

ICE STANDARD 1100 for Assessment-based Certificate Programs



FROM AN INSTRUCTIONAL DESIGN POINT OF VIEW

Element 1: Scope

This standard pertains to assessment-based certificate programs. An assessment-based certificate program is a non-degree granting program that:

- Provides instruction and training to aid participants in acquiring specific knowledge, skills and/or competencies associated with intended learning outcomes;
- Evaluates participants' accomplishment of the intended learning outcomes; and
- Awards a certificate only to those participants who meet the performance, proficiency, or passing standard for the assessment(s) (hence the term, "assessment-based certificate program").

This standard is NOT intended to cover classes, courses, program, or events that award only a certificate of attendance or participation; nor is it intended to apply to professional or personnel certification programs.

Essential Element:

It is the responsibility of the certificate program applying for accreditation to the ICE 1100 Standard to identify that a) the purpose of the program is to educate and train and b) the program is grounded in the *assessment* of learning objectives, as such it differentiates itself from a formal professional certification program and is not awarding a certificate of participation but rather a certificate proving proficiency in the specific program content..

The standard REQUIRES training and instruction that leads to the acquisition of knowledge, skills, and/or competencies that are linked to intended learning outcome(s). A well-designed program defines clearly what a participant will KNOW or be able to DO as a result of completing the program, and then assesses that the participant achieved that outcome.

The standard REQUIRES an evaluation, or assessment, that establishes that participants achieved the stated learning outcomes.

Participants MUST demonstrate that they passed the assessment successfully to receive a certificate; therefore, a certificate cannot be awarded based upon participation alone.

A participant cannot simply show up for a workshop or click through an eLearning program and receive a certificate.

Element 2: Organizational Structure, Resources and Responsibilities to Stakeholders

The certificate provider shall be structured so as to give stakeholders confidence in its competency and integrity and shall publish all essential information related to the assessment-based certificate program (hereinafter referred to as the certificate program) to ensure that stakeholders understand its purpose, scope and requirements.

Suggested Source and Documentation:

- Articles of Incorporation
- Copy of organizational financial documents supporting financial feasibility
- Candidate brochure/information/application
- Other published documents, including Web site access
- Policies and procedures manual
- Resumes of key individuals involved in development and delivery
- Sample assessment tool
- Sample of feedback provided to participants

While this Element of the standard focuses on the credibility and viability of the assessment-based certificate (ABC) provider as an organization, the documentation provided for Element 2 will likely contain evidence of procedures that are followed to ensure good instructional design. For example, policies and procedures will likely address how the program was instructionally designed, who designed the training, and how it is delivered.

Essential Element:

2.1. The certificate provider shall be a recognized legal entity.

2.2 The certificate provider shall have the resources necessary to carry out its operations capably and support and effective certificate program.

Essential Element:

2.3 The certificate provider shall define policies and procedures for the operation of the assessment-based certificate program and

for the development and delivery of the education/training and assessment(s) that constitute(s) the certificate program. These policies and procedures shall specify the:

- a) qualifications required of all individuals involved in the development and delivery of the education/training and assessment(s).
- b) procedures used to develop and update the education/training
- c) methods for delivering the education/training
- d) procedures used to develop and update the assessment(s)
- e) methods for conducting the assessment(s)
- f) types of assessment used and procedures for evaluating or scoring participants' performance on the assessment(s)
- g) type of feedback provided to participants

2.4 The certificate provider shall publish:

- a) The purpose and scope of the certificate program
- b) The target audience for the certificate program
- c) Prerequisites (if any)
- d) A description of the education/training provided and the intended learning outcomes
- e) A brief description of the assessments, including an overview of how they are developed and validated, how participant performance on the assessment(s) is (are) evaluated/scored, the valid uses of the assessment results, and the percentage of participants who meet the performance, proficiency, or

Note the Element outlines aspects of running the organization that encompass the way they develop and deliver training. This includes description of the methodology, which could include eLearning, live instructor-led training (workshops/classroom), self-paced training, etc.

A published description of the program and clearly stated learning objectives/outcomes are required.

