

## Course Outcomes Guide

**Course/Program Title:** ELE 101 Device Data System Architecture

**Date:** 8/21/2012

**Course/Program Team:** Robert Fergesen & TCS

### Expected Learning Outcomes

- Knowledge of Instrumentation and Process Control hardware and software
  - Select and implement various instrumentation devices required to accomplish a task within a control system.
  - Identify needed parameters and set to desired values within a control system
  - Select program and graphics required to implement a SCADA system
  - Commission an instrumentation system.
  - Evaluate collected data from an instrumentation system
  - Identify security risk and determine standard precautionary measures
  - Build a computer networking and SCADA security system
- Exhibit professional / occupational behavior and work habits

**Assessment** (How do or will students demonstrate achievement of each outcome?)

- Exams
- Exercises and Assignments

**Validation** (What methods have you used or will you use to validate your assessment?)

The assessments will be validated by review from the following sources:

1. Facility Peer validation
2. Industry validation through the Advisory Committee.

**Results** (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

The assessment will be planned at the end of the first semester this course will be offered: Spring 2013.

**Follow-up** (How have you used or how will you use the data to improve student learning?)

Assessment data will be gathered to be sure students are retaining key knowledge as required by future jobs in the industry. Additional course material or time will be added if scores do not show retention.

**Budget Justification** (What resources are necessary to improve student learning?)

No additional dollars will be required for the first semester we run this course because we will use materials already purchased for the Energy House. Additional equipment may be required in semester 2 depending on the results.