

IREC

STANDARD 14732:2012

General Requirements for
**Renewable Energy & Energy Efficiency
Certificate Programs**

*Public Comments as of 1/18/2012 and
IREC Standards Committee Responses*

LEGEND

Text of draft Standard

Public comment text

IREC Standards Committee response to comment

Edits made to Standard as a result of second round public
comments



Interstate Renewable Energy Council

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**Interstate Renewable Energy Council
IREC DRAFT Standard 14732: 2012
General Requirements for Renewable Energy & Energy Efficiency Certificate Programs**

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1. Scope

1.1 This standard forms the foundation for the accreditation of certificate-awarding entities that develop and administer credit or non-credit energy efficiency and renewable energy-related programs offered in formal educational institutions and other legal entities. For the purposes of this standard, energy efficiency is defined as the result of efforts to reduce the amount of energy consumed in producing a service, product, or condition. Renewable energy constitutes wind, solar, geothermal, bioenergy, hydrogen, non-conventional hydro, and renewable fuels.

1.2 This standard provides the accreditation requirements that energy-efficiency and renewable-energy programs must meet and document to earn and maintain accreditation. The purpose of accreditation is to determine if the program meets the requirements for issuing a market-valued certificate.

1.3 This standard does not address requirements for the certification of individual practitioners, educators, or trainers in energy-efficiency and renewable-energy programs.

I have a general question. As I read the standard I feel that I am reading the ISO 50001 standard. If so and I do understand there are differences in the standard, if an organization meets ISO 50001 certification do this mean I meet the requirements of 14732 ?

The purpose of International Standard 50001 is to enable organizations to establish the systems and processes necessary to improve energy performance, including energy efficiency, use and consumption. Implementation of this International Standard is intended to lead to reductions in greenhouse gas emissions and other related environmental impacts and energy cost through systematic management of energy. The purpose of IREC 14732 is detailed in the Scope and is different from ISO 50001.

2. Referenced Documents

At the time of publication of this Standard, the following referenced documents are the most current.

Gelman, R., NREL 2009 Renewable Energy Databook, 2010; 2009 Renewable Energy Data Book, August 2010. NREL Report No. BK-6A2-48178; DOE/GO-102010-3074

IREC ISPQ International Standard 01022: 2011, General Requirements for Trainers and Training Programs Offering Renewable Energy, Energy Efficiency, or Distributed Generation Training

ANSI/ASTM E 2659-09 Standard Practice for Certificate Programs

ANSI/ISO/IEC 17024:2003 Conformity Assessment—General Responsibilities for Bodies Operating Certification of Personnel

ANSI/ISE/IEC 17011:2004(E) Conformity Assessment—General Requirements for Accreditation Bodies Accrediting Conformity Assessment Bodies

ANSI/IACET 1-2007 Standard for Continuing Education and Training

some documents are outdated

The Committee has reviewed the documents and the versions listed are the most current. A phrase was added to the Standard to make this clear.

3. Glossary of Terms

This Glossary of Terms is provided solely for the purposes of this Standard. The terminology provided is to guide applicant organizations. Several sources were referenced including Professional Testing, Inc., ASTM E2659-09 Standard Practice for Certificate Programs, and ISO/IEC 17024 Conformity Assessment—General Requirements for Bodies Operating Certification of Persons.

Accepted Testing Practices—Practices that experts who develop, maintain, and administer examinations follow to assure the reliability and validity of assessment instruments. There are several published standards addressing accepted testing practices including:

- International Standard ISO/IEC 17024:2003 Conformity Assessment—General Requirements for Bodies Operating Certification of Persons (accreditation standards) administered by the American National Standards Institute (ANSI)
- Principles of Fairness: An Examination Guide for Credentialing Boards (Council on Licensure, Enforcement and Regulation and National Commission for Certifying Agencies, revised 2002)
- Standards for Education and Psychological Testing (1999) published by the American Educational Research Association, the American Psychological Association and the National Council on Measurement in Education
- Uniform Guidelines of Employee Selection (1978), adopted by the United States Equal Employment Opportunity Commission, Department of Labor and Department of Justice.

Accreditation—Third-party review and attestation of an entity's conformance with an established standard. Accreditation is awarded for a fixed period of time and requires renewal.

Certificate—A document awarded to individuals that meet and successfully complete the certificate program's requirements.

Certificate-Awarding Entity—A legal entity that offers education or training culminating in the award of a market-valued certificate.

Certificate Invalidation—The nullification of an issued certificate when an individual fails to comply with certificate program terms and conditions.

Certificate Program—A course, sequence of courses, or learning events focused on an area of specialized knowledge or information with specific learning objectives. The certificate program is developed, supervised, and evaluated by subject matter experts and culminates in the issuance of a document indicating fulfillment of specific completion requirements.

