EVALUATION, CLASSIFICATION, AND BUNDLING OF CREDENTIALS

Senate Bills 24-143 and 22-192

COLORADO
Department of Higher Education

Developed 11 Stackable Credential Pathways in 5 Industries

Behavioral Health

1. Social Work

Cybersecurity

2. Information Security Analyst via Industry Certifications and Work Experience

3. Information Security Analyst via Cybersecurity Apprenticeship

Education

4. Early Childhood Education to Degree + Licensure

5. Early Childhood Education Apprenticeship to Degree

Healthcare

6. Emergency Medical Services

7. Nursing

8. Medical Technician

Software Development

9. Full-Stack Developer

10. Military to Front-End Developer

11. DevOps

Colorado's Credential Quality Rubric: Four signals of Quality

Demand. The credential must align with industry and economic demand. It is recognized in the marketplace and leads to job opportunities in growing industries.
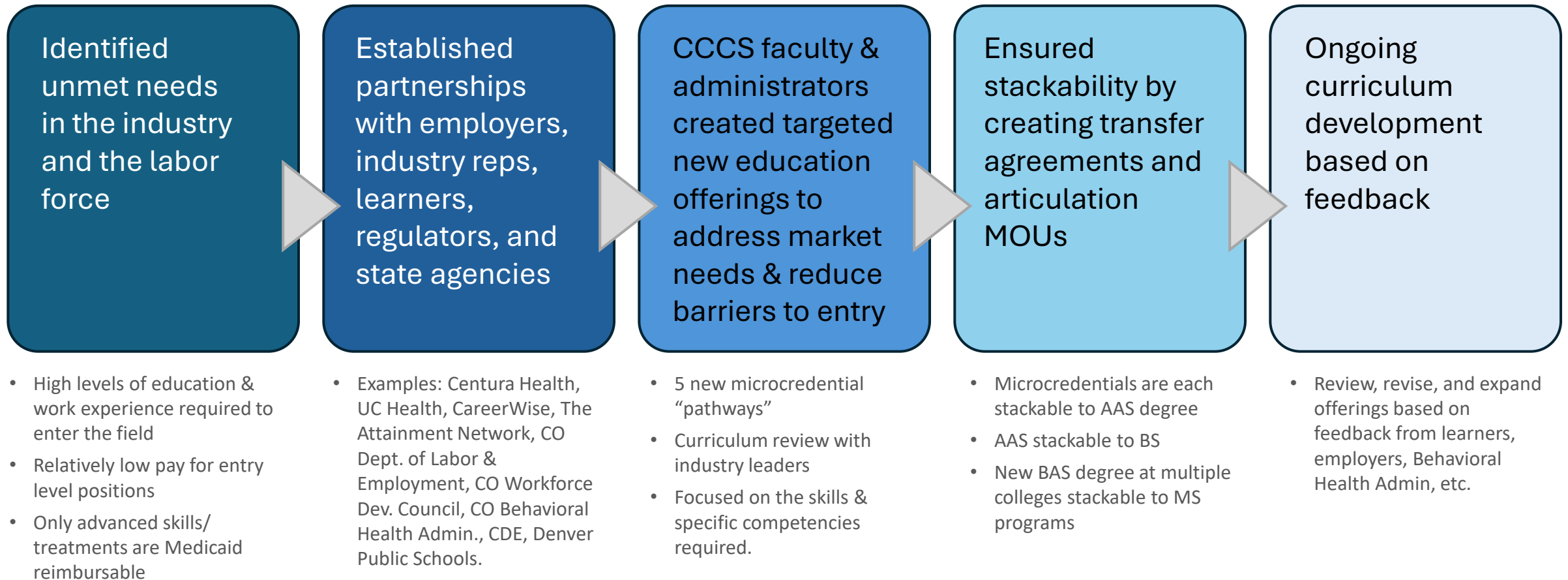
Employment Outcomes. Must have evidence of substantial employment outcomes. There is proof that having the credential either directly leads to jobs paying a living wage in a growing occupation or develops the skills and competencies needed for those jobs.

