IREC STANDARD 01023:2019

GENERAL REQUIREMENTS FOR THE ACCREDITATION OF

Clean Energy
Technology Training

Interstate Renewable Energy Council, Inc.
IREC Standard 01023:2019
General Requirements for the Accreditation of Clean Energy Technology Training

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Contents of this Standard

1. Scope

This standard identifies requirements for the quality systems, resources, personnel, and curriculum by which job-related training in clean energy technologies and practices may be accredited. For the purposes of this standard, clean energy technologies and practices include renewable energy, energy efficiency, distributed renewable energy generation, and other sustainability practices.

This standard provides the accreditation requirements that clean energy technology training providers must meet and document to earn and maintain accreditation. The purpose of accreditation is to determine whether a training provider meets the requirements for delivering high-quality, job-specific training.

The curriculum evaluation is based on a curriculum that covers knowledge and skills defined in an IREC-accepted job task analysis or other national or regional industry-validated job profile.

Training providers abide by local, state, and federal regulatory requirements. This standard is not intended to supersede any codes, requirements, or regulations.

It is possible that some elements of this standard may be the subject of patent rights. IREC shall not be held responsible for identifying any or all such patent rights.

2. Referenced Documents

At the time of publication of this standard, the following referenced documents are the most current:

ANSI/ASTM E2659-18 Standard Practice for Certificate Programs

ASTM E2708 Standard Terminology for Personnel Credentialing

Gelman, R., National Renewable Energy Laboratory, U.S. Department of Energy, Energy Efficiency and Renewable Energy, 2011 Renewable Energy Data Book, October 2012 DOE/GO-102012-3598

ISO/IEC 17011:2017(E) Conformity Assessment—General Requirements for Accreditation Bodies

ISO/IEC 17024:2012 Conformity Assessment—General Requirements for Bodies Operating Certification of Persons

ISO 9001:2015 Quality management systems — Requirements

3. Terminology

For the purposes of this standard, the following terms and definitions also apply:

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

Applicant — An individual who applies to participate in any aspect of the training.

Asynchronous Course - A self-paced online course. Learners and instructors are not required to be online at the same time.

Authentic Assessment — An assessment where learners are evaluated as they perform real-world tasks to demonstrate application of the essential knowledge and skills necessary to perform the job.

Blended (or Hybrid) Course - A course in which some of the instruction is accessed in a traditional classroom setting and some instruction is accessed online.

Conflict of Interest — A conflict between the various interests of an individual or organization that has the potential to lead to undue influence on professional judgments or actions.

Course — One or more discrete instructional sessions or a series of instructional sessions with a defined syllabus and stated expected outcomes. A series of courses taken together is often called a training program .

Criterion-Referenced Assessment — A criterion-referenced assessment that measures the learner's attainment of the learning objectives but does not assess how well the learner performs compared to other learners.

Curriculum — Broadly, a plan for the education of a learner. This can include a program of studies (e.g., subjects), course content (e.g., topical outlines), planned learning experiences, or a series of learning outcomes. It is typically a written plan.

Document Control — The procedures established in developing, approving, revising, naming, storing, accessing, and disposing of training-program documents.

Distributed Renewable Energy Generation — Electrical generation from a renewable energy source that feeds into the distribution grid rather than the bulk transmission grid, whether it is sited on the utility side of the meter or on the customer side.

Energy Efficiency — The result of efforts to reduce the amount of energy or water consumed in producing a service, product, or condition.

Internal Audit — An internal review of an entity's policies and procedures to determine its conformance with them. Internal audits include preventive and corrective actions for areas of non-conformance, as well as opportunities for continuous quality improvement.

IREC-Accepted Job Task Analysis — A job task analysis that has been reviewed by IREC and accepted based on specific development guidelines. The job task analysis may be derived from one or more existing job task analyses and must define a specific job.

Job — A piece of work, especially a specific task or set of tasks, done as part of the routine of one's occupation.

Job Task Analysis - A formal, industry-accepted study, validated by a group of subject-matter experts that defines competencies in knowledge, skills, and attitudes as 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/Abilities/Attributes (KSAs) include the physical and mental capabilities 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.

Learning Objectives — Measurable and observable statements of learner outcomes. Learning objectives typically have three components: conditions statements, behavior or action, and a performance standard. They are used as guides to develop tests and assessments.

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

Online Course - A course in which the learner uses an electronic device (computer, tablet, or phone) to access training curriculum outside of a traditional classroom.

Policy — Principles upon which decisions are based to assure consistency and fairness in all practices.

Prerequisites — Previously learned knowledge, skills, and abilities that a learner must acquire before new learning can occur. Prerequisites can take the form of individual knowledge and skills, skill sets, and lessons as well as units of instruction and courses that have specific learning objectives.

Procedure — A specified way to implement policies and/or activities to assure consistency and fairness.

Renewable Energy —Wind, solar, ocean, geothermal, bioenergy, hydrogen, non-conventional hydro, and renewable fuels.