Certificate Program Personnel—Individuals employed, contracted or volunteering to administer any component of the certificate program, including: instructional design and delivery, assessment development and administration, student registration, program delivery support and administration, and other key program-related activities and services.

Criterion-Referenced Scoring Methodology—An assessment scoring methodology that measures an individual's performance against predetermined competency standards that have been validated by subject-matter experts, rather than against the performance of others. Each assessment must be validated against the competency standards that it is assessing.

Designation—The title or trademark label applied to achievement of a credential.

Document Control—The procedures established in developing, approving, revising, naming, storing, accessing, and disposing of program documents (such as policies, procedures, and records).

Education/Training Cycle—The series of steps or stages that comprise a complete education/training program from admission to issuance of the certificate.

Generally Accepted Procedures, Processes or Practices—Procedures, processes, or practices that have been agreed upon and validated by experts in a discipline and are referenced consistently in professional literature.

FERPA (Family Educational Rights and Privacy Act of 1974)—Federal legislation in the United States that protects the privacy of students' personally identifiable information (PII). The act applies to all educational institutions that receive federal funds. It states that parents of students under 18, or eligible students (students over 18, or those who have matriculated to an educational institution above high school) must be allowed to view and propose amendments to their educational records. The act also mandates that schools must obtain written permission from parents or eligible students in order to release a student's PII.

Internal Audit—The first-party review (internal self-assessment) of an entity's policies and procedures and the entity's conformance with such. Such an audit is frequently a component of a

documented management system. Findings from internal audits include preventive and corrective actions for areas of non-conformance, as well as opportunities for continuous quality improvement.

Job Task Analysis—An industry-accepted study by a group of experts that defines competencies in knowledge, skills, and attitudes that establish the basis for education/training curricula. Similar activities are also referred to as task analyses, practice analyses, and role delineation studies.

- a. **Tasks** are the individual functions, whether mental or physical, necessary to carry out an aspect of a specific job.
- b. **Knowledge, Skills, and Attitudes (KSAs)** include the information and other abilities that a practitioner must possess to perform a job competently, ethically, and safely.

Learner—A participant in a learning event who acquires knowledge or skills directly or indirectly through the facilitation of a subject matter expert.

Management Review—The study of internal audit and program evaluation results by program management. This may be followed by implementation of corrective or preventive actions.

Management System—The combination and integration of policies, procedures, and processes by which the certificate program is developed, implemented, maintained, and evaluated.

Passing Score (~~also known as the cut-off score or the cut score~~) —~~The score that separates those who have successfully achieved the learning objectives from those who have not. It refers to the~~A criterion-referenced minimum score a learner must achieve in order to pass a test or assessment intended to identify those who have achieved the learning objectives.

Personnel—(see **Certificate Program Personnel**)

Prerequisites—Previously learned knowledge, skills, and attitudes that the learner must have acquired before new learning can occur. Prerequisites can take the form of individual knowledge and skills, skill sets, and lessons, units of instruction, and/or courses that have specific learning objectives. These differ from program entry requirements, which are a list of abilities and accomplishments that an individual must have before taking a course. Entry requirements usually take the form of abilities (such as math, language, or kinesthetic aptitudes), work experience (for example, 2-3 years working as a solar installer apprentice), and/or education (such as a high school diploma).

Stakeholders—Any individual or group with a primary interest in, or who may be significantly affected by, the certificate program.

Summative Evaluation—A technique used at the end of a program to collect evidence **about the value of an instructional program or evidence** that determines whether students in the program have mastered the stated learning objectives. Summative evaluation is intended to “prove” the effectiveness of a program or the competence of the students by “summing up” a program’s results after it has been completed.

Systematic Program Plan—~~A documented generic process to create or revise educational programs, workshops, or courses (i.e., the design or development of instructional systems) using the interrelated components of analysis, design, development, implementation, assessment, and evaluation. (Should we add a sentence that states applicant organizations may follow a prescribed system or theory [ADDIE model, etc.]?)~~ Any one of several processes recognized by education and training professionals that documents the creation or revision of educational programs, workshops, or courses using inter-related components of analysis, design, development, implementation, and evaluation.

Tangible Products—Student work that has multiple critical elements that must be evaluated for compliance to a standard or criterion. Examples include schematics, blueprints, diagrams, system installations, reports, architectural models, renderings, and essays.

Valid Certificate—The length of time for which a certificate is considered current, based on how long program content remains relevant.

Systematic Program Plan. Not sure “Assessment” should be specified in the definition for Systematic Program Plan, on a level with the other ADDIE components. Assessment is generally accepted to be a subcomponent of the development and implementation requirements.

The reference to assessment was removed.

