Embedding and Aligning Certifications with Academic Programs

www.credentialasyougo.org

CREDENTIAL AS YOU GO
INCREMENTAL CREDENTIALING

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About Credential As You Go

Credential As You Go is catalyzing redesign and integration of credentialing systems across states, higher education, and third-party providers, including employers, to recognize all learners for what they know and can do.

Credential As You Go focuses on building an incremental credentialing system, recognizing that many types of quality credentials (degrees, certificates, industry certifications, licenses, badges, microcredentials) document an individual's learning, and credentials are awarded by many types of providers including community and technical colleges, four-year colleges and universities, third-party organizations, employers, military, and state licensing boards.

For too many learners, the only postsecondary credentials that count for employment are degrees. This focus limits access to further education and employment. Yet, many have acquired valuable skills and knowledge through life and work experience. The U.S. needs a credentialing system that captures and validates all learning.

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Overview

Purpose

This playbook is designed to explore the key issues associated with embedding and/or aligning certifications with academic degree and certificate programs. It provides:

- Insights to different stakeholders about the benefits of this approach.

- Information about the characteristics of certifications.

- Questions that can be asked to help assess quality.

- Elements to consider when deciding whether to align or embed a certification.

- Case studies of how postsecondary institutions are implementing this approach.

Definitions of Key Terms

Channel – A channel is any of the many avenues or vehicles that can be used to deliver communication and marketing messages. Communication channels are the means through which people and organizations interact. There are many different types of communication channels, each with its own strengths and weaknesses. The best way to select the right communication channel is to consider the purpose of the communication, the preferences of the audience, and the time frame in which the message needs to be delivered.

Accreditation – A third-party attestation conveying a formal demonstration of an organization's competence to carry out specific tasks.

Certificate of Achievement or Assessment-Based Certificate – A document issued to demonstrate the successful completion of an education or training program; it includes an assessment(s) of the learner's achievement of intended learning outcomes.

Certificate of Completion – A certificate issued after an individual completes or attends an education and training program. These types of certificates do not include an assessment of learning.

Certification – A learner earns certification after passing a third-party assessment based on a set of competency standards or minimum performance expectations. These standards are set through a defensible, industry- or profession-wide job analysis process which is reviewed and revised regularly. Recertification may be required to keep a certification current. Certifications may be revoked for incompetence, unethical behavior, or failure to meet recertification requirements.

Competence – The ability to apply knowledge and skills to achieve intended results. Examination Blueprint/Outline: The content areas to be included in an examination, together with the criteria (weighting) of the content areas on the overall examination.

Job Analysis or Job Task Analysis – The method(s) used to identify specific jobs or job-related tasks and the knowledge, skills, and abilities required to perform them competently. Job analysis establishes the validity of assessments used in issuing credentials.

Recertification – The process for renewing a certification—to ensure that the certification holder has up-to-date knowledge and skills. Recertification may involve taking an assessment, completing continuing education courses, paying a fee, meeting experience requirements, and/or maintaining ethical conduct.

Scope of Certification – The range and nature of specific tasks that a certified person is expected to be able to perform competently, by virtue of holding a specific certification within a certification scheme.

Additional Resources

Information about accreditation, standards, and compliance impacting companies especially in the learn-and-work ecosystem may be found at the Learn & Work Ecosystem Library:

- Quality Assurance, Compliance, and International Standards that Impact and Guide Companies

- International Organization for Standardization (ISO)

- International Classification for Standards (ICS)

Characteristics

The term "certification" is sometimes used interchangeably — and incorrectly — with "certificate." Certifications and certificates are distinct credentials with different characteristics. The most distinguishing factor is that certificates are awarded after an education or training program is completed, while certifications are separate from education and training programs and require passage of a third-party assessment, typically a standardized exam.

