Instructional Design:
“Refers to the systematic and reflective process of translating principles of learning and instruction into plans for instructional materials, activities, information resources, and evaluation” (Smith & Ragan, 2005, p. 4).

1. Analyze the Learning Need and Learning Context
   
   What is the problem, innovation or discrepancy?
   What are the general characteristics of the learners?
   What are the goals that learners are expected to achieve?
   What are the characteristics of the learning environment?

2. Analyze the Characteristics of the Learners
   
   For example, if working with adult learners: 1. Adults need to control their learning. 2. Adults need to feel that learning has immediate utility. 3. Adults need to feel that learning focuses on issues that directly concern them. 4. Adults need to test their learning as they go along, rather than receive background theory and general information. 5. Adults need to anticipate how they will use their learning. 6. Adults need to expect performance improvement to result from their learning. 7. Adult learning is greatest when it maximizes available resources. 8. Adult learning requires a climate that is collaborative, respectful, mutual and informal. 9. Adult learning relies on information that is appropriate to what is known at a given time. (From Malcolm Knowles). Varying levels of relevant prior knowledge, aptitudes, developmental levels, language development levels, reading levels, levels of visual literacy, cognitive processing styles, cognitive and learning strategies, general world knowledge; varying physiological, affective, and social characteristics.

3. Analyze the Learning Task
   
   Identify the type(s) of learning outcomes the goals represent: including: (1) declarative knowledge, (2) concept learning, (3) procedures, (4) principles, (5) problem solving, (6) cognitive strategies, (7) attitudes, and (8) psychomotor skills.
   Execute a task analysis: that is, list the steps that an expert would use to achieve the learning goals.

4. Develop performance/learning objectives
   
   For each step identified in the task analysis, develop specific learning objectives.
   State observable behaviors in terms of action verbs (1 verb per objective). Avoid non-observable terms such as understand, be aware of, appreciate, become familiar with.
   State the conditions under which the performance is to be demonstrated. Conditions can be equipment, tools, aids, or references the learner may or may not use and special environmental conditions in which the learner has to perform.
   State the standard or criterion for acceptable performance. Standards include time limits, accuracy, proportion of correct responses required, qualitative standards.

5. Create Assessments for the Learners
   
   Identify the model of testing (norm referenced or criterion referenced) that is most appropriate for the type of learning to be done
   Identify what types of assessments (entry skills assessments, pre-assessments, and/or post-assessments) are necessary and the format for each of those assessments (on-the-job observation, simulation, essays, portfolios, and/or pencil-and-paper tests)

6. Design and Develop the Instructional Strategies
   
   Design and develop the instructional strategies to best meet each of the learning objectives (keeping in mind the type(s) of learning involved for each objective)

7. Develop Delivery Strategies
   
   Given the characteristics of the learners, the learning tasks, and the learning context, select the appropriate medium/media
   Select an appropriate grouping strategy -- such as 2-person groups (tutoring); small groups (interactive); small or large groups (recitation); large groups and very large groups (lecture); and individualized (adaptive) instruction

8. Implement the Instructional and Delivery Strategies
   
   Make any necessary changes & continually evaluate (iterative process)