1. Passing Score. I would recommend eliminating the second sentence. This is impractical for many scientific and technical courses. Passing scores are the responsibility of the course instructors. As a minimum, ISPQ assessors need to peers of the instructors and have the ability to determine if the test instruments are grading are appropriate for the course(s) in question. 2. Summative evaluation. I would suggest truncating this definition in the middle of the first sentence after the words “... value of an instructional program.” Impractical and unnecessary. Most educational institutions don't do this, nor is ISPQ in a position to evaluate the evaluation. 3. Systematic program plan. I would suggest truncating the definition after the words “... create or revise educational programs, workshops, or courses.” Too limiting, unnecessary, and not consistent with the way programs are developed. The ADDIE model is great and I subscribe to it and have encouraged its use, but I honestly don't know of anybody in the technical area that has used it.

It is the Committee’s consensus that “criterion referenced” does belong in the definition for passing score, but the language was adjusted for clarity. The definition for Systematic Program

Plan was rewritten and now reflects that methods other than ADDIE are acceptable but must be recognized by those in the education and training profession.

definitions of several terms need expansion and refinement

The Committee did not have enough specific information to address this comment.

Certificant - not in current dictionaries

This is not used in the Standard, so will not appear in the glossary.

Designation, e.g., as used in 5.a)1)

This definition was added to the Standard.

I would add the definition of an "ISPQ Assessor" using language that states that all programs evaluated for accreditation will be done by peers of those being evaluated. I know of no other technical program evaluations that do not require peer evaluation.

Assessors for this program will not be 'ISPQ Assessors.' Process issues such as this one will be addressed in the guidance documents for the ANSI-IREC Accreditation Program.

please see complete glossary posted by US DOE

It is not clear what resource this comment is referring to.

4. General Requirements:

4.1 Eligibility for Accreditation: The certificate-awarding entity shall demonstrate that it has conducted the education/training program in its entirety, at least once, at the time the accreditation application is submitted.

4.2 Legal Entity: The certificate-awarding entity is a legal entity or part of a legal entity.

define types of entities

The Committee's consensus is that the term is clear as it stands.

4.3 Organizational Structure: The certificate-awarding entity shall have an organizational infrastructure that ensures confidence on the part of learners and other stakeholders. Certificates shall be issued by an entity that has a designated manager charged with administrative oversight to ensure the certificate program conforms with all policies, procedures, and administrative processes.

more detail required

The Committee's consensus is that the requirement is sufficient as it stands.

4.4 Policies and Procedures: The certificate-awarding entity shall have policies and procedures that guide decisions related to the administration of the Systematic Program Plan and the management system.

cite specifics of policies and procedures

Specific requirements for policies and procedures are addressed in Section 5 of the Standard.

4.5 Stakeholder Participation: The certificate-awarding entity shall provide interested and relevant parties affected by the workforce outcomes of the program with opportunities to participate in program development and continuous quality improvement initiatives in a manner that maintains a balance of stakeholder representation and transparency of process.

list stakeholder categories and refer to US DOL Industry Workforce Competency Models

It was the Committee's consensus that it is not the role of the Standard to dictate what these categories are.

4.6 Linkage with Industry: The certificate-awarding entity shall maintain relationships with the subject industry to ensure the continued market value and currency of the certificate.

provide specific list of types of Industry Participants

It was the consensus of the Committee that providing examples would be too prescriptive. This should be defined by the applicant.

4.7 Staff Size: The certificate-awarding entity shall demonstrate it has sufficient personnel to meet program obligations and functions.

This requirement needs to have more detail as to staffing composition and magnitude

It was the Committee's consensus that it is not the role of the Standard to be more prescriptive with regard to this requirement.

4.8 Commitment to Quality: The certificate-awarding entity shall have a written process for continuous improvement of program implementation and management. Top management shall ensure that this policy is understood and implemented at all levels of the organization.

implementation must be defined with unambiguous requirements for achievement and performance

It was the Committee's consensus that it is not the role of the Standard to be more prescriptive with regard to this requirement.

5. Requirements for Written Policies and Procedures

At a minimum, there shall be written policies and procedures to address the following program areas. Policies must comply with applicable regulations or statutory requirements.

a) Certificates: The certificate-awarding entity must have written policies and procedures that provide for the granting and use of certificates and invalidation of certificates. At a minimum, certificate invalidation shall occur if it is found that the certificate holder has not fulfilled the certificate program requirements.

1) Certificates must include the names of the certificate issuer and holder, the title and scope of the certificate program, the date issued, a unique certificate number, the date of expiration (if applicable), and the designation obtained (if applicable). The certificate must be signed or validated by an authorized official.