- passing standard for the assessment
 - f) The qualification of the facilitators/instructors and assessment developers
 - g) The requirements (if any) for renewing the certificate
 - h) Any changes in program requirements and the effective date of the changes
- 2.5 The certificate provider shall publish and provide to certificate holders a statement explaining what inferences can properly be made regarding individuals who hold the certificate. These inferences shall be consistent with the stated purpose of the certificate and the assessment(s) and also other information the certificate provider makes public about the certificate and the assessment(s).
- 2.6 The certificate provider shall define policies and procedures for the resolution of complaints and/or appeals received from participants and other parties.
- 2.7 The certificate provider shall publish policies and procedures to be followed in the event that a participant misrepresents his/her identity or eligibility status, gives or receives unauthorized assistance on the assessment, or engages in other violations of established policies.
- 2.8 The policies and procedures of the certificate provider and their implementation shall be fair and equitable to participants and shall comply with all applicable regulations and statutory requirements. The certificate provider shall not impede or inhibit access by participants, except as provided for in this Standard.

Element 3: Conduct and Oversight of Certificate Program Activities

The certificate provider is responsible for all activities performed on its behalf and shall ensure these activities are performed properly by qualified individuals.

Suggested Documentation:

- Qualifications of all individuals support the activities of the certificate program (such as job descriptions, resumes)
- Documented results of reviews/assessments of individuals associated with the certificate program

Essential Element

- 1.1 The certificate provider is responsible for monitoring, assessing and assuring the quality of all activities performed on its behalf in accordance with documented procedure. This responsibility includes activities performed by employees, committee, contractors and/or other individuals.
- 1.2 The certificate provider shall employ or contract a sufficient number of people with the necessary education, training, technical knowledge and experience to perform functions relating to the type, range and volume of work performed, under a responsible management.
- 1.3 The certificate provider shall use subject matter experts and qualified individuals in the development, delivery and maintenance of the certificate program. The required qualifications, credentials, skills and/or competencies for these individuals shall be defined and

While the standard does not specify who the certificate provider should employ or contract to develop, deliver, and administer the program, it may be most appropriate to involve instructional designers to aid in the development of the program depending on the scope of the program for the certificate.

Here the Element is clear that appropriate subject-matter experts guide content development. Instructional designers and training developers may fall into the category of qualified individuals.

documented by the certificate provider.

- 1.4 The certificate provider shall retain sole responsibility for defining the:
 - a) purpose and scope of the certificate program; and
 - b) criteria (e.g. prerequisites, performance, proficiency, or passing standard) for successful completion of the certificate program.

Element 4: Management of Program Records, Documents, and Materials

The certificate provider shall maintain orderly and accurate records, documents, and/or other materials and manage them in a responsible manner.

Element 4 pertains solely to record keeping.

Suggested Documentation:

- Program records of certificate holders and participants.
- Contract templates or contracts
- Description of record system
- Security policy and access rights
- Record retention policies and procedures
- Information release forms
- Documentation of notice of confidentiality policies

Record and/or Document System

Essential Element

- 4.1 The certificate provider shall identify the title(s) of the person(s) responsible for maintaining and disposing of program records, documents and/or materials.
- 4.2 The certificate provider shall maintain a record system that is appropriate to its particular circumstances and in compliance with relevant regulations. The records, documents and/or other materials maintained shall include:
 - a) a listing of all individuals who are currently participating in but have not yet successfully completed the program, including their status and the requirements met to date;
 - b) a listing of all participants who have been awarded a certificate and the date

- that the certificate was awarded;
 - c) the performance of participants on the assessment(s) and the related performance, proficiency, or passing standard for the assessment(s); and
 - d) the effectiveness of the assessments (e.g. information describing key measurement characteristics, such as difficulty and reliability as appropriate to the type and nature of the assessment(s).
- 4.3 The certificate provider shall have procedures in place for reviewing, approving, updating and ensuring the currency of records, documents and/or other materials.
- 4.4 The records, documents and/or other materials shall be identified, managed and disposed of in such a way as to ensure the integrity of the certificate program and the confidentiality of the information, as appropriate. The records, documents and/or other materials shall be kept for a reasonable period of time, as stated in policy and/or as required by relevant bodies, or by contractual, legal or other obligations.
- 4.5 All personal and financial information pertaining to participants (e.g. date of birth, social security number, credit card number, assessment results) shall be maintained in a secure manner by the certificate provider and/or its contractors, as required by applicable laws.
- 4.6 All assessment materials, data, and results shall be maintained and handled in a secure manner by the certificate provider and/or its contractors throughout its useful life.
- 4.7 The certificate provider shall state what information must be treated as confidential

and the conditions under which such information may be disclosed to parties other than the organization or individual from whom the information was obtained. Participants shall be informed of all these conditions prior to entering the certificate program. Confidentiality shall be maintained in accordance with documented guidelines and applicable laws by all individuals working for the certificate provider, including external bodies or individual acting on its behalf.

