

## 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

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### 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 Competency
- ▣ Critical Thinking/Problem Solving Competency
- ▣ Computer Literacy Competency

### 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