2) The certificate-awarding entity shall define how the certificate is referred to and authorized uses of the certificate and communicate those to certificate holders and other stakeholders.

b) Complaints and Appeals: The certificate-awarding entity shall have defined policies and procedures for filing, handling, and resolving complaints and appeals. Due process shall be assured. These policies and procedures shall be published and accessible to the public.

c) Conflict of Interest: The certificate-awarding entity must have clear and documented policies and procedures to ensure conflicts of interest concerning the certificate program are minimized and managed -- or avoided, if possible. Such policies and procedures shall apply to all certificate program personnel.

d) Confidentiality: Except as required in this Standard, or by regulations and statutory requirements, the certificate-awarding entity must have written policies and procedures that provide for the confidentiality of information obtained in the course of education/training activities. Information that must be kept confidential includes, but is not limited to, any personally identifiable information of learners and/or applicants.

e) Non-Discrimination: The certificate-awarding entity shall assure its practices do not discriminate in admitting candidates, educating/training learners, providing access to resources, and hiring personnel.

f) Paid Promotions: Promotion and sponsorship acknowledgement are restricted under this standard and are prohibited within the delivery of educational content. Policies and procedures must address possible conflict of interest and undue influence.

g) Record-Keeping and Documentation Systems: The certificate-awarding entity shall maintain a comprehensive record-keeping and documentation system that details the types of records maintained, parties with access to those records, timeframes for record storage, and procedures for records disposition. At a minimum, the record-keeping and documentation system shall include the following:

- 1) Complaints and appeals
- 2) Confidentiality and privacy
- 3) Internal audits
- 4) Personnel records
- 5) Program evaluation reports
- 6) Relationship to relevant industry
- 7) Stakeholder participation
- 8) Student records
- 9) Systematic Program Plan
- 10) Financial records
- 11) Certificates issued

h) Release of Information: The certificate-awarding entity must have written policies and procedures that provide for the release of information about an applicant or learner gained in the course of education/training activities only with the written consent of the subject person, unless otherwise required by applicable law.

i) Safety and Safe Practices: The certificate-awarding entity must have and maintain policies and procedures that ensure ongoing safety and safe practices in the delivery of the certificate program.

j) Undue Influence: Where any form of outside financial support is provided to the certificate-awarding entity, there shall be documentation ensuring that no undue influence on the program has occurred as a result of such financial support.

6. Requirements for Personnel

6.1 Certificate Program Personnel: The certificate-awarding entity is responsible for and has authority over personnel matters related to the certificate program.

6.1.1 Sufficient Personnel: The certificate-awarding entity shall demonstrate it has sufficient and qualified personnel to perform the functions required by the certificate program.

more detail as to personnel composition and magnitude

It was the Committee's consensus that it is not the role of the Standard to be more prescriptive with regard to this requirement.

6.2 Qualifications of Certificate Program Personnel: The certificate-awarding entity shall define and document the necessary education, training, certification, and/or experience for personnel who design, develop, ~~and/or~~ implement, and evaluate the program. Qualifications requirements must be reviewed at least annually.

6.3 Responsibilities of Personnel: At a minimum, the certificate-awarding entity shall identify personnel responsible for the following key program activities:

- a) Formulating and implementing policies and procedures that guide administration and management of the certificate program.
- b) Planning and monitoring for viable financial operation of the certificate program.
- c) Designing and implementing the certificate program.
- d) Recruiting, monitoring, and evaluating the performance of instructors.
- e) Providing oversight to the roles and responsibilities of volunteers, contractors, and associated committees.
- f) Communicating information about the certificate program.
- g) Making the decision to issue a certificate.

6.4 Written Job Descriptions: The certificate-awarding entity shall provide all program-related staff with clearly documented job descriptions that list their duties and responsibilities and identify their supervisors and the personnel that report to them. Written job descriptions shall be reviewed and updated annually to reflect current responsibilities.

6.5 Evaluation of Employees: The certificate-awarding entity shall conduct regular performance evaluations of its employees and document the results, including plans for continued professional development.

6.6 Management of Contracted Services: The certificate-awarding entity shall identify all providers of contracted services related to key program activities. The certificate-awarding entity shall maintain full responsibility for all contracted services. At a minimum, a signed agreement of record must be in place that includes provisions for:

- a) Compliance with certificate program policies and procedures.
- b) Confidentiality and conflict of interest.
- c) Monitoring and evaluation of the contractor's work.

- d) Protection of intellectual property and ownership of the program.

6.7 Qualifications of Contracted Personnel: The certificate-awarding entity shall provide evidence that all contracted services are delivered by qualified providers.

7. Requirements for Financial Viability

The certificate-awarding entity must provide evidence of ongoing financial resources, stability, and capability for operating the certificate program—including the delivery of the curriculum for all enrolled participants.

8. Requirements for Certificate Program Application

The certificate-awarding entity shall require ~~potential learners to submit a signed application form. At a minimum, the application form shall contain:~~ **program applicants to submit a signed application form. At a minimum, the application form shall contain:**

- a) The scope and requirements of the education/training program.
- b) A statement that the applicant agrees to comply with the requirements and directions of the education/training program and to supply any information relevant to safety and medical issues.
- c) A description of how the applicant meets the required education and work experience criteria, if applicable--including supporting documentation and prerequisites.
- d) Contact information.

provide sample of approved application format

It is the certificate program's role to determine application content, but some language was added to this requirement to provide additional clarity.

