MURRAY STATE UNIVERSITY

DEPARTMENT OF INDUSTRIAL AND ENGINEERING TECHNOLOGY

COURSE NUMBER: CET 342 CREDIT HOURS: 3

I. TITLE: Air Quality Technology

II. CATALOG DESCRIPTION:
Ecosystem air chemistry and dynamics are stressed. The impacts of natural and human-derived pollution, both indoor and outdoor are studied. The impact of regulations upon industrial production is also addressed.

III. PURPOSE:
You will learn enough about air quality and air pollution remediation to confidently earn a living. You will be able to solve complex problems even though input data are incomplete; even though guiding science is inexact; even though prescribed mathematics are obtuse. You will learn solving problems and solving equations are often diametrical experiences.

IV. COURSE OBJECTIVES:
Learning Environment: Studying air quality and air pollution remediation encompasses physics, chemistry and engineering. Applications are simultaneously local and global; mitigating factors are many; and generalizations stemming from mathematical models and observations abound.

Yet something is happening.

Atmospheric chemistry has measurably altered within recent memory. Such has precipitated regulation (also known as political expediency), industry reaction, public trepidation, and the growth of the environmental business. Of the long term effects are unknown, but we assume mastery of our fate. We assume our cognizance and engineering can maintain the sustaining atmosphere. This may be true; maybe not. We surely cannot lose for the effort nor ignore benefits previously accrued due to increased awareness.

Finally, you cannot know it all, but you can appreciate it altogether.

V. CONTENT OUTLINE:
Administrative/Air Regulations
Air Pollutants
Gas Properties
Particulate Matter
Combustion
Combustion Product Pollution
Indoor Air Pollution
Air Quality Management
Meteorology
Atmospheric Gas Dynamics
Atmospheric Pollution Phenomena
Pollution Control Systems
PCS: Settling Chambers

PCS: Centrifugal/Wet Collectors
PCS: Bag Houses & EP
PCS: Adsorption/absorption
Catalysis/Mobile Sources
Industrial Analyses
System Design for Pollution Prevention
Group Presentations

VI. INSTRUCTIONAL ACTIVITIES:
Talk, do, see, touch, think

VII. FIELD, CLINICAL, AND/OR LABORATORY EXPERIENCES:
There will be a road trip.

VIII. RESOURCES:
Text, internet {EPA.GOV}, Industrial Journals

IX. GRADING PROCEDURES:

Exam 1	
Exam 2	90%$^{+}$:A
Exam 3	80%$^{+}$:B
Recitation	70%$^{+}$:C
Homework	60%$^{+}$:D_{ugh}
Design	<60%:E_{oogh}
Effort	

Everything counts. You earn the grade you deserve.

X. ATTENDANCE POLICY:
You are responsible for your own conduct.

XI. ACADEMIC HONESTY POLICY:
Cheating, plagiarism (submitting another person's material as one's own), or doing work for another person which will receive academic credit are all impermissible. This includes the use of unauthorized books, notebooks or other sources in order to secure or give help during an examination; the unauthorized copying of examinations, assignments, reports or term papers; or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

XII. TEXT AND REFERENCES:
Environmental Engineering, 4th ed., Davis and Cornwell.
Mcgraw-Hill, 2008
isbn: 0-07-242411-7

XIII. PREREQUISITIES:
CET 286

XIV. Syllabus Statement of Equal Opportunity:

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the

basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or other provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities.

S. Schneiderman
01/11