With the continued growth in the type and number of credentials, and to validate rigor, the term certification may refer to a credential that has one or more of the following elements:

- Standardized exam
- Recertification requirement (related to certification being time-limited)
- Ability to revoke the certification for a violation of a code of ethics (if applicable) or proven incompetence after due process
- Accreditation by a third party

Characteristics of a Certification (Workcred, 2018, 2021)

Characteristics	Definition
Awarded by	Industry certification bodies, professional associations, and employers.
Awarded for	Passing a third-party assessment based on a set of competency standards (minimum performance expectations) set through a defensible, industry- or profession-wide job analysis process, which is reviewed and revised regularly.
Indicates	A person can perform a set of skills relevant to a professional setting.
Assessment created by	Psychometricians, who are test and measurement experts, with input from subject matter experts.
Assessment type	An oral, written, or practical standardized assessment that is fair, valid, and reliable and based on a set of validated competency standards.
Time to complete	Variable.
Period of validity	Time-limited, includes a recertification process.
Renewal Requirements	Recertification is required to maintain the certification.
Revocation process	Can be revoked for incompetence or unethical behavior.
Standards	ANSI/ISO/IEC: 17024:2012, Conformity assessment – General requirements for bodies operating certification of persons; National Commission for Certifying Agencies (NCCA) Standards for the Accreditation of Certification Programs; Accreditation Board for Specialty Nursing Certification (ABSNC) Standards

Benefits

Value of Embedding and Aligning a Certification with Academic Programs

credentials
certifications
opportunities
skills employers
salary
certificates
competencies
industry knowledge
relationship degrees
postsecondary
careers
learners

Different types of credentials fulfill different purposes. Higher education institutions award degrees and certificates after completion of a course of study. Certifications are awarded by third-party entities such as industry organizations, professional associations, and employers to indicate that an individual has a level of competence or skill mastery. How can these two very different types of credentials be used together to help learners reach their career and education goals?

Currently, many higher education institutions offer courses to help learners prepare for a certification exam. For example, non-degree or continuing education courses focus on preparing individuals to take AWS Certified Solutions Architect (Associate), Project Management Professional (PMP)®, SHRM Certified Professional (SHRM-CP™), and Certified Ethical Hacker (CEH) certification exams. But there are other ways to think about the relationship between credentials—specifically, the certification exam blueprint—and the curriculum of degree and certificate programs.

One strategy is to embed or align certifications with academic degree or certificate programs. The rationale for this approach is to give learners more opportunities to signal mastery of relevant skills that lead to living-wage jobs while they pursue a certificate or degree. While certifications can be included as curricular or co-curricular experiences, this playbook focuses on curricular experiences.

Learners, postsecondary institutions, certification bodies, employers, and society at large can all benefit when certifications are embedded or aligned with academic degrees or certificate programs. However, these benefits vary among the different stakeholders.

Learners can…

- Gain both a broad-based education and industry-specific skills that hiring managers seek.

- Expand their career opportunities and their awareness of career and credential pathways.

- More easily communicate their knowledge, skills, and abilities to employers (due to their increased understanding of the relationship between their academic coursework and the competencies assessed in the certification exam).

- Move more easily beyond an academic discipline(s). For example, a Spanish major could earn a certification to be a medical interpreter, a music major could add a cybersecurity certification, or a biology major could earn certification as a medical lab professional.

- Increase their pay and improve job prospects sooner—and possibly more affordably—than if a degree and certification were pursued separately

Postsecondary Education Institutions can…

- Respond more effectively to the needs of learners and employers.

- Set their programs apart from those of other institutions that do not embed or align certifications or degrees.

- Better represent students' knowledge and skills.

- Strengthen relationships with employers.

- Engage faculty in developing curriculum that is both academically rigorous and labor market relevant.

Certification Bodies can...

- Increase awareness, pursuit, and attainment of their certification.

- Improve their understanding of how the certification relates to a variety of career and credential pathways.

- Better understand how a broad-based education afforded by a degree benefits industry professionals who hold both degrees and certifications.

- Increase opportunities to expand partnerships with universities to develop programs to meet recertification requirements.

- Build more and better relationships with professionals earlier in their careers, which can help them better understand changing demands for certifications.

Employers can...

- Gain access to more information about what an individual knows and is able to do.