9. Requirements for Management System

The certificate-awarding entity shall have a documented management system ensuring that the requirements of this standard are effectively applied in accordance with established program policies.

9.1 Documentation: A documented management system must include all policies and procedures of the organization that directly impact the development and administration of the certificate program. Minimally, the management system must include components for document control, internal audit, and management review.

9.2 Document Control: Document control shall include the tracking, management, and utilization of certificate program documents to ensure system integrity and the fair and consistent application of policies.

9.3 Internal Audit: An internal audit shall be conducted as deemed necessary by the organization at least annually. The internal audit shall identify any deficiencies, the cause(s) of such deficiencies, and any corrective and preventive actions that will be taken. The audit shall be conducted by personnel without any direct or indirect responsibility for managing and administering the program.

9.4 Management Review: Management shall review the results of the internal audit and sign off on corrective and preventive actions.

9.5 Communication of Internal Audit Results: Results of the internal audit shall be communicated to program personnel, and corrective and preventive actions shall be implemented in a timely manner.

Provide/add specifics for all Management System Requirements

It was the Committee's consensus that the requirements are clear and it is the applicant's responsibility to demonstrate that they are met.

10. Requirements for Certificate Program—Analysis, Design, Development, Implementation, ~~Assessment,~~ and Evaluation

10.1 Certificate Development: The certificate-awarding entity shall develop the certificate program in accordance with the requirements of the **entity's own systematic program plan**.

This section needs more factual citations of requisites

Language in this section was adjusted so it is clear that the reference to a systematic program plan is referencing the organization's own systematic program plan.

10.2 Job Task Analysis Basis for Curriculum or Syllabus: The certificate-awarding entity shall base the certificate program on a current valid Job Task Analysis that has been developed using generally accepted procedures and supported by documentation.

Requiring a job task analysis as the basis for curriculum or syllabus is far too limiting for educational programs and I would suggest eliminating it as a requirement. Using the task analysis should be a viable alternative, but not a firm requirement (there aren't that many task analyses out there). A much better approach is to just require clearly defined educational program objectives, desired outcomes, and a means of determining whether those outcomes have been achieved.

This section needs more factual citations of requisites

After thoughtful consideration, the Committee has elected to leave the requirements for the job task analysis as written. Understanding that there may be a basis for curriculum other than the job task analysis that leads to a high quality, market valued program, the Committee plans to revisit this requirement after the ANSI-IREC Pilot Program.

10.2.1 Syllabi and Curricula: The syllabi and curricula, together with stated prerequisites, if any, shall ensure that participating learners receive instruction and practice that is linked to the knowledge and skill competencies as stated in the Job Task Analysis.

Consistent with 10.2 above, delete "... Job Task Analysis" and replace with "... educational program objectives."

This section needs more factual citations of requisites.

After thoughtful consideration, the Committee has elected to leave the requirements for the job task analysis as written. Understanding that there may be a basis for curriculum other than the job task analysis that leads to a high quality, market valued program, the Committee plans to revisit this requirement after the ANSI-IREC Pilot Program.

10.2.2 Availability of Job Task Analysis: The Job Task Analysis shall be available upon request as a reference for learners.

Delete Job Task Analysis and replace with "Availability of the Educational Program Objectives and Desired Outcomes."

This section needs more factual citations of requisites

After thoughtful consideration, the Committee has elected to leave the requirements for the job task analysis as written. Understanding that there may be a basis for curriculum other than the job task analysis that leads to a high quality, market valued program, the Committee plans to revisit this requirement after the ANSI-IREC Pilot Program.

10.3 Systematic Program Plan: The certificate-awarding entity shall develop and **maintain its own a** systematic program plan.

10.3.1 Documentation of Systematic Program Plan: The certificate-awarding entity shall document how it has integrated the **needs analysis**, program design, development, implementation, **learner-assessment**, and evaluation into a systematic program plan.

See comments on systematic program plan in glossary section. The requirement for using ADDIE is unnecessary and impractical. Few in the technical fields use it and the important

thing is not how the program was developed, but rather what the educational program objectives and desired outcomes are, and how the program is going to be continually updated and improved.

This has been addressed by the Committee, under Glossary.

10.3.2 Comprehensive Curricula and Syllabi: The certificate-awarding entity shall have a defined curriculum and syllabus for each course in the program submitted for accreditation. Instruction shall conform to the curricula and syllabi.

10.3.3 Curricula and Syllabi Revision and Maintenance: The certificate-awarding entity shall revise and maintain as needed the curricula and syllabi, including applicable prerequisites (skills and knowledge) needed for learners to achieve learning objectives.

10.3.4 Utilizing Another Entity's Curricula: Certificate-awarding entities that use curricula developed by other entities must demonstrate that the curricula meet the requirements of **the applicant organization's** Systematic Program Plan.