Evidence of Skills. Must have transparent evidence of the skills and competencies learned.

Stackability. Credential can exist as part of a sequence of credentials that can be accumulated over time to build skills and advance an individual's career and earnings.

A closer look at stackable credential pathways in Behavioral Health

A template for building a fully-developed pathway:
CCCS + Education Design Lab Partnership + SB22-181 + SB22-192

Identified unmet needs in the industry and the labor force	Established partnerships with employers, industry reps, learners, regulators, and state agencies	CCCS faculty & administrators created targeted new education offerings to address market needs & reduce barriers to entry	Ensured stackability by creating transfer agreements and articulation MOUs	Ongoing curriculum development based on feedback

- High levels of education & work experience required to enter the field
- Relatively low pay for entry level positions
- Only advanced skills/ treatments are Medicaid reimbursable

- Examples: Centura Health, UC Health, CareerWise, The Attainment Network, CO Dept. of Labor & Employment, CO Workforce Dev. Council, CO Behavioral Health Admin., CDE, Denver Public Schools.

- 5 new microcredential "pathways"
- Curriculum review with industry leaders
- Focused on the skills & specific competencies required.

- Microcredentials are each stackable to AAS degree
- AAS stackable to BS
- New BAS degree at multiple colleges stackable to MS programs

- Review, revise, and expand offerings based on feedback from learners, employers, Behavioral Health Admin., etc.

Rapidly changing workforce needs

Traditional degree programs are the foundation of our postsecondary system, but they cannot fully meet Colorado's evolving skilled workforce needs.

Need for practical pathways to upskill

Non-Degree Credentials that are aligned to postsecondary education programs allow workers to upskill and reskill in high-wage, in-demand jobs.

Multitude of options - with variable quality

There are over 1 million unique education credentials in the United States. This places a considerable burden on both learners and employers as they try to navigate this space.

Therefore

"Colorado requires a system that brings quality assurance, clarity, and order to the complex landscape of both nondegree and traditional degree credentials…" – by employing "a quality assurance framework and an internationally recognized standard classification system"

SB24-143   DELIVERABLES FROM THE LEGISLATION

1

- **Study and make recommendations concerning use of ISCED as Colorado's standard framework** for organizing and classifying nondegree credentials.
- Assign ISCED codes and quality measures to NDCs within the 11 pathways

July 2025

2

Evaluate Non-Degree Credentials offered through select state-recognized programs.

For program year 1:

- NDCs within the Career Development Incentive Program (CDIP)

January 2026 (then annually)

3

Supply the Workforce Development Council with a list of quality nondegree credential programs for inclusion in the Colorado Talent Report and in a credential registry endorsed by the state.

January 2026 (then annually)

progress to date

✓ Identify all non-degree credentials (NDCs) associated with the 11 stackable pathways

✓ Create a process to screen all NDCs to determine any existing quality assurances, type of credential awarded, and background on the issuing entity

✓ Create a process for assigning ISCED codes and program descriptions for each NDC

Gather feedback from employers, trade and industry associations, subject matter experts, and IHEs

Develop an initial "qualifications framework" for Colorado with elements linked to existing taxonomies such as O*Net, Credential Engine, and the European Qualifications Framework

Publish report with findings, recommendations, and next steps towards creating a comprehensive system for evaluating, classifying, and bundling credentials

ISCED

International Standard Classification of Education

A framework for assembling, compiling and analyzing cross-nationally comparable statistics on education.
An international reference classification for organizing education programs and related qualifications by levels and fields of education.

Education program: a coherent set or sequence of educational activities or communication designed and organized to achieve pre-determined learning objectives or to accomplish a specific set of educational tasks over a sustained period.

