354,000 civilian workers in 2023.[34] The research team estimates federal workplace training spending per worker to be the same as the training figure for large firms ($481). On this basis, the estimate for the category is $1.13 billion.
        - $481 × 2,354,000 = $1,132,274,000 ($1.13 billion)
    - State and local government (other than education): According to BEA, state and local governments employed 8,122,000 workers outside of education in 2023. The research team estimated state and local government workplace training spending per worker to be the exact training figure for all firms ($954). On this basis, the estimate for this category is $7.75 billion.
        - $954 × 8,122,000 = $7,748,388,000 ($7.75 billion)

Employee Earning During Training

AMOUNT	$560.49 billion
COVERAGE	Public and private sector employees
TIME PERIOD	Calendar Year 2022, 2023
DATA SOURCES AND METHODS	• SEPT95 found that workers (full- and part-time) spent an average of 44.5 hours on training (formal and informal training) over a six-month period (May-October 1995).[35] • SEPT95 defined wage and salary costs for training as the product of the employee's hourly wage and hours spent in training because "the time that employees spend in training is time that they could have spent working at their jobs." o Wage & Salary costs for training = employee's hourly wage × hours spent on training

32 U.S. Census Bureau, "County Business Patterns: 2022," 2022. https://www.census.gov/data/datasets/2022/econ/cbp/2022-cbp.html

33 This number is consistent with the 2022 and 2021 Spending Report.

34 U.S. Department of Commerce Bureau of Economic Analysis. n.d. "Full-Time and Part Time Employees by Industry." https://shorturl.at/08rpZ

35 "1995 Survey of Employer Provided Training-Employee Results." 1996 Bureau of Labor Statistics. https://www.bls.gov/news.release/sept.nws.htm.

- Calculating an employee's hourly wage:
  - To calculate the average hourly wage for an employee working in the private sector, the research team divided the average weekly wage of an employee by the average weekly hours an employee typically works. The research team obtained the average weekly hours per worker, 34.25 hours, from BLS Table B-2, and then averaged the total private hours in March 2024 and January 2025 since these two are the most recent and relevant data available at the time of this report.[36]
  - The research team calculated the average weekly wage, $1,436, by averaging weekly wages for different sizes of companies for each state,then calculated the average for each state, and the overall average using data from BLS Average Weekly Wages by Size Class, by State, Private Industry.[37]
  - Therefore, the research team divided the average weekly wage number by the average weekly hours number to get the number for an employee's hourly wage, which is $41.92.
    - Employee's hourly wage = average weekly wage ÷ average weekly hours
- Calculating hours spent in training:
  - According to SEPT95, there were about 26 full weeks during the course of the survey period, which generated an average of 44.5 hours of training for firms with over 50 workers. Thus, the research team can calculate the average hours training per week, which is about 1.71 hours per week.
  - Then, the research team can calculate the average portion the firms spent on training in 1995 by dividing the average hours training per week calculated from the previous step and the average weekly hours at work in all industries and non-agriculture industries in 1995 obtained from BLS (39.2h).[38]
  - Assuming the portion remains the same until now, the research team can calculate the hours spent in training per person by multiplying the portion calculated from the previous step and the average weekly hours (34.25h).
  - Then, the research team used the number calculated from the previous step to multiply the hourly wage calculated earlier, and then multiplied the number of employees on private nonfarm payrolls in 2023 (171,937 million) to get the annual cost in training.[39]

36 "Table B-2. Average Weekly Hours and Overtime of All Employees on Private Nonfarm Payrolls by Industry Sector, Seasonally Adjusted - 2025 M04 Results." n.d. Economic News Release. Bureau of Labor Statistics. https://www.bls.gov/news.release/empsit.t18.htm.

37 "Average Weekly Wages by Size Class, by State, Private Industry." 2024. Graphics for Economic News Releases. Bureau of Labor Statistics. March. https://www.bls.gov/charts/county-employment-and-wages/average-weekly-wages-by-size-class-by-state-private-industry.htm.

38 "Table 21. Average Weekly Hours at Work in All Industries and in Nonagricultural Industries by Sex, 1976–2008 Annual Averages." n.d. Labor Force Statistics from the Current Population Survey. Bureau of Labor Statistics. https://www.bls.gov/cps/wlftable21.htm.

39 "Work Experience of the Population (Annual) News Release - 2023 A01 Results." 2024. Economic News Release. Bureau of Labor Statistics. https://www.bls.gov/news.release/archives/work_12182024.htm.