10.4 Certificate Issuance: The certificate-awarding entity shall establish and publish requirements for issuing a certificate. Such requirements shall be aligned with the program's curricula.

10.4.1 Minimum Guidelines for Issuance: Requirements for issuing a certificate shall include minimum guidelines for participation in the program and achievement on assessments of learning outcomes.

I strongly believe that IREC should set a minimum for a certificate program, and not leave it up to the individual organizations/ institutions to determine. A recommendation for renewable energy should be a minimum of 120 hours of time.

It is the consensus of the Committee that attaching a number of hours or length requirements for courses or certificate programs to the Standard would be too prescriptive, even impossible, given the range of technologies and types of programs that could fit the requirements of the Standard.

10.5 Certificate Term: If the certificate has an expiration date, the length of the term shall be referenced in information for learners and stakeholders.

10.6 Facilities: The certificate-awarding entity shall have or have access to facilities in which to conduct education/training.

This section is weak, no clear requirements. For an industry of hands on, no time has been spent on this section. I feel the most important part of this standard. Credentialing of trainers and

training programs. This whole standard focuses on paper work and nothing pertaining to real training.

I suggest adding "as applicable" at the end of this statement. There may be many certificate programs that don't require these requirements.

It is the Committee's consensus that it is not the role of the Standard to be more prescriptive in this area.

10.6.1 Support of the Learner: The education/training facilities must support the learners' participation in the program and attainment of learning objectives.

10.6.2 Safety: Facilities must provide a safe learning environment that supports the delivery of the course(s), interaction of learners and instructors, and instructional technology--including proper safety materials and equipment.

10.6.3 Off-site Facilities: Certificate-awarding entities conducting education/training off site or in facilities that they do not own shall assure and attest that such facilities comply with the requirements of the Standard.

10.7 Tools, Equipment, and Hardware Requirements: The certificate-awarding entity shall assure the necessary tools, equipment, and hardware are available for learners to achieve learning outcomes. This includes--but is not limited to--personal protective equipment, safety materials and equipment, education/training hardware, and tools.

10.8 Resources: The certificate-awarding entity shall provide access to library, research materials, and applicable job placement resources for the learners' reference and use. Services may be provided through various media and may be subcontracted.

10.9 Delivery of Certificate Program: The certificate-awarding entity shall deliver a **program courses** that meets the following requirements:

- a) The **material instruction** is presented in an organized **and sequential** learning format.
- b) Courses shall **incorporate** use of effective adult learning principles and practices.
- c) Assignments and practice exercises are clear and have defined and measurable **learning goals objectives (such as rubrics and checklists).**
- d) ~~The instructor provides timely and specific feedback to learners regarding their progress in attaining the learning objectives.~~ **Students receive timely and specific feedback regarding their progress in attaining the learning objectives.**
- e) ~~Specific~~ **Where applicable,** practice exercises related to the learning objectives **should shall** be offered. Practice exercises may take the form of group projects, case studies, scenarios, lab activity, practical experiences, and other forms of learner-centered instructional practice.

~~f) Learner assessments that evaluate achievement of the learning objectives are conducted.~~

10.9.a) Not all learning needs to be sequential—many courses can be presented simultaneously, so the phrase “as applicable” might be added here. 10.9.e) In the 1st sentence, to ensure consistency, may want to change “should be offered” to “are offered.” Rationale: 10.9 states that this is a list of requirements. All other items in the list use direct, rather than conditional, verbs.

The Committee agrees and has adjusted the language to address these points.

10.10 Online Delivery: In instances in which learning is delivered online, requirements for the delivery of the certificate program as outlined in this standard must be met in addition to the following conditions:

- a) Each course or learning event must have an identified instructor.
- b) The provider must indicate in advance of the program the hardware and software that are required for the learner to participate.
- c) ~~The provider must indicate in advance the computer skills required for the learner to participate.~~
- d) Navigation must be clearly described orally or in writing. If difficulties are encountered during navigation, instructions are given for getting assistance.
- e) There must be a system in place that ~~tracks and monitors student progress. is capable of monitoring and tracking the learning process, learner assessments, and learner records.~~
- f) Learners must have a mechanism to contact the provider with technical and content-related questions. Response time related to training questions must be stated in the syllabus and adhered to.
- g) Contingency strategies must be in place to provide a quick recovery from technology-related interruptions to complete the ~~education/training~~ in a timely manner.

10.10.e) In addition to specifying hardware and software requirements, might want to add “basic computer skill level requirements” for online course participation too, e.g., ability to download a pdf from Web, open a zip file, open & save an email file attachment, use an online discussion board, etc.

The Committee agrees and has added a requirement to address this.

10.11 Assessment of Learners: ~~All courses shall have a summative examination, written or practical, as required to measure attainment of the learning objectives. The certificate awarding entity shall, at the conclusion of each course, evaluate learner attainment of learning outcomes by use of a criterion-referenced assessment.~~ All examinations shall meet the requirements as set

forth in this Standard. Assessment of learners may include written examinations, practical examinations, exercises, and group projects.