Element 5: Quality Assurance and Program Evaluation

The certificate provider shall set quality standards for the certificate program and shall evaluate the program using these standards.

Suggested documentation:

- Quality assurance procedures
- Design document
- Program evaluation samples
- Evaluation tool
- Documentation of how evaluation results are used in process improvement efforts

Essential Element

5.1 The certificate provider shall have a documented quality assurance procedure in place for all administrative, educational/training, and assessment processes. The quality assurance procedure shall specify the:

- a) quality criteria for the operational procedures and the products and services offered by the certificate provider
- b) procedures used to ensure the quality criteria are met
- c) procedures for identifying products, services, and/or processes that do not conform to quality criteria
- d) procedures for correcting identified deficiencies
- e) procedures for evaluating the effectiveness of corrective actions;
- f) title of the person responsible for managing the quality assurance procedure

Documentation with regards to the quality assurance of the educational/training aspects of the program is required by the standard.

5.2 All components of the certificate program shall be reviewed periodically (at least annually) by subject matter experts and other qualified individuals to ensure that the:

- a) content of the education/training and assessment(s) is current and accurate
- b) design and delivery of the education/training are consistent with generally accepted instructional design principles and appropriate for the intended learning outcomes
- c) development of the assessment(s) and the evaluation/scoring of participant performance on the assessment(s) are consistent with generally accepted measurement principles and appropriate for assessing accomplishment of the intended learning outcomes.

5.3 The certificate provider shall conduct periodic program evaluations to assess program quality and effectiveness and implement future improvements. At a minimum, program evaluations shall include the evaluation of the:

- a) participants' performance and their accomplishment of the intended learning outcomes by the certificate provider
- b) facilitators/instructors by participants and the certificate provider
- c) certificate program (content, design, delivery method, assessment(s)) by facilitators/instructors and certificate providers
- d) certificate program (content, design, delivery method, assessment(s)) by participants.

Here the standard is clear that a) all components of the program, including training materials, be reviewed by subject-matter experts and other qualified individuals, which may include instructional design/training professionals, to ensure the content is current and accurate, and that b) the design and delivery of the program CONTINUES to be instructionally sound and consistent with the principles of learning. For a program to be considered instructionally sound, the design and delivery must be appropriate for the intended learning outcomes, as instructional design is a methodology for developing training to ensure it achieves defined learning objectives.

Level 2 evaluations (per Kirkpatrick's model), which assess and document that participants achieved the intended learning outcomes, would be an ideal way to satisfy this aspect of the standard.

Employing Level 1 evaluations (Kirkpatrick) that solicit feedback from participants as to the perceived quality and their overall satisfaction of the program and instructors would be ideal for satisfying this aspect of the standard. Ideally, the Level 1 feedback collected would drive continuous quality improvements in the program overtime.

Evaluation of the certificate program by other stakeholders may also be included.

Element 6: Development, Delivery and Maintenance of Education/Training

The certificate provider shall ensure that the education/training is developed and delivered by qualified individuals and that the content, design, and delivery are suited to the intended learning outcomes and consistent with generally accepted instructional design principles.

Suggested documentation:

- Resumes of those responsible for the design and delivery of the course
- Learning outcomes
- Qualifications of SMEs used to build the course
- Qualifications for course instructors
- Curriculum/design document
- Design process/project plan
- Content review/refresh procedures
- Instructional design principles and practices document

Personnel

Essential Element

- 6.1 The certificate provider shall ensure that the education/training is developed, delivered and reviewed by subject matter experts and qualified individuals
- 6.2 The certificate provider shall document and ensure that facilitators/instructors possess the qualifications and skills to deliver the education/training as designed
- 6.3 The certificate provider shall provide facilitators/instructors with feedback on their performance
- 6.4 The content of the education/training shall be consistent with the purpose and scope of the certificate program and the intended learning outcomes.