International Standard Classification of Education

ISCED Level	Label	Description
0	Early childhood education	Education designed to support early development in preparation for participation in school and society. Programs designed for children below the age of 3.
0	Pre-primary education	Education designed to support early development in preparation for participation in school and society. Programs designed for children from age 3 to the start of primary education.
1	Primary education	Programs typically designed to provide students with fundamental skills in reading, writing and mathematics and to establish a solid foundation for learning.
2	Lower secondary education	First stage of secondary education building on primary education, typically with a more subject-oriented curriculum.
3	Upper secondary education	Second/final stage of secondary education preparing for tertiary education or providing skills relevant to employment. Usually with an increased range of subject options and streams.
4	Post-secondary non-tertiary ed.	Programs providing learning experiences that build on secondary education and prepare for labor market entry or tertiary education. The content is broader than secondary but not as complex as tertiary education.
5	Short-cycle tertiary education	Short first tertiary programs that are typically practically-based, occupationally-specific and prepare for labor market entry. These programs may also provide a pathway to other tertiary programs.
6	Bachelor's or equivalent	Programs designed to provide intermediate academic or professional knowledge, skills and competencies leading to a first tertiary degree or equivalent qualification.
7	Master's or equivalent	Programs designed to provide advanced academic or professional knowledge, skills and competencies leading to a second tertiary degree or equivalent qualification.
8	Doctorate or equivalent	Programs designed primarily to lead to an advanced research qualification, usually concluding with the submission and defense of a substantive dissertation of publishable quality based on original research.

ISCED codes provide a taxonomy for categorizing the levels and sequence of a nation's education programs based on proxy measures of the relative depth, breadth, and complexity of content

	Entry Requirements	Orientation	Duration (full time equivalent)	Credential Awarded	Instructor Qualifications	General Description
Level 3 Upper Secondary	**Requires completion of lower secondary education (Level 2)** or the ability to handle Level 3 content through a combination of prior education as well as life and work experiences.		**3-4 years. Level 3 programs usually end around age 17 or 18)**	High school diploma, GED, Basic Technical Certificate	Teachers are often licensed and highly qualified in the subjects or fields of specialization they teach	Programs which form the **final stage of secondary education** may be either general or vocational. Vocational programs offered in parallel with other upper secondary programs should normally be classified at Level 3.
Level 4 Post Secondary Non-Tertiary	**Completion of an ISCED level 3 Program** (usually a high school diploma or equivalent)	*Typically* vocational programs designed for direct labor market entry. Not considered tertiary education.	**6 months to 2 or 3 years.** Programs of < 2 years' immediately following level 3 should normally be classified at Level 4 unless clearly equivalent to the first stages of a Level 5 program.	Certificates/ certifications (technical, professional, general education,		Content not sufficiently complex to be regarded as tertiary education, although it is clearly post-secondary. Content is often not more advanced than level 3 programs but is typically more specialized or detailed.
Level 5 Short Cycle Tertiary	**Completion of an ISCED level 3 Program** (usually a high school diploma or equivalent)		**2 to 3 years.** Minimum duration of 2 years.	Associate degrees, advanced technical certificates, some professional licenses and work-based learning certifications	Instructors and supervisors are highly qualified in the subjects or fields they teach (often level 6+)	Programs are **usually practically-based, occupation-specific and prepare students to enter the labor market.** However, they may also provide a pathway to other tertiary education programs (Levels 6 or 7). **Content is more complex than in secondary (Level 3) or post-secondary non-tertiary education (Level 4), but less complex than in level 6 programs.**

United States of America 🇺🇸

Early Childhood – Post-Secondary Education

Student's age

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

0 Preschool or pre-kindergarten

Kindergarten

1 Primary education

2 Middle education *(Grades 7-9)*

3 Secondary education *(Grades 10-12)*

3 GED or H.S. equivalency programme

4 Certificate programme

Tertiary Education

Programme duration (in years)