Self-paced, Non-facilitated Online Course - A course during which learners access training curriculum at their own pace. There is no instructor for the course.

Stakeholder — Any individual or group who has a primary interest in, or who may be significantly affected by, the training program.

Subject-Matter Experts (SMEs) — Qualified personnel who contribute to the development and implementation of a training program, including the learner assessments. SMEs are selected based on their extensive knowledge of the content being delivered and the learner outcomes and competencies being assessed.

Sustainability —Methods and practices for using resources to fulfill the social, environmental, and economic needs of today without compromising the ability to meet the needs of tomorrow.

Syllabus —A curriculum-related document that provides course structure, outlines the goals and objectives of a course, summarizes topics to be covered, explains the grading/evaluation scheme, identifies materials to be used (such as textbooks or software), and presents the schedule.

Synchronous Course - A course during which learners and instructors are together online at the same time. may include web conferencing or chat functions

Training —A process developed to ensure that individuals acquire the knowledge and skills necessary to perform a defined job safely and effectively.

Training Cycle —The delivery of training in its entirety such that a learner is exposed to the full content and scope of the curriculum.

Training Program —A course, sequence of courses, or learning events that focus on an area of specialized knowledge or information and have specific learning objectives covering one or more IREC-accepted job task analyses.

Training Provider —An entity that provides training covering one or more IREC-accepted job task analyses. This could be a department or unit within a larger organization or an independent entity.

Training-related Personnel — Individuals who are employed, contracted, or volunteer to administer any component of the training program, including: instructional design and delivery, assessment development and administration, learner registration, training delivery support and administration, and other key program-related activities and services.

4. General Requirements

4.1   **Legal Entity:** The training provider shall be a legal entity or part of a legal entity.

4.2   **Financial Resources:** The training provider shall have the financial resources needed to operate the training program. Such resources shall cover expenditures and other liabilities for a reasonable length of time, which is not less than the duration of one training cycle.

4.3   **Training Delivery Experience:** The training provider shall have delivered the training program, including all component courses, at least once.

4.4   **Job Task Analysis Basis for Curricula:** The training provider shall ensure that the curricula and syllabi, together with the prerequisites, cover content from a relevant IREC-accepted job task analysis or analyses.

5. Ethical Practices

The training provider shall attest to their adherence to the following ethical practices.

5.1   **Non-discrimination:** The training provider shall ensure non-discrimination in all aspects of the training.

5.2   **Conflicts of Interest:** The training provider shall avoid both real and perceived conflicts of interest.

5.3   **Confidentiality:** The training provider shall make provisions for the confidentiality of information. Such information includes, but is not limited to, any personally identifiable information for stakeholders, learners, applicants, and training-related personnel.

5.4   **Release of Information:** The training provider shall ensure that circumstances for the release of confidential information are clearly defined, understood by stakeholders, learners, applicants, and training-related personnel, and documented.

6. Administration and Management

6.1   **Organizational Goals:** The training provider shall have written goals to guide the training program.

6.2   **Linkages with Industry:** The training provider shall maintain active and substantive linkages with employers and others concerned with workforce

outcomes to ensure job and performance requirements are updated and information about new technologies are accurately included in the curriculum.

6.3 Training Feedback: The training provider shall solicit and use feedback from learners and other stakeholders, including employers, for organizational and instructor performance evaluation — as well as delivery, maintenance, and improvement of the curriculum.

6.4 Information for Learners

6.4.1 Informational Materials: The training provider shall maintain informational materials that provide:

    a.   An accurate, current, and detailed description of the training
    b.   A description of training content, including clearly stated skills or jobs for which the training will prepare learners
    c.   Reference to the relevant job task analysis
    d.   A description of the training process (including fees)
    e.   A list of training prerequisites (if any)
    f.   The criteria by which learner outcomes will be assessed

6.5 Job Placement Data: When training unemployed learners or those transitioning careers, the training provider shall have a process in place to track job placement data.

6.6 Complaints, Disputes and Appeals: The training provider shall have written policies and procedures provided to students regarding complaints, disputes, and appeals. Policies and procedures shall provide for timely resolution and the appeal of adverse decisions.

7. Commitment to Safety and Safe Practices: The training provider shall have policies and procedures relating to safety and safe practices in the training. These shall include:

    a.   Policies regarding the responsibilities of training-related personnel for maintaining a safe workplace and training environment
    b.   Policies regarding requirements for and documentation of safety training and certifications for training-related personnel, in accordance with their job responsibilities
    c.   Required safety practices for the provision and maintenance of training equipment
    d.   Policies and procedures for enforcing safety rules, investigating incidents, and responding to emergencies

e. Policies and procedures providing for regular review and revision of policies related to safety and safe practices

f. Policies requiring a signed commitment to safety from each learner, which includes safety information and location of safety equipment relevant to the course(s)

8. Training Content

8.1 Curricula and Syllabi

8.1.1 **Defined Curricula and Syllabi:** The training provider shall have a defined curriculum for each program and syllabus for each course. Curricula and syllabi must be current, accurately represent what is taught, and include the following:

a. Overall expectations of the course that are clearly described
b. Clearly stated and measurable learning objectives
c. Assessment criteria, including rubrics
d. Instructional materials that are sufficiently comprehensive to achieve the stated course goals and learning outcomes and that prepare the learner for a job aligned with an IREC-accepted job task analysis

8.1.2 **Curriculum Development and Maintenance:** The training provider shall have written policies and procedures that guide the development and maintenance of the curriculum. These shall include a review of prerequisites that learners must meet and provisions for annual review of curriculum.

