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

Master Syllabus

EGV 1301 - Architectural Energy Analysis

Division: Science, Mathematics and Engineering

Department: Engineering Technology Design

Credit Hour Total: 2.0 **Lecture Hrs:** 1.0 **Lab Hrs:** 2.0

Date Revised: April 2013

Course Description:

Critical examination of energy consumption in building, both residential and commercial, for the purpose of identifying energy conservation opportunities. One classroom, two lab hours per week.

General Education Outcomes:

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

Course Outcomes:

Energy profile
Prepare a total energy profile for a building.

Assessment Method: Portfolios
Performance Criteria:

Receive at least 70% of available points

Analyze
Identify and analyze possible energy conservation measured for performance, cost effectiveness, and environmental impact.

Assessment Method: Portfolios
Performance Criteria:

Receive at least 70% of available points

Energy audit
Conduct an energy audit on a building.

Assessment Method: Portfolios
Performance Criteria:

Receive at least 70% of available points

Simulation software
Demonstrate the use of simulation software Energy-10, REScheck and COMcheck.

Assessment Method: Simulations
Performance Criteria:

Receive at least 7 of 10 points on evaluation

Outline:

Insulation values
Window and door specifications
Solar loads
Calculate heating and air conditioning peak design loads
Electrical and mechanical equipment
HVAC systems and their operation
Typical Metrological Weather format 2 (TMY2) weather data files
Use simulation software