0 1 2 3 4 5 6 7 8

6 Bachelor's degree Programme

7 Master's degree programme

6 Post-Bachelor's certificate programme

7 1st professional degree programme

7 1st professional degree programme – medical

5 Vocational associate's degree programme / Academic associate's degree programme
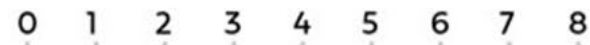
ISCED Level

0 Early childhood education and care

1 Primary education

2 Lower secondary education

3 Upper secondary education

4 Post-secondary non-tertiary education

5 Short-cycle tertiary education

6 Bachelor's or equivalent

7 Master's or equivalent

8 Doctoral o

Germany

Early Childhood – Post-Secondary Education

Student's age

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

0 Crèche, day nursery / Kindergarten

0 Pre-school classes / kindergarten

1 Primary / Comprehensive / Waldorf schools (Grades 1-4)

2 Secondary general / Intermediate / Grammar / Comprehensive / Waldorf schools (Grades 5-9/10)

2 Orientation stage (Grades 5 and 6)

3 Upper secondary / Grammar / Comprehensive / Waldorf Schools (Grades 11-13 or 10-12)

2 General programmes in full-time vocational schools / Pre-vocational training

3 Specialized vocational schools

2 Pre-vocational and vocational programmes and training

3 Dual system / Occupational qualification / Full-time vocational training programmes

3 Short health sector programmes / Training for civil servants (medium level)

3 Health sector programmes, short / Childcare worker programme

3 Basic vocational training (first year in the dual system)

3 Special type of vocational skills programme

4 Dual system (second cycle and third qualification) / Full-time vocational training / Second cycle after obtaining vocational qualification / Upper secondary evening schools

4 Vocational and technical high schools

4 Specialized vocational high schools, 1 year

ISCED Level

- **0** Early childhood education and care
- **1** Primary education
- **2** Lower secondary education
- **3** Upper secondary education
- **4** Post-secondary non-tertiary education
- **5** Short-cycle tertiary education
- **6** Bachelor's or equivalent
- **7** Master's or equivalent
- **8** Doctoral or equivalent

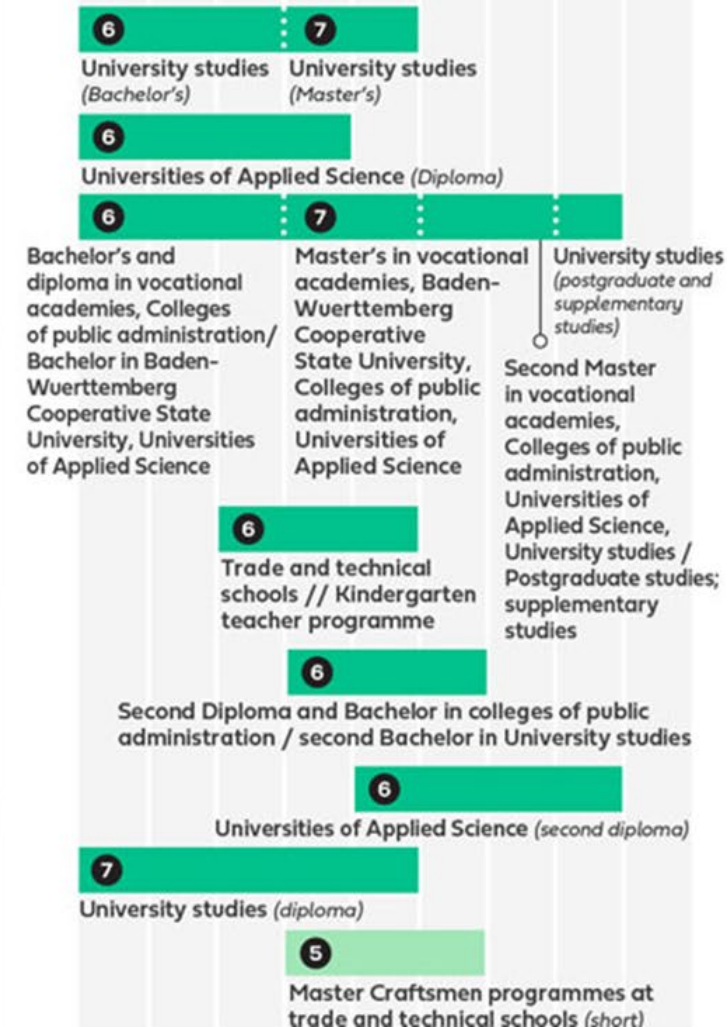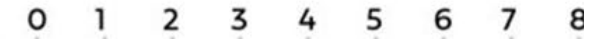## Tertiary Education

