# IREC

## BASIC GUIDELINES
### FOR TRAINING
### CURRICULUM

BASED ON THE IREC STANDARD 01023:2013

IREC
Interstate Renewable Energy Council

IREC
CREDENTIALING
PROGRAM
TM

# BASIC GUIDELINES FOR TRAINING CURRICULUM
Prepared for the IREC Credentialing Program by Diane DePuydt, Ph.D., 2011
Updated, October 2013

## Introduction

The IREC Standard 01023 addresses curriculum primarily in Section 8, wherein it states that the Training Provider must have a defined curriculum for each program and a syllabus for each course; both must be current and represent what is actually taught (8.1.1). The curriculum must cover all content of the relevant IREC-accepted job task analysis (8.1.2) and there must be established policies that guide its development and maintenance (8.2).

This guide is developed to provide a basic overview of what a curriculum is and what elements constitute a good curriculum. It is written to be a resource for candidates, as well as assessors who are submitting or reviewing curriculum to meet requirements defined in the IREC Standard 01023.

The field of curriculum development is huge and the research literature is extensive, even when limiting the topic to focus on adult learners in a training environment. There are a great many models, principles and practices. This paper attempts to distill some of those that have relevance for training providers that are interested in applying for an IREC credential. As such, these guidelines are neither definitive nor prescriptive, and are not intended as a singular source of developing curriculum.

## What is a Curriculum

Beyond the simple dictionary definition that a curriculum is a set of courses or a plan for a particular area of study, there are many schools of thought in regard to how people learn and how they should be taught. From these theories and assumptions come basically three approaches to thinking about curricula.

1. Curriculum as **syllabus** – a body of knowledge to be transmitted.
2. Curriculum as **product** – an attempt to achieve certain ends in learners.
3. Curriculum as **process** – what actually happens in the classroom and what people do to prepare and evaluate.

The first two approaches are the ones most relevant to the focus of this document.

## Curriculum as a syllabus to be transmitted

Many people equate a curriculum with a syllabus which is basically a concise statement or outline of topics to be taught in a course or series of courses. When curriculum is designed as a body of knowledge (content and/or subjects) then education is simply the process by which these are transmitted or 'delivered' to students. When people equate curriculum with a syllabus they are likely to limit their planning to a consideration of the content or the body of knowledge that they wish to transmit and may not consider the effectiveness of the methodology used to deliver it.

## Curriculum as product

The dominant approach to teaching and learning, especially in a training context, is to focus on achievement. Objectives are set, a plan is created and implemented and the results (products) are measured. One of the attractions of this approach to curricula is that it involves detailed attention to what people need to know in order to work and to live their lives. Within training programs this approach is applied where particular tasks or jobs have been analyzed – broken down into their component elements – and lists of competencies documented.

Ralph W. Tyler, a pioneer in this approach, posed four fundamental questions:

1. What educational purposes should the (organization) seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained?

He also placed emphasis on the formulation of behavioral objectives, believing that the real purpose of education is to bring about significant changes in students' pattern of behavior and that any statements of objectives should be statements of objectives should be statements of changes to take place in the students. (Tyler 1949:44)

## Characteristics of a Good Curriculum

In both of these approaches to curriculum there is a document and/or set of materials that is created to guide the instructors in delivering the course or series or courses. The curriculum is created by both experts in the subject matter and in instructional design; it requires considerable thought and effort as well as ongoing evaluation and revision once implemented.

If a curriculum is to be used effectively it must be organized in such a way that it is helpful to the program managers and instructors to use as a guide and a reference. If the curriculum is provided to the learners, then it should be helpful to them as well. It must be user friendly.

The content of the curriculum should be aligned with some standard such as learning objectives, DACUM study or task analyses. The topics outlined need to be specific enough to insure that all necessary material is covered with a progressive sequence that is appropriate for the skill and knowledge level of the audience. The curriculum should provide structure and guidance but not be so restrictive as to subvert instructor creativity and independence. Finally, the curriculum should include assessment materials that can be used to measure the achievement of the instructional and learning objectives.[1]

| CHARACTERISTICS OF A GOOD CURRICULUM |
| --- |
| • **Easy to use** |
| • **Aligns with standards** |
| • **Specific enough for organizing learning** |
| • **Allows for instructor creativity and independence** |
| • **Appropriate for the learners' skill & knowledge levels** |
| • **Contains materials to measure achievement of objectives** |

## Components of a Curriculum

Exactly what goes into a curriculum and how it is organized can vary widely depending on both the subject matter and approach taken by those who are developing the curriculum. However, a curriculum that has been thoughtfully developed will typically contain most of these nine elements.