This Element of the standard addresses the instructional design elements of ABC programs most specifically.

The first paragraph states succinctly that certificate providers must ensure that the training/education is developed by qualified individuals (mostly includes subject-matter experts and those with an expertise in instructional design), and that the content, design of the training, and the way the training is delivered is appropriate for the intended learning outcomes. In other words, if a certificate program teaches participants how to rig a crane and awards a certificate based upon being able to rig a crane, then the training intervention and the assessment should entail the physical act of rigging a crane—learning how to do it and demonstrating that you can on the test, not just reading about it in a manual and passing a knowledge-based exam.

Appropriate documentation might therefore include:

- Resumes of the subject-matter experts who developed the content and established the learning objectives and outcomes of the program
- Resumes of the instructional designers who designed the training
- A design document typically outlines three elements at a minimum:
 - the learning objectives and outcomes (e.g., as a result of completing this program, participants will be able to _____)
 - an outline of the content covered
 - a description of HOW the content is delivered

Here the standard addresses the instructors of the program; if eLearning or self-paced, there might not be a live instructor. If the training is delivered by someone (e.g., a facilitator or instructor), that person needs to possess the qualification and skills to deliver the education and training as it was instructionally designed. This does not mean that the instructor has to be a subject-matter expert. A qualified instructor who has completed a well-designed train-the-trainer may be considered qualified to run the live training; however, if this is the case, it should be specified in the procedures and policies. In some instances, instructors might be themselves subject-matter experts or possess a proficiency in the content or skills being taught and assessed in the program.

Here the standard is clear that the program must teach what it says it will teach.

- 6.5 The intended learning outcomes, content and design of the education/training, delivery method and assessment(s) shall all be in **alignment** (i.e. the content, design, and delivery of the education/training shall be appropriate for accomplishing the intended learning outcomes, and the assessment(s) shall be appropriate for assessing the participants' accomplishment of the intended training outcomes).
- 6.6 The intended learning outcomes and the knowledge, skills and competencies to be addressed in the education/training shall be determined systematically based on an analysis of the needs of the:
- participants
 - industry (as appropriate)
 - consumers (as appropriate)
 - other identified stakeholders (as appropriate)

The procedure used to conduct the analysis shall be consistent with the published purpose of the program. The procedure for selecting content for the education/training shall include an analysis of participant and stakeholder needs appropriate to the purpose, scope and stakes of the certificate program.

Essential Element

- 6.7 The content of the education/training shall be reviewed periodically (at least annually) to ensure that it remains current and accurate. The certificate provider shall specify the procedures to be used for updating the content as well as the circumstances under which updating should occur.

Alignment is key: the learning objectives must define what is covered in the training, and importantly, what the participant will KNOW and/or be able to DO as a result of the completing the training. The assessment must then also align by only testing what is defined in the learning objectives. For program design and for the evaluation of your program, the more specific, the better.

For example, if a learning objective states that at the conclusion of the training program, the participant will be able to name the four chambers of the heart, the training must teach the four chambers of the heart, and the assessment must test that the learner can indeed name the four chambers of the heart. A similar, but broader objective, for example, that the participant will be able to describe cardiac anatomy, is more difficult to teach and assess.

For this Element, the design document would ideally also address how the training meets a need—of the participants, the industry, consumers, or other stakeholders. Note the standard stops short of requiring a job analysis directly, but does require that a needs analysis be conducted as appropriate for the program and that the process for determining the content of the training/education program take into account the needs of the appropriate stakeholder.

- 6.8 The design of the education/training shall be consistent with generally accepted instructional design principles and appropriate for the intended learning outcomes. Again, the standard is very clear that the design of the program is consistent with generally accepted principles of instructional design, as appropriate for what the program is teaching.
- 6.9 The design of the education/training should be modified as needed to ensure that it incorporates changes in the purpose, scope or content of the certificate program and reflects current, generally accepted instructional design principles. Any change in the scope of the program needs to be considered in terms of the instructional design. For example, if a knowledge-based program expands to contain a performance element, the design of the program would need to change, as well as the assessment. If the general school of thought of instructional design changes, the program should be updated as well.
- 6.10 The certificate provider shall specify the methods for delivery of the education/training (e.g. classroom, online synchronous, online asynchronous). These methods shall enable accomplishment of the intended learning outcomes and be consistent with the purpose and scope of the certificate program. You must define HOW the training is delivered—it is not enough to outline the content and learning objectives. The methodology used to deliver the training must be appropriate to what you are teaching. For example, an eLearning-based program might not be appropriate to teach and assess a participant's ability to rig a crane.