- More easily determine whether an individual has specific competencies required to perform a particular job (as opposed to a broad-based education from a degree).

- Better understand how individuals who earn a certification and recertify continue to learn and update their skills. (This adds value to a degree, which represents an individual's knowledge only at the time of attainment).

- Establish stronger relationships with postsecondary institutions and certification bodies, which can help improve the employer's workforce-development strategy.

Ultimately, there are benefits that can be experienced by society at large when certifications are embedded or aligned with academic degrees or certificate programs including:

- The value of each credential is strengthened

- Improved career outcomes for students and workers

- A common language and common currency around skills that cross postsecondary education institutions, employers, certification bodies, and learners

Certification Examples

Types of Certifications, Issuing Organizations, and Related Occupations

Certifications exist in many industry sectors, occupations, and for individuals with varying levels of educational attainment and work experience. Some focus on protecting the public and may be tied to occupational licensure, while others are voluntary.

EXAMPLES OF TYPES OF CERTIFICATIONS		
Certification	Issuing Organization	Related Occupations
Azure Fundamentals	Microsoft	Administrator, business user, developer, technology manager
Board Certified Assistant Behavior Analyst	Behavior Analyst Certification Board, Inc.	Assistant behavior analyst in clinical, private, educational, administrative, and organizational business management settings
CCNA	Cisco	Entry-level network engineer, help desk technician, network administrator, network support technician
Certified Ethical Hacker (CEH)	EC-Council	IT security administrator, cyber defense analyst, vulnerability assessment analyst, solution architect
Certified Financial Planner™ (CFP®)	CFP Board	Financial planner
Certified Supply Chain Professional (CSCP)	Association for Supply Chain Management (ASCM)	Positions that involve dealing with the supply chain

EXAMPLES OF TYPES OF CERTIFICATIONS		
Certification	Issuing Organization	Related Occupations
Certified Welder	American Welding Society (AWS)	Welder
Phlebotomy Technician, PBT(ASCP)	American Society for Clinical Pathology (ASCP) Board of Certification (BOC)	Phlebotomist
Family Nurse Practitioner Certification (FNP-BC™)	American Nurses Credentialing Center	Family nurse practitioner
Project Management Professional (PMP)®	Project Management Institute (PMI)	Project manager or consultant roles in any industry
Registered Health Information Technician (RHIT) Certification	American Healthcare Information Management Association (AHIMA)	Medical records coder, RHIT manager, outpatient coder, medical coding specialist
Salesforce Associate	Salesforce	Individuals interested in gaining experience in Salesforce or pursuing a path to become a Salesforce Certified Professional
SHRM Certified Professional (SHRM-CP®)	SHRM	Individuals who perform general HR/HR-related duties, and students pursuing a career in human resource management
Tower Crane Operator Certification	National Commission for the Certification of Crane Operators (NCCCO)	Tower crane operator

Factors to Consider

Consider the following [six factors](#) when deciding to embed or align a certification with a degree or certificate program.

1. Obtain Buy-in

The first step in the process is to determine if there is a need for the skills in the labor market and whether employers will give greater recognition or value to an academic program that aligns with or embeds a certification. The evidence can be gathered by conducting a needs assessment. This could involve contracting with an external labor market analysis organization, using publicly available state or national data labor market data, or using internal research capabilities at a college or university. Additionally, the process might include focus groups with employers who can provide information on the skills they seek and/or those that new hires lack.

Program designers can use the information gathered from the needs assessment to build a case to obtain buy-in from multiple stakeholders, including: administrators, faculty, employers, and learners. Administrators and faculty need to understand how aligning or embedding a certification with a certificate or degree program could improve program retention and completion, enhance career opportunities for students, and better meet the needs of local, regional, or national employers. Learners need to see value in pursuing an academic program that is aligned with industry needs and employers need to be confident that the skills they require will be developed and assessed in the academic program that is aligned or embedded with an industry certification. Demonstrating value to all the stakeholders is critical to set the foundation for long-term success.