8.2 **Required Assessment:** The training provider shall evaluate learner-learning outcomes using assessments that are measurable, objective, criterion-referenced, and authentic.

8.2.1 **Assessment Framework:** The training provider shall have written policies and procedures for assessment development, delivery, administration, scoring, scoring analysis, and review to ensure learners are meeting the stated learning outcomes.

8.2.2 **Assessment Data**: The training provider shall make provisions to use assessment data to inform program improvements and to help students identify learning objectives they did not attain.

9. Training Delivery

9.1   Facilities

9.1.1   Classroom Facilities: The training provider shall provide classroom facilities that accommodate training in a manner that is safe, secure and supports the learning process.

9.1.2   Off-site Classroom Facilities: The provider shall ensure that off-site classroom facilities meet the requirements of this standard.

9.1.3   Hands-on Classroom/Lab Facilities: The training provider shall ensure that learners have the tools, equipment, and hardware they need for a complete and safe training experience. These shall include, but not be limited to:

     a. Personal protective equipment
     b. Safety materials and equipment
     c. Training hardware and tools that represent current technologies in the relevant industry
     d. Quantities of tools, equipment, and hardware that correlate to the number of learners in the training program and the types of activities in the curriculum.

9.1.4   Field Training Facilities: If field training is conducted off site, the training provider shall ensure the site includes the characteristics needed to instruct learners effectively and that the site meets the requirements of this standard.

9.2   Continuity of Training Delivery: The training provider shall have written policies and procedures to ensure continuity of both in-person and online training delivery in the case of interruptions and changes in personnel.

9.3   Instructor-Learner Interaction: The training provider shall ensure that instruction allows learners to pose questions, make comments, receive feedback, and practice the knowledge and skills competencies outlined in the course learning objectives.

9.4   Innovative Teaching with Technology:
Training providers shall employ technology during in-person courses to address the diverse learning styles of learners and enhance effective instruction and communication. The technology shall be sufficiently interactive to engage learners and enrich their learning experience.

9.5   Content-Related Resources
Training providers shall advise learners of, and provide access to, relevant content-related resources in support of the curricula.

9.6   Authentic Learning Activities
Training providers shall incorporate authentic learning activities relevant to the job task analysis to allow the learner to practice critical job tasks and skills.

9.7   Online and Blended Courses

9.7.1   Online Learning Support: Training providers shall provide technical support and specifications to learners. At a minimum these shall include:

   a. A description of the hardware, software, and bandwidth required for the learner to participate.
   b. Explicit instructions and direct support related to navigation of the online content.
   c. Access to technical support related to online content.
   d. Clearly stated time frame for response from technical support.

9.7.2   Online Learning Organization and Design: Training providers shall ensure that:

   a. Content is presented in a clear and direct manner that supports learning.
   b. Content is presented with consistent appearance and functionality.
   c. Content is delivered through a learning management system that allows the training provider to evaluate learner participation and performance.
   d. Accommodations are made for learners who require access to assistive technologies.
   e. The learning environment is free from distractions, including the advertising or promotion of products and services.

9.7.3   Learner-Instructor Interaction: In facilitated online courses, the training provider shall provide opportunities for learner-instructor interaction to support learning.

9.7.4   Learner-Learner Interaction: The training provider shall incorporate opportunities for learners to interact with each other during synchronous online courses.

10. Training-Related Personnel

10.1   Written Job Descriptions: The training provider shall maintain clearly documented job descriptions that include the duties, responsibilities, and reporting relationships for all training-related personnel. These job descriptions shall be kept current through at least an annual review.

10.2   Competency Requirements and Performance Evaluation

10.2.1   Defined Competency Requirements: The training provider shall define knowledge and experience requirements for all training-related personnel.

10.2.2   Regular Review of Competency Requirements: The training provider shall review knowledge and experience requirements for all training-related personnel to ensure that the requirements remain relevant.

10.2.3   Staff Evaluation: The training provider shall evaluate training-related staff at least annually to ensure that they are meeting defined competency and performance requirements.

10.2.4   Contractor Evaluation: The training provider shall have a written process to ensure that contractors are meeting defined competency and performance requirements.

10.3   Professional Development: The training provider shall provide training-related staff with opportunities for continued professional development.
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