I'm concerned that the standard oversteps reasonable bounds by telling expert faculty how to assess learners. Also, the ISPQ assessors need to have the equivalent expertise of the faculty even if criterion-referenced testing is used. A criterion-referenced test may not necessarily be a good or even a reasonable test. For this section I would suggest that ample proof be provided showing that the test instruments and grading system used were appropriate to assess that the learning objectives and desired outcomes have been achieved.

It was the Committee's consensus that it is important that the Standard require that assessments be developed and implemented in an effective manner. Language was adjusted to require that the summative examination measure attainment of learning objectives.

10.11.1 Information to Learners: Criteria by which learners will be evaluated for a given education/training course or program shall be made ~~available in writing known to the learners~~ at the outset of the course or program.

10.12 Written Examinations: Assessment of individual learners must include a ~~summative~~-written examination. Written examinations must be criterion-referenced and based on stated learning objectives. All examinations must conform with accepted assessment practices.

The certificate-awarding entity must have written policies and procedures for developing, maintaining, administering, and scoring examinations that ensure the following:

Requiring a final written examination is unnecessary and impractical. A certificate program may involve five or more courses by five or more instructors over a one or two year period. I would place strong emphasis on good test instruments for each course in the program, possibly including a final exam in the individual courses, but I would discourage a final written exam for the certificate program.

The Standard does not require a final written exam for the certificate program. Language was adjusted to make this clear.

10.12.1 Examination Development and Maintenance

- a) Examinations shall assess learners' achievement of the stated learning objectives.
- b) Examination questions shall follow accepted guidelines for specific question types (such as multiple choice or performance).
- c) Examinations are developed in a secure manner (with specific provisions that address the security of examination materials, non-disclosure agreements, and restricted access of examination materials to authorized personnel).
- d) ~~Examinations are pilot tested before they are scored.~~

- e) Examinations are regularly reviewed and evaluated for quality, relevance, and accuracy of measurement.

10.12.1.b) Might want to add “shall” in front of “follow.”

The Committee agrees and has made the adjustment.

This standard has way too much in terms of telling faculty how to do their jobs. The focus should be on educational objectives, content, and outcomes. Having been through the accreditation process from both sides (i.e., being evaluated and evaluating other programs) with ABET over the years, I think this whole section needs to be re-thought. I would eliminate it completely.

It was the Committee’s consensus that it is important that the Standard require that assessments be developed and implemented in an effective manner. One requirement was removed from the section.

10.12.2 Examination Administration

- a) Examinations, including those provided online, are administered in a secure and standardized manner.
- b) Examination administration must be aligned with the type of examination.
- c) Reasonable accommodations are provided for learners with special needs.
- d) Examination administrators follow examination administration protocols.

10.12.2.b) and 10.13.2.f) Should “examination administration protocols” be more specific? Or maybe add “accepted” before that phrase?

It was the Committee’s consensus to leave the language as written. Administration protocols could be internal to the organization.

10.12.3 Scoring of Examinations

- a) The passing score shall be determined by a methodology that is criterion-referenced.
- b) Learners shall receive a score report that indicates their performance against the stated learning objectives.
- c) Evidence must be provided to ensure the scoring of the exam is consistent across raters (i.e., inter-rater reliability).
- d) Learners shall receive their scores in accordance with published timelines.

10.12.3.c) Just an editorial thing: Add comma after “i.e.”

Comment accepted.

I would eliminate items a) and c). Much of the standard, in my opinion, is misdirected: too much emphasis on how institutions should do their job rather than on the outcomes of their efforts.

It was the Committee's consensus that the requirements cited be left in the Standard.

10.13 Other Types of Assessments (Oral, Performance, Tangible Products): All assessments must be criterion-referenced and based on stated learning objectives. All assessments must conform with accepted assessment practices.

The certificate-awarding entity must have written policies and procedures for developing, maintaining, administering, and scoring all types of assessments that ensure the following:

Most of this section and following subsections are inappropriate in my opinion. Too much emphasis on "how to" rather than "what" and too much unnecessary burden on the educational institution and too little on ISPQ.

It was the Committee's consensus that it is important that the Standard require that assessments be developed and implemented in an effective manner. One requirement was removed from the section.

10.13.1 Development and Maintenance of Other Types of Assessments

- a) All assessments shall measure learners' achievement of the stated learning objectives.
- b) Measurement instruments for other types of assessments (such as criterion-referenced checklists, rubrics, and observation instruments) must follow accepted guidelines for development.
- c) All assessments are developed in a secure manner (with specific provisions that address the security of assessment materials, non-disclosure agreements, and restricted access of assessment materials to authorized personnel).
- d) ~~Measurement instruments are pilot-tested before they are scored.~~
- e) Assessments are evaluated/reviewed for quality, relevance, and accuracy of measurement on a regular basis.