2. Create a Common Language

To avoid miscommunication or confusion within an institution or system, it is important to create a shared understanding of the elements involved in this process and develop a common language for discussing them. Certifications, certificates, and degrees are all different types of credentials with different purposes. Teams working to embed and align certifications into certificate and degree programs might consider specifying the following key terms and processes to ensure that everyone works toward the same goal:

- Certificate of completion

- Certificate of assessment

- Certification

- Industry credential

- Process to align a certification with a certificate or degree program

- Process to embed a certification with a certificate or degree program

- Differentiating the process to embed or align certifications into degrees from embedding certificates into degrees

3. Align Competencies

Underpinning the certification exam is a job task analysis—a systematic analysis of what people know and do to perform a job or task. The main purpose of this analysis is to develop the blueprint for the certification exam. A job task analysis breaks down tasks into knowledge, skills, and abilities (KSAs). This process of gathering input about KSAs involves practitioners or subject matter experts. The KSAs are then used to develop the exam blueprint. Many such blueprints are publicly available on a certification body's website.

Faculty can use the exam blueprint to compare the competencies assessed on the certification exam with the learning outcomes of the certificate or degree program. By doing this comparison, faculty can identify the gaps between what is assessed on the certification exam and what is taught in the academic program. Once those skill/competency gaps are identified, faculty can determine how to revise the curriculum to fill them.

4. Determine the Appropriate Fit

Educators can determine whether a certification should be aligned or embedded based upon the academic program of study and the prerequisites for a certification exam. If it is to be embedded, they should also decide when the certification should be offered or how it fits into the academic program.

If a learner acquires the competencies after completing one course or a series of courses, the educators could embed the certification before the academic program is completed. In that case, the educational institution can use the certification as a milestone to encourage program retention If a learner did need to stop out, they would be able to obtain better employment by having earned a certification rather than simply earning credit for a set of college courses that do not represent a credential.

Educators can also use certifications as the capstone for an academic certificate or degree program. To sit for some certifications, individuals must have completed an associate or bachelor's degree. In that case, educators can align the academic program with the exam test blueprint, so that upon completion of the academic program and any other prerequisites, such as work experience, the individual would be able to sit for the certification exam.

5. Allocate Resources

It is important to determine the costs that may be associated with embedding or aligning a certification into an academic certificate or degree and to develop a plan to cover them. Here are questions to determine costs:

- Who will conduct the labor market analysis, and what will it cost?

- Will faculty need to be paid for their time to develop these new credential pathways?

- Who will do the outreach to employers, and will they need to be paid?

- Who will be responsible for paying the costs of the certification exam? Will the exam cost be embedded in the cost of a course or academic program? Can financial aid be used to cover the certification exam cost? Will the learner be responsible for it? How do you ensure that all learners have access to the certification exam?

- What costs are associated with promoting these new credential pathways to learners, faculty, and employers?

- Are there any discounts (e.g., exam vouchers) that the certification body can provide the college or university?

- Who is responsible for tracking which learners took the exam and whether they passed or failed? Will this person need to be paid?

- What costs are associated with sustaining the program over time?

6. Communicate Credentials to External Audiences

Once certifications have been aligned or embedded in a degree or certificate program, they can be conveyed to learners and potential employers:

- The college or university will need to decide about whether these certifications can be included in the academic transcript. Several organizations are exploring how to effectively capture, share, and validate learning and credentials that take place inside and outside the classroom. For example, AACRAO is exploring the use of the Comprehensive Learning Record and the Learning and Employment Record. Other organizations are testing different technology solutions, including digital wallets, to share verifiable credentials.

- It is important to teach learners how to talk about the skills they obtained when they have earned an embedded certification or completed a course or program aligned to a certification exam blueprint. They must be able to communicate their skills and competencies to prospective employers. If they receive a badge as a digital representation of an earned certification, they also recognize the value of sharing that badge virtually.

- Colleges and universities should develop strategies to inform employers about how these programs equip learners with the skills that are needed in the labor market. This can include involving employers in the needs assessment and continuing involvement through the entire development process. By establishing ongoing relationships with employers, colleges and universities can gain knowledge about how skills are changing, what refinements are needed to the curriculum, and what new certifications have emerged that employers value.