State and Federal Government Funding

$139.28 billion

State-Funded Education and Workforce Development Systems, Schools, and Programs

AMOUNT	$90.18 billion
COVERAGE	State schools for the blind, visually impaired, deaf, or other handicapped; adult education and vocational rehabilitation and education not provided by school systems; technical or vocational-technical schools which award certificates equal to less than two years; and workforce development education and training programs.
TIME PERIOD	Calendar Year 2022
DATA SOURCES AND METHODS	▪ Education Services: Other Education spending ($88,379,331,000) in Table 1, 2022 State and Local Government Finances by Level of Government and by State, U.S. Census Bureau.[40] ▪ Workforce development and preparation spending ($1.8 billion) from the State Expenditures Database of the Council for Community and Economic Research (C2ER).[41]

Federal Workforce Development Grant Programs

AMOUNT	$41.37 billion
COVERAGE	Thirty-seven federal programs that provide grants to enhance the job skills of individuals through education and training programs
TIME PERIOD	FY 2023
DATA SOURCES AND METHODS	▪ Thirty-six of thirty-seven programs are taken from U.S. Government Accountability, "Employment and Training Programs: Department of Labor Should Assess Efforts to Coordinate Services Across Programs", GAO-19-200, March 2019.[42] The study listed 43 programs, and the research team verified their program status using SAM.gov.[43] Additional programs were identified and verified via SAM.gov. ▪ List of active programs, assistance listing numbers, providers and amount in FY 2023:

40 US Census Bureau. 2022. "2022 State & Local Government Finance Historical Datasets and Tables." https://www.census.gov/data/datasets/2022/econ/local/public-use-datasets.html.
41 "State Economic Development Expenditures Database." n.d. C2ER: The Council for Community and Economic Research. https://www.c2er.org/state-economic-development-expenditures-database/.
42 U. S. Government Accountability Office. 2019. "Employment and Training Programs: Department of Labor Should Assess Efforts to Coordinate Services Across Programs | U.S. GAO." GAO-19-200. https://www.gao.gov/products/gao-19-200.
43 SAM.gov. https://sam.gov/search/?index=cfda&page=1&pageSize=25&sort=-modifiedDate&sfm%5Bstatus%5D%5Bisactive%5D=true&sfm%5Bstatus%5D%5Bisinactive%5D=true&sfm%5BsimpleSearch%5D%5BkeywordRadio%5D=ALL&sfm%5BsimpleSearch%5D%5BkeywordTags%5D%5B0%5D%5Bkey%5D=%22National%20Guard%20Youth%20Challenge%20Program%22&sfm%5BsimpleSearch%5D%5BkeywordTags%5D%5B0%5D%5Bvalue%5D=%22National%20Guard%20Youth%20Challenge%20Program%22.

CFDA Number	Program Name	Popular Name	Provider	Amount
10.561	Supplemental Nutrition Assistance Program Employment and Training	Supplemental Nutrition Assistance Program (State Administrative Match)	Department of Agriculture	$6,863,385,000
12.404	National Guard Youth Challenge Program	National Guard Youth Challenge Program	Department of Defense	$218,486,819
15.108	Indian Employment Assistance	Employment Assistance Program	Department of the Interior	$65,170,904
15.931	Youth and Veteran Organizations Conservation Activities	21st Century Conservation Service Corps Program	Department of the Interior	$64,365,155
16.812	Second Chance Act Technology-Based Career Training Program for Incarcerated Adults and Juveniles	Second Change Act (SCA)	Department Justice	$125,000,000
17.801	Jobs for Veterans State Grants	Jobs for Veterans State Grants (JVSG)	Department of Labor	$179,441,000
17.268	H-1B Job Training Grants	H-1B Skills Training Grants	Department of Labor	$187,000,000
17.805	Homeless Veterans' Reintegration Program	Homeless Veterans' Reintegration Program (HVRP)	Department of Labor	$65,500,000
17.265	Native American Employment and Training	WIOA, Section 166, Native American Employment and Training Program	Department of Labor	$68,000,000
17.264	National Farmwork Jobs Program	NFJP	Department of Labor	$96,000,000
17.270	Reentry Employment Opportunities	Prisoner Re-entry	Department of Labor	$157,000,000
17.235	Senior Community Service Employment Program	Senior Community Service Employment Program (SCSEP)	Department of Labor	$410,000,000
17.245	Trade Adjustment Assistance	Trade Adjustment Assistance (TAA) Program	Department of Labor	$40,000,000
17.807	Transition Assistance Program	TAP-Department of Labor Employment Workshops (DOL EW)	Department of Labor	$34,379,000
17.207	Employment Service/Wagner-Peyser Funded Activities	Wagner-Peyser Act of 1933	Department of Labor	$722,000,000
17.258	WIOA Adult Program	Workforce Innovation and Opportunity Act (WIOA), Adult Programs	Department of Labor	$881,000,000