Element 7: Development, Conduct and Evaluation of Assessments

The certificate provider shall conduct and assessment of participants' accomplishment of the intended learning outcomes and shall ensure that the procedures used to develop and conduct the assessment(s) and to evaluate/score participants' performance are consistent with accepted measurement principles and the intended use of the certificate.

Suggested Documentation:

- Assessment(s) design and delivery procedures
- Procedures used to support the validity of the assessment
- Job/practice analysis (if applicable)

Essential Element

- 7.1 The certificate provider shall conduct one or more assessments of participants' accomplishment of the intended learning outcomes and the effectiveness of the education/training.
- 7.2 The assessment(s) shall be appropriate for measuring participants' accomplishment of the intended learning outcomes and consistent with the published purpose of the certificate.
- 7.3 The certificate provider shall adhere to generally accepted measurement principles in the development of the assessment(s) and the evaluation/scoring of participants' performance.
- 7.4 Individuals who develop or conduct the assessment(s) or who evaluate/score participants' performance shall have the required knowledge and skills for their role.

Validation of the Assessment(s)

This Element of the standard addresses the assessment. A well-designed training program should align exactly to the assessment, to ensure participants can successfully "pass" the assessment.

This Element clearly states that at least one Level 2 evaluation (Kirkpatrick) be conducted to document that the participants accomplished the stated learning objectives, which, in turn, documents the effectiveness of the program.

Essential Element

- 7.5 The certificate provider shall employ a procedure to demonstrate that the assessment is valid for its intended purpose. At a minimum, this procedure shall include documentation of the linkage between the assessment and the intended learning outcomes (e.g. a table listing the knowledge, skills and/or competencies needed for participants to achieve the intended learning outcomes and identifying how the specified knowledge, skills, and/or competencies are covered by the assessment). A job/practice analysis shall be conducted for high-stakes certificate programs when their scope is sufficiently broad to support such a study.
- 7.6 The certificate provider shall ensure that the assessment is revised as necessary to reflect changes in the scope or purpose of the program (e.g. changes in the intended learning outcomes, changes in the education/training).
- 7.7 The certificate provider shall specify how the assessment(s) shall be conducted. These specifications shall ensure comparability in the environments in which the assessment occurs and permit participants to exert their best effort. Specifications shall address the:
- a) conditions of the environments in which the assessment(s) take(s) place (e.g. type of setting)
 - b) method(s) of conducting the assessment(s) (e.g. face to face, computer, paper and pencil)
 - c) qualifications required of the individuals conducting the assessments(s) (e.g. facilitators/instructors, proctors, raters)
 - d) materials and equipment needed to conduct the assessment(s)

- e) instructions to participants
- f) time allotted for conducting the assessment(s)
- g) level of security required to be consistent with the intended purpose of the certificate

Evaluation/Scoring of Participant Performance

Essential Element

- 7.8 The certificate provider shall identify a performance, proficiency, or passing standard for the assessment(s) which participants must achieve in order to be awarded the certificate. The certificate provider shall use a generally accepted method for setting the performance, proficiency or passing standard. This method shall:
- a) link the performance, proficiency, or passing standard to the expected performance of a participant who has achieved the intended learning outcomes
 - b) be consistent with the nature and intended use of the assessment
- 7.9 The certificate provider shall document the rules, methods, and/or rubrics for evaluation and/or scoring participant performance on all types of assessment (both objectively and subjectively evaluated/scored assessments)
- 7.10 For subjectively evaluated/scored assessment(s) (e.g. essays, work products, portfolios, demonstrations, presentations) the certificate provider shall:
- a) supply raters with rating or scoring scales, performance evaluation checklists, rubrics, and/or other appropriate guidelines to be used to evaluate participant performance

- b) train raters in the use of the rating or scoring scales, performance evaluation checklists, rubrics, and/or other appropriate guidelines
- c) establish procedure(s) by which raters can be calibrated periodically (if multiple raters are used)
- d) conduct analyses of the consistency and/or agreement in the raters' evaluation/scoring as appropriate for the type of assessment and its intended use
- e) establish procedure(s) by which significant differences between raters can be discussed and/or remedied (if applicable)

7.11 The certificate provider shall ensure the comparability of different forms(versions) of the same assessment with respect to content coverage and overall difficulty (e.g. the questions on two comparable versions of a written examination should cover the knowledge areas and be of the same overall difficulty).