Be aware that these six steps are just a starting point for aligning or embedding certifications into academic certificate and degree programs. There is no one right way to do it. And as more colleges and universities implement these strategies, there will be more promising practices to learn from and share.

Determining Quality

[Quality assurance frameworks](#) for credentials may be process-based, outcome-based, or a combination.

- Process-based frameworks focus on ensuring that the creation and governance of the credentials are transparent and incorporate best practices.

- Outcome-based frameworks focus on individual-level outcomes as the basis for quality.

The following are examples of organizations that have developed quality frameworks for the broader category of non-degree credentials – not specifically for certification.

The Education Quality Outcomes Standards' (EQOS) Quality Assurance Framework

The [EQOS Framework](#) —which is primarily outcome-based with some process-based elements— assesses student outcomes in five areas: learning, completion, placement, earnings, and satisfaction. This framework is being used to identify high-quality training opportunities that lead to economic opportunities for individuals who complete those training programs.

The National Skills Coalition Principles of Quality Non-Degree Credentials

The National Skills Coalition, in partnership with a set of states, developed [a definition and guiding principles for non-degree credentials](#). This quality assurance framework is both outcome- and process-based. According to this framework, for a credential to be viewed as a quality non-degree credential, there must be job opportunities that value it, evidence that the credential holder has mastered a set of competencies, and evidence of employment and wage outcomes after it is earned. In addition, it is highly preferred that the credential can be stacked into other education and training opportunities.

The Rutgers Education and Employment Research Center Conceptual Framework to Guide Measurement of Non-Degree Credentials

This framework uses a combination of outcome- and process-based characteristics in four areas: credential design, competencies, market processes, and outcomes. The outcomes section looks beyond employment and wages to social benefits focused on individual health and well-being and to benefits to employers, including increased worker retention and an improved employee pipeline.

Accreditation

Overview

As a measure of quality, professional certification bodies can opt to participate in a voluntary accreditation process, which follows a process-based framework. Most certification bodies choose to be accredited to one of two standards:

- ISO/IEC 17024: 2012, Conformity assessment – General requirements for bodies operating certification of persons

- National Commission for Certifying Agencies' (NCCA) Standards for Accreditation of Certification Programs

And in the field of nursing, there is a specialized accreditor, the Accreditation Board for Specialty Nursing Certification (ABSNC) Standards. Each organization maintains a publicly available list of accredited certification bodies and their certifications. Since only a small percentage of certification bodies partake in the accreditation process, there needs to be other ways to gather information to make a judgment about certification quality. The questions outlined below can be used to help uncover answers about the processes and outcomes associated with a certification to assess quality.

Questions to Ask Certification Bodies to Assess Quality of a Certification

1. What is the purpose (scope) of the certification?

2. What, if any, competing certifications address the same purpose (scope)?

3. What are the eligibility requirements and/or prerequisites for the certification? What rationale and data are used to establish the eligibility requirements/ prerequisites to sit for the exam?

4. What employers/types of employers seek out candidates with this certification?

5. Is the certification required in any professions or industry sectors?

6. Is the certification preferred in any professions or industry sectors?

7. Is there evidence of improved employability outcomes for certified individuals (e.g., higher average salary, more likely to be hired, job descriptions listing certifications as required or preferred, etc.)?

8. Who are the stakeholders that interact and build the certification?

9. Is the certification body a stand-alone, independent organization, or is it part of or affiliated with another organization? If the certification body is part of another organization, how does it maintain independence from the functions of the other organization (e.g., the membership function)?

10. Was a job task analysis done to support the validity of the certification? If so, was a validation survey conducted? When was it last conducted? Was a representative sample of industry included in the analysis?

11. Are there procedures for revoking an individual's certification for incompetence or unethical behavior?

12. Do parts or all of the certification test blueprint match an existing academic course, certificate, or degree program?

13. Was there a nationally recognized process for determining pass/fail of the examination? (Note: Certification bodies do not generally report specific scores since a certification is a pass/fail examination.)