CFDA Number	Program Name	Popular Name	Provider	Amount
17.277	WIOA National Dislocated Worker Grants/ WIA National Emergency Grants	National Dislocated Worker Grants	Department of Labor	$243,000,000
17.259	WIOA Youth Activities	WIOA Formula Youth	Department of Labor	$925,000,000
17.701	Women in Apprenticeship and Nontraditional Occupations ("WANTO") Technical Assistance Grant Program	WANTO Grants	Department of Labor	$5,000,000
17.274	YouthBuild	YouthBuild	Department of Labor	$93,532,000
17.278	WIOA Dislocated Worker Formula Program	Workforce Innovation and Opportunity Act (WIOA) Dislocated Worker Program	Department of Labor	$1,093,000,000
64.116	Veteran Readiness and Employment	Vocational Rehabilitation; Veteran Readiness & Employment; VR&E	Department of Veteran Affairs	$783,699,380.60
66.815	Brownfield Job Training Cooperative Agreements	Brownfields JT Programs, BFJT	Environmental Protection Agency	$13,241,450
84.250	American Indian Vocational Rehabilitation Services	N/A	Department of Education	$50,650,000
84.048	Career and Technical Education – Basic Grants to States	N/A	Department of Education	$1,409,150,280
84.101	Career and Technical Education - Grants to Native Americans and Alaska Natives	N/A	Department of Education	$15,328,237
84.259	Native Hawaiian Career and Technical Education Program	N/A	Department of Education	$3,449,620
84.187	Supported Employment Services for Individuals with the Most Significant Disabilities	Supported Employment State Grants	Department of Education	$22,548,000
84.126	Rehabilitation Services Vocational Rehabilitation Grants to States	N/A	Department of Education	$3,387,610,480

CFDA Number	Program Name	Popular Name	Provider	Amount
84.245	Tribally Controlled Postsecondary Career and Technical Institutions	N/A	Department of Education	$11,953,000
93.569	Community Services Block Grant	CSBG	Department of Health and Human Services	$777,538,255
93.594	Tribal Work Grants	Native Employment Works Program (NEW)	Department of Health and Human Services	$7,633,287
93.567	Refugee and Entrant Assistance Voluntary Agencies Matching Grant Program	Voluntary Agencies Matching Grant Program	Department of Health and Human Services	$190,201,550
93.558	Temporary Assistance for Needy Families	TANF	Department of Health and Human Services	$17,112,193,133
93.576	Refugee and Entrant Assistance Discretionary Grants	N/A	Department of Health and Human Services	$627,546,792
93.566	Refugee and Entrant Assistance State/ Replacement Designee Administered Programs	Refugee Cash and Medical Assistance Program and Refugee Support Services Program	Department of Health and Human Services	$3,994,109,452
12.333	Advanced Manufacturing Technology-Office of the Secretary of Defense (OSD), Manufacturing Technology (ManTech) Program	OSD ManTech	Immediate Office of the Secretary of Defense	$491,390,557

U.S. Military Training and Education (Active Duty)

AMOUNT	$41.37 billion
COVERAGE	Provision of training and education to active-duty military and Reserve Officer Training Corps (ROTC). Categories of effort include recruit training ($0.36 billion), specialized skills training ($3.33 billion), officer acquisition ($0.55 billion), professional development ($1.63 billion), senior ROTC ($0.86 billion), flight training ($3.32 billion), and training support ($0.11 billion). Organizations delivering training and education include: 1. Training centers and schools, service academies, and Reserve Officer Training Corps (ROTC) for the Army, Navy, Marine Corps, and Air Force; and 2. DoD and joint-service schools and colleges such as the Defense Acquisition University; National Defense University; and the Uniformed University of the Health Sciences
TIME PERIOD	FY 2023 Enacted
DATA SOURCES AND METHODS	▪ Data obtained from Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, "Operation and Maintenance Overview: Fiscal Year 2024 Budget Request", May 2023, pp.126-128.[44]

44 "United States Department of Defense Fiscal Year 2024 Budget Estimates." 2023. Defense Operation & Maintenance Overview Book. Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer. https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2024/FY2024_OM_Overview.pdf.