Reporting and Interpretation of Assessment Results

Essential Element

- 7.12 The certificate provider shall report the results of the assessment(s) to participants in a consistent format that is appropriate to the type of assessment. At a minimum, participants shall be informed as to whether they have accomplished the intended learning outcomes. A report of participants' relative strengths and weaknesses may also be provided.
- 7.13 The certificate provider shall prepare reports of assessment results in

aggregate form (e.g. results based on the performance of an entire class) to support program evaluation and address other stakeholder interests.

- 7.14 The certificate provider shall supply the participants and stakeholders with guidance on interpreting and using the results of the assessment(s), including what inferences can appropriately be drawn from the results.

Evaluation of the Effectiveness of the Assessment(s)

Essential Element

- 7.15 The certificate provider shall assess the effectiveness of the assessment(s) on a regular basis to ensure ongoing utility for measuring participants' accomplishment of the intended learning outcomes. This procedures may include the collection of data pertaining to the:
- a) overall difficulty of the assessment(s) (e.g. the percentage of participants who achieve a satisfactory performance on a hands-on demonstration) or of individual items or components of an assessment (e.g. the percentage of participants who answer a multiple-choice question correctly)
 - b) measurement precision of the assessment(s), that is, the degree to which the results obtained are free from measurement error (e.g. a measure of inter-rater agreement on the assessment of a product produced by a participant).

Element 8: Issuance and Use of Certificates

A certificate shall be issued only in accordance with documented requirements and procedures, and certificate holders shall be informed of the proper uses of the certificate.

This Element states specifically how certificates are awarded.

Issuance of Certificate*Essential Element*

- 8.1 The certificate provider shall identify the requirements and procedures for granting the certificate.
- 8.2 The certificate provider shall confine its requirements to those matters specifically related to the purpose and scope of the certificate program.
- 8.3 The decision to issue a certificate shall be made by the certificate provider based solely on the information gathered by the certificate provider (i.e. application, education/training, assessment).
- 8.4 The certificate may take the form of a letter, card, or other medium, signed or authorized by a designated representative of the certificate provider.
- 8.5 The certificate document shall contain the following information:
 - a) name of the certificate holder
 - b) name of the certificate provider
 - c) scope of the certificate (and title of certificate, if appropriate)
 - d) date on which the certificate was awarded
- 8.6 The certificate provider shall have a confirmation procedure in place by which the status of certificate holders can be verified.
- 8.7 A certificate holder is generally not required to engage in activities to maintain the

certificate; however, in some cases, providers may require additional education/training and/or assessment(s) for this purpose. When certificate maintenance is required, the maintenance procedure shall be fair and reasonable, and the requirements shall be confined to those matters specifically related to the purpose and scope of the certificate program.

- 8.8 The certificate provider shall have a policy stating that it maintains the right to recall or nullify the certificate document in the event certificate holders have violated program requirements or policies. The certificate provider shall maintain sole ownership of the certificate document.

Use of the Certificate

Essential Element

- 8.9 The certificate provider shall not award an acronym or letters to certificate holders for use after their names upon completion of the certificate program.
- 8.10 The certificate provider shall publish and provide to certificate holders a statement defining the appropriate ways in which to reference the certificate. This statement shall specify that certificate holders:
- a) may state that they hold a "Certificate in ..."
 - b) shall not say that they are "Certified in ..."
 - c) shall not use acronyms or letters after their names to reference the certificate they hold.
- 8.11 The certificate provider shall publish and provide to certificate holders a statement defining the purpose and scope of the certificate. This statement

shall specify that certificate holders shall not make:

- a) claims or imply that the certificate is a professional certification or that its purpose and scope are beyond that specified by the certificate provider
- b) any other statement regarding the certificate which the certificate provider may consider misleading or unauthorized