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

Master Syllabus

EGV 2501 - Waste Management

Division: Science, Mathematics and Engineering

Department: Engineering Technology Design

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

Date Revised: October 2012

Course Description:

Develop a working knowledge of present waste-management practices including minimization, storage, transportation, treatment and disposal of various waste related to the life cycle of a given activity and corrective actions related to contamination. Two classroom, three lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving Competency

Course Outcomes:

Life cycle assessment and waste minimization
Identify sources of waste generation, methods of collection, treatment and disposal and identify strategies for minimization including (but not limited to) raw material substitution, volume reduction, recycling, and reuse strategies.

Assessment Method: Locally developed exams
Performance Criteria: 70% or better on exams

Terms
Define and understand terms used in waste management including (but not limited to) generator status, solid waste, hazardous waste, recycling, reuse, treatment methods and codes.

Assessment Method: Locally developed exams
Performance Criteria: 70% or better on exams

Regulations related to treatment
Discuss the regulations relating to the treatment, storage and disposal facilities of hazardous wastes.

Assessment Method: Locally developed exams
Performance Criteria: 70% or better on exams

Economics
Apply economic assessment to evaluate waste management alternatives and determine cost versus benefit analysis.

Assessment Method: Locally developed exams
Performance Criteria: 70% or better on exams

Environmental mandates
List the federal laws governing waste storage, treatment and disposal from state standards and regulations through local ordinances.

Assessment Method: Locally developed exams
Performance Criteria: 70% or better on exams

Hazardous material transportation law
Demostrate a working knowledge of the federal hazardous materials transportation law including labels, placards, packaging and waste manifest.

Assessment Method: Locally developed exams
Performance Criteria: 70% or better on exams

Outline:

Survey of waste, federal, state and local mandates
Generator status, requirements and liability
Hazardous waste characteristics, quantities and treatment capacities
Survey of waste treatment and disposal practices
Waste manifests, packaging, markings, labels and placards
Life cycle costing
Waste minimization concepts and techniques
Economic analysis
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remediation technologies