Sinclair Community College
444 E. Third St.
Dayton, OH 45402

Master Syllabus

EGV 2251 - Energy Control Strategies

Division: Science, Mathematics and Engineering

Department: Engineering Technology Design

Credit Hour Total: 3.0 **Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

Prerequisite(s): EGV 1251

Date Revised: February 2015

Course Description:

This course covers the use of utility data to conduct a "Lean Energy Analysis," utility rate structures, the use of both whole building computer simulation and discrete system computer simulation to estimate building and system energy use, energy demand and carbon footprint. Two classroom, two lab hours per week.

General Education Outcomes:

- Written Communication Competency
- Critical Thinking/Problem Solving Competency
- Computer Literacy Competency
- Information Literacy Competency

Course Outcomes:

Lean Energy Analysis
Use utility data to quantify weather dependent energy use, production dependent energy use, and independent energy use.

Assessment Method: Locally developed exams
Performance Criteria:

70% or better on exams

Utility Rate Structure
Identify the components in utility charges such as generation, distribution, demand-ratchet, and service.

Assessment Method: Locally developed exams
Performance Criteria:

70% or better on exams

Discrete System Computer Software
Use discrete system software to estimate reduction in system energy use, energy demand, carbon footprint, and cost with the implementation of energy saving opportunities.

Assessment Method: Locally developed exams
Performance Criteria:

70% or better on exams

Whole Building Simulation Software
Use of whole building simulation software to estimate the reduction in a building's energy use, energy demand, carbon footprint, and cost with the implementation of energy saving opportunities.

Assessment Method: Performance appraisals
Performance Criteria:

Receive at least 70% of available points.

Outline:

Analyze utility data

Perform a "Lean Energy Analysis"

Rate structure

Discrete simulation software

Whole building software