**Introduction**. An opening statement that details the purpose and goals of the curriculum.

---

[1] Look carefully to determine the level of specificity being used for terms that describe similar concepts. Examples of terms include curriculum and instructional design, performance indicators, objectives, outcomes, or benchmarks which are sometimes used interchangeably.

**Audience**.  A brief description of the intended learners, the skill and knowledge levels they are expected to bring to the course, perhaps including demographics.

**Outcomes**. Also referred to as performance indicators or learning objectives; these should be a clear articulation of the skills and knowledge that learners will need to demonstrate mastery of the course content. The objectives should be written so that the learners know specifically what they should be able to do at the end of the course.  They should also be measurable so that learners can easily identify if they can or cannot do the action stated.

**Content Framework**.  This is a detailed outline of the major topics and sub-topics that will be taught in the course.  Ideally these should be placed in a progressive sequence with some indication of the importance of the topic in addressing the outcomes.

**Unit Plan**.  These are also called session or lesson plans which place the content and the learning objectives into units.  These units or lessons typically correspond to a time period for delivery.  They may or may not specify teaching strategies and other learning activities.
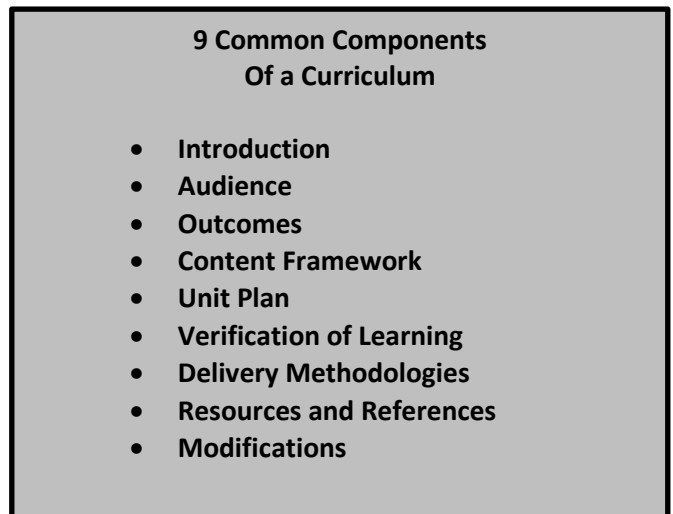
**Verification of Learning**.  All courses should have a way for the instructor and learners to determine if the objectives were met.  Standard 01023 requires the evaluation of student learning outcomes using assessments that are measurable, objective, criterion referenced and authentic.  It is required that assessment criteria be communicated in the syllabus or curriculum.

Assessments should be designed so the learners can demonstrate (to the instructor or to themselves) that they can do the actions stated in the learning objectives.

---

**9 Common Components
Of a Curriculum**

- **Introduction**
- **Audience**
- **Outcomes**
- **Content Framework**
- **Unit Plan**
- **Verification of Learning**
- **Delivery Methodologies**
- **Resources and References**
- **Modifications**

---

**Delivery Methodologies**.  Some thought needs to be given to how the content is to be delivered.  People learn in different ways.  Teaching strategies and learning activities need to allow the learners to interact with content, the instructor and other learners.  These include:  problems to solve, material samples to touch, case studies, hands-on labs, questions and answer w/ instructor, small group activities or discussions.

**Resources and References**. Other sources of information or teaching methods that can be drawn on are always helpful.

**Modifications**.  A curriculum is not a static set of documents but must be continually revised and updated based on how well it meets the course purposes and needs of the targeted audience.

In some cases curriculum will be presented in a single document, but it is not uncommon to create an instructor's manual presenting unit plans, learning activities and assessments.  A good general resource for curriculum can be found through the Encyclopedia of Informal Education http://www.infed.org/biblio/b-curric.htm.