Appendix D

Badge Text Analysis

To complement badge platform provider-reported badge counts collected through the survey, the research team also analyzed over 500,000 individual badge class records.[45] This process involved analyzing the wording used in these badges by downloading more than 400,000 JSON files, filtering out test records, extracting key text fields (name, description, and criteria), and standardizing the content by removing formatting, punctuation, and very common words.

The research team then tallied the most frequent terms used in the badges. As shown in Table D1, the language of badge text was dominated by words related to courses and completion. The single most common word was "complete" (169,553 occurrences), followed by "course" (129,068) and "student" (120,617). Other frequently used words included "use," "module," and "learn," as well as terms emphasizing demonstration, completion, and assessment. This pattern suggests that many badges are framed around structured learning experiences – modules, activities, and courses – that culminate in evidence of completion or demonstrated skills.

45 A "badge class" is the definition of the badge credential as offered by a specific provider, not an instance of a badge that has been issued to an individual person.
No personally identifiable information was collected as part of this process.

TABLE D1: Most Frequent Words in Badge Text

Word	Count
complete	**169,553**
course	**129,068**
student	**120,617**
use	**111,268**
module	**90,487**
learn	**80,308**
demonstrate	**75,205**
completion	**68,515**
identify	**61,894**
skill	**60,685**
include	**58,306**
earn	**57,412**
assessment	**49,862**
award	**48,595**
activity	**43,131**

The research team also used a "group-by-similarity" approach to cluster badges with comparable text descriptions.[46] Table D2 presents the 15 largest clusters and the ten most common words in each.

Multiple large clusters reflect general "module/course completion" language. Other prominent clusters highlight applied domains such as healthcare/patient care, cybersecurity, cultural diversity, job search, and presentation. Several clusters also reflect K–12 and specific educational contexts, such as reading, American history, and research/information literacy.

Taken together, the clusters point to heterogeneous ecosystems. Many badges mark learner progression through structured modules and activities, while others highlight skill demonstration in applied or domain-specific areas.

46 Badge text was collected from badge platform providers' badge class URLs in JSON format, specifically capturing the name, description, and criteria narrative. After removing test badges and filtering for English-language entries, the text was normalized by stripping HTML and punctuation, lowercasing, lemmatizing, and removing common stopwords. To compare badges by meaning rather than exact wording, the cleaned text was embedded as semantic vectors using the SentenceTransformers model all-MiniLM-L6-v2. These vectors were projected into a lower-dimensional space with UMAP (cosine metric) and grouped using an unsupervised, density-based clustering algorithm HDBSCAN. Items with low assignment confidence items were left unclustered. For each cluster, representative terms were identified with TF-IDF, and concise cluster labels were generated using the Meta-Llama-3-8B-Instruct model.

TABLE D2: Largest Badge Clusters with Example Terms

Cluster	Example Terms	Count
"Healthcare Patient Care Course"	health complete care course student module patient completion demonstrate healthcare	**4,711**
"Online Course Design Guidelines"	online course learn student design complete module teaching teacher learning	**4,468**
"Module Completion Deadline"	week complete module assignment work completion student earn finish submit	**4,240**
"Cybersecurity Course Completion"	security network course cybersecurity complete cyber student completion earner comptia	**3,923**
"Cultural Diversity Course Module"	global diversity student complete cultural course equity culture module learn	**2,931**
"Digital CPD Office Accreditation"	cpd standard office accreditation digital training validate membership achieve accredit	**2,891**
"Multiplication Math Module Complete"	module complete math unit multiplication number student equation score assignment	**2,862**
"Python Data Science Course"	datum course python data complete use science student programming analytic	**2,621**
"Student Assignment Completion History"	complete module completion history unit world student assignment war earn	**2,520**
"Music Theory Module Complete"	belt music complete module student earn level use play note	**2,426**
"Effective Presentation Skills Course"	communication write complete student module skill presentation course use evidence	**2,424**
"Reading Challenge for Students"	book read complete student earn reading module fiction challenge poetry	**2,110**
"Job Search and Career Development"	career interview complete student resume job internship skill module completion	**2,033**
"Module Completion Award"	module complete completion assignment finish requirement earn award congratulation successful	**1,988**
"Google Classroom Module Guide"	google complete drive module form classroom slide use student level	**1,834**

credentialengine.org