Programme duration (in years)

0 1 2 3 4 5 6 7 8

6 University studies (Bachelor's)

7 University studies (Master's)

6 Universities of Applied Science (Diploma)

6 Bachelor's and diploma in vocational academies, Colleges of public administration/ Bachelor in Baden-Wuerttemberg Cooperative State University, Universities of Applied Science

7 Master's in vocational academies, Baden-Wuerttemberg Cooperative State University, Colleges of public administration, Universities of Applied Science

University studies (postgraduate and supplementary studies)

Second Master in vocational academies, Colleges of public administration, Universities of Applied Science, University studies / Postgraduate studies; supplementary studies

6 Trade and technical schools // Kindergarten teacher programme

6 Second Diploma and Bachelor in colleges of public administration / second Bachelor in University studies

6 Universities of Applied Science (second diploma)

7 University studies (diploma)

5 Master Craftsmen programmes at trade and technical schools (short)

The ISCED classification system:

- Uses proxy indicators to determine the depth, breadth, and complexity of content

- Doesn't measure learning outcomes (the skills, knowledge, and competencies a credential holder should possess)

- Describes the learning *content* and the nature of the credential – but does not directly assess the *quality* of instruction or learning in a given program.

Elements of a Fully-Developed National (or State) Qualifications Framework

Design Stage

- ☑ Education level descriptors

- ☑ A system for quality assurance (tied to a state longitudinal data system)

- ☐ A qualifications framework mapped to knowledge, skills, and autonomy at each qualifications level

- ☑ A credential registry to inform l/earners and employers

- ☐ Formal and ongoing mechanisms for stakeholder engagement – including employers, education & training providers, accreditation bodies, and governing agencies

- ☑ Coordination between relevant agencies

- ☑ Basic l/earner maps for select industries and pathways

Adoption Stage

- ☐ Formal adoption of the Qualifications Framework, most commonly via legislation.

- ☐ Governance structures and day-to-day administrative capacities are in place and are carried out by experts/specialists at: (i) government agencies; (ii) specialized sub-agencies or authorities; and/or (iii) inter-stakeholder committees or councils.

- ☐ Certificates and diplomas bear NQF levels. Here, the NQF is fulfilling one of its key intended functions, improving transparency and comparability.

- ☐ The qualifications framework can accommodate qualifications from VET, higher ed., general ed., and adult ed.

Elements of a Fully-Developed National (or State) Qualifications Framework (cont.)

Activation and Operational Stages

☐ NQF levels and outcomes are used by employers and enterprises in recruitment, job profiles, employee supervision and evaluation, and for planning training needs.

☐ The NQF has the ability to assess and categorize 'non-standard' qualifications (qualifications developed outside formal public systems.)
- o 'microcredentials'
- o qualifications developed by international bodies, such as the UN agency, corporations such as Microsoft, or international foundations.
- o partial qualifications. A full qualification entitles the holder to perform all tasks within an occupation, while a partial qualification allows performance of a limited set of tasks within that occupation.

☐ The managing body for the NQF seeks to reach learners or public-facing professionals, such as career advisers, directly.

☐ The system allows for creation of comprehensive and interactive Pathway maps.