14. What is the pass rate for individuals taking the certification exam?

15. Is there a recertification process for the certification? If so, is it based on a job task analysis?

16. Does the certification body have a policy that indicates how often the certification exam is updated? If so, what is the process to continually improve the certification program? If not, how is the certification exam updated, or is it?

17. Are the certification exam items reviewed for bias related to gender, race, ethnicity, geographic location, etc.?

18. Are certification exam items written to specific task statements to ensure the questions are measuring what they are supposed to be measuring?

19. What security measures are taken while creating, delivering, and storing the examination?

20. How is the certification exam proctored? What security measures are taken if it is in person or remotely?

Examples

Aviation Maintenance Technology Program

Lake Area Technical College in South Dakota has a 20-month Aviation Maintenance Technology Program that embeds two certifications: the Federal Aviation Administration (FAA) Airframe Certification after the first year, and the FAA Powerplant Certification after the second year. In addition, students can earn an Associate of Applied Science degree by taking general education courses. By completing all the requirements of the program, a student earns three credentials: a degree and two certifications.

Network Systems Technology Pathways

For individuals interested in the operation of computer networks, Broward College offers the Network Systems Technology – Network Administration Associate in Science degree. The degree is designed as a career pathway that includes three technical certificates: Information Technology Support Specialist; Network Infrastructure; and Network Server Administration. Learners can take each certificate as a stand-alone credential(s) or earn them as part of the degree program. The curriculum is aligned with the competencies required in several certification exams as well. As a result, upon completion of the degree program, learners have earned several certificates and a degree, and are prepared to earn the CompTIA A+; CompTIA Network+; CompTIA Security+; CCNA; AWS Cloud Practitioner; AWS Cloud Solutions Architect; CompTIA Project+; and (ISC)2 Systems Security Certified Practitioner certifications if desired.

Mechatronics Engineering

To address workforce needs in robotics and automated systems, Middle Tennessee State University (MTSU) formed a partnership with Siemens to enable students to earn a Bachelor of Science degree in mechatronics engineering and a Level 3 Siemens international Mechatronics certification upon graduating. To become a partner institution of the Siemens Mechatronics Systems Certification Program (SMSCP), MTSU had to meet several requirements. It had to have at least two Siemens-certified SMCP instructors, offer hands-on mechatronics training system on-site, and integrate the

systems approach and SMSCP course content into the degree program (Siemens, 2022). Throughout the partnership, Siemens provides technical assistance, best practices, and instructor courses. This ensures that faculty receive the support they need and that the SMSCP course content is properly incorporated into the academic curriculum.

Project Management Programs to Meet Specialized Accreditor Standards

Accredited institutions of higher education that wish to ensure the quality of project management and related degree programs at the bachelor's, postgraduate, and doctoral levels can apply to be accredited through the PMI Global Accreditation Center (GAC), a specialized accreditor. Programs interested in pursuing accreditation must submit a letter of intent, conduct a self-assessment report, and undergo a site visit from GAC.

One benefit of a PMI-GAC accredited programs is that they award students credit toward the experience requirements needed for PMI certifications. This decreases the time students need before taking the certification exam. Examples of programs that are PMI-GAC accredited include:

- George Washington University, School of Business, Department of Decision Sciences can enroll in a Master of Science in Project Management.

- Colorado State University Global, School of Management and Innovation, Bachelor of Science Project Management.

- University of Maryland, A.J. Clark School of Engineering, Department of Civil and Environmental Engineering, Doctor of Philosophy in Civil Engineering with a major in project management.

Managing Veterinary Medicine Practices

Demand for veterinary technologists and technicians is projected to grow by 20 percent between 2021 and 2031, according to the U.S. Bureau of Labor Statistics. St. Petersburg College in Florida has developed a career pathway to help meet this demand. Once students complete either a Veterinary Technology Associate in Science degree or a Veterinary Technology Bachelor of Applied Science degree, they are eligible to enroll in the college's Veterinary Practice Management Certificate program. To complete the program, students must take eight courses in personnel, accounting

and finance, marketing, legal requirements, and budgeting and planning. The program curriculum fulfills the education requirements for the [Certified Veterinary Practice Manager](#) certification offered by the [Veterinary Hospital Managers Association (VHMA)](#). In addition to the education requirements, individuals must be actively employed as a practice manager for at least three years (within the last seven years), have taken 48 hours of continuing education courses or seminars in management, and submit four letters of recommendation to sit for the certification exam.