10.13.2 Administration of Other Types of Assessments

- a) All assessments are administered in a secure and standardized manner.
- b) When a physical performance is assessed, all space and equipment needs are specified and standardized. These requirements are met before any assessment is conducted.
- c) Oral examinations are conducted individually and privately.
- d) Administration of all types of assessments must be aligned with the type of examination (oral, performance, or tangible product).
- e) Reasonable accommodations are provided for learners with special needs.
- f) Examination administrators shall follow examination administration protocols in accordance with the type of assessment.

10.13.3 Scoring of Other Types of Assessments

- a) The passing score shall be determined by a methodology that is criterion-referenced.
- b) A scoring rubric, checklist, or observation instrument shall be used in accordance with the type of assessment.
- c) Individual items in checklists and other observation instruments shall have specific criteria for observation (such as yes/no, pass/fail, or behaviorally anchored rating categories).
- d) Checklists and other observation instruments shall include specific stated criteria for mastery of the task, skill, or knowledge that the instrument is measuring.
- e) Learners shall receive a score report that indicates their performance against the stated learning objectives.
- f) Processes must be in place to ensure consistency in scoring (i.e., inter-rater reliability).
- g) Learners shall receive their scores in accordance with published timelines.

10.14 Awarding Credits

If academic or continuing education credit is offered for the certificate program, there shall be a consistent and documented method by which such credits are awarded. **Information about the amount and type of credits awarded and the requirements for earning credits shall be communicated to all stakeholders.**

10.14.1 Use of Another Entity's Credit-Awarding System: ~~If the certificate-awarding entity chooses to use another entity's credit-awarding system, it must adhere to the requirements of that system. If another entity's credit-awarding system is used, the method to award credit must be followed. must conform to that organization's requirements. If credit is awarded by another entity, it must be documented. Information about the amount and type of credits awarded and the requirements for earning credits shall be communicated to all stakeholders.~~

10.14.1. Unclear sentence: "If another entity's credit-awarding system is used, the method must conform to that organization's requirements." Might want to clarify the reference for "that." Is it "another entity's" organization or the user organization?

The Committee agrees with this comment and has adjusted the language for clarity.

10.15 Evaluation of Program Effectiveness: The certificate-awarding entity must conduct an evaluation of program effectiveness.

10.15.1 Comprehensive Program Evaluations: The certificate-awarding entity shall develop, implement, and maintain an evaluation process that allows learners, contractors,

and other program participants to provide feedback on all aspects of the program (such as course design, delivery, quality of instruction, assessment instruments, graduate job placement, facilities, equipment, and administration processes).

10.15.2 Results of Performance Data: The comprehensive evaluation shall include results of performance data related to the learners' attainment of learning outcomes, and these data shall be used to make modifications or revisions to the course and/or program.

10.15.3 Record of Evaluations: The results of evaluations shall become part of the official record of the program. The comprehensive evaluations shall be part of the entity's continuous quality improvement process.

11. Requirements for Information about the Certificate Program: The certificate-awarding entity shall publish and make available relevant program information.

~~11.1 Information about the Certificate Program: The certificate-awarding entity shall publish and make available relevant program information.~~

11.21 Communicating Use of Certificate: The certificate-awarding entity shall communicate to certificate holders and other stakeholders authorized use of the certificate and its designation, if applicable.

11.2 Unclear sentence: "The certificate-awarding entity shall communicate to certificate holders and other stakeholders authorized use of the certificate and its designation, if applicable." The following is awkwardly worded, but does the previous sentence mean, "The certificate-awarding entity shall communicate, to certificate holders and other stakeholders, [what the] authorized use [is] of the certificate and its designation, if applicable"? If so, just adding the commas might be a good clarification.

It was the consensus of the Committee that the requirement is clear as written.

11.32 Informational Materials: The certificate-awarding entity shall publish and define the purposes and uses of the certificate in the marketplace. It shall not state or suggest that certificate holders are certified, licensed, registered, or accredited, or suggest that successful completion of the certificate program will guarantee a job for the certificate holder.

11.43 Information Provided to Learners and Stakeholders: At a minimum, the certificate-awarding entity shall provide applicants, learners, and stakeholders with an accurate, current, detailed description of the following:

- a) The scope of the certificate program, including the current job task analysis, **desired outcomes**, curricular content, learning objectives and assessment methodologies.

- b) A description of prerequisites and program requisites, including fees, additional charges for instructional materials, tools, and protective equipment.
- c) The skill sets that certificate holders would expect to gain and examples of the types of jobs for which they might apply upon successful completion of the program.
- d) Relevant program policies (deadlines, cancellation and refund policies, appeals and due process).
- e) The terms of awarding academic or continuing education credits.
- f) Changes to the program and effective dates.

For item a), replace last clause with "... including educational objectives and desired outcomes."

This phrase was added to provide further clarity.

DRAFT