Medical Coding and Billing

[Sinclair Community College](#) offers a short-term (24-credit hours), [technical certificate](#) that prepares individuals to work as medical billing and coding specialists. After completing the program—which provides students with the knowledge of medical terminology, anatomy, physiology, medical coding guidelines required for the certification—individuals can take the Certified Professional Coder (CPC®) certification exam offered by [AAPC](#). A student who passes the CPC® exam, but does not yet have two years of experience, will earn the [CPC-A credential](#), which signifies apprenticeship standing.. Once the individual has worked for two years, the apprentice designation is removed.

Meeting the Demand for Phlebotomists

Moraine Valley Community College offers a Phlebotomy Technician certificate program that prepares students to become entry-level phlebotomy professionals, an occupation that is [projected to grow by 10 percent](#) between 2021 and 2031. The certificate program involves a combination of coursework and clinicals and can be completed in two semesters. The program outcomes have been developed based on the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Upon completion of the certificate program, students are eligible to sit for any national phlebotomy certification exam. The American Society for Clinical Pathology (ASCP) Board of Certification offers the Phlebotomy Technician (PBT). [Moraine Valley students have a three-year average pass rate of 96 percent on the PBT certification exam](#). The state of Illinois does not require phlebotomists to hold a certification, but many employers still require it.

Credentialing in Advanced Manufacturing

At the campus of Ohio University in Lancaster, students interested in a career as a skilled technician or engineering technologist can earn an [Associate in Applied Science degree with a major in engineering technology](#). In addition to the academic curriculum

that includes hands-on learning through lab experiences, students can earn the Manufacturing Skill Standards Council (MSSC) Certified Production Technician (CPT)® 4.0 certification and the FANUC Certified Robot Operator certifications (FCR-O1 and FCR-O2), which are embedded in the curriculum.

By earning the MSSC CPT, students demonstrate their skills and knowledge in safety, quality practices and measurement, manufacturing processes and production, and maintenance awareness The FCR-O1 certification exam assesses skills and knowledge in areas such as basic robot programming, simulation, basic robot operations, robot systems and components, and robot safety. By combining an associate degree with two industry certifications, students gain the knowledge and skills they need for a career in advanced manufacturing.

Aligning safety curriculum with industry needs

U.S. colleges and universities with academic degree programs in safety, health, and/or environmental science can apply to become a Board of Certified Safety Professionals (BCSP) Qualified Academic Program (QAP). Academic programs must meet BCSP standards and submit a list of courses and syllabi to BCSP. BCSP reviews the degree curriculum to determine if there is a substantial match with the Associate Safety Professional® (ASP®) exam blueprint. Learners who graduate from a BCSP QAP are eligible to apply for a Graduate Safety Practitioner® (GSP®) designation, which positions them to earn other safety certifications and pursue various career pathways.

For those who want to become a BCSP Certified Safety Professional (CSP®), holding a GSP allows them to meet one of the CSP eligibility requirements of holding a BCSP-qualified credential, waiving the need to pass the ASP exam that is required for the CSP. GSP holders also automatically meet the experience requirement for the Safety Trained Supervisor® (STS®) and Safety Trained Supervisor Construction® (STSC®) certifications and are immediately eligible to apply for either of those two certification exams.

From 2016 to 2023, the number of college and university programs that have earned the QAP designation has increased from 13 to 112 (K. Golding, personal communication, June 2, 2023). Examples of programs that have achieved this designation include Indiana State University's Bachelor of Science in Safety Management and Columbia Southern University's Online Bachelor and Master of Science in Occupational Safety and Health.

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Additional Resources

Please check our website for updated content, strategies, and examples:
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