

**CEE 674**  
**Design of Gaseous Pollutant Control Systems**

- Catalog data:** 20-CEE-674. Design of Gaseous Pollutant Control Systems. 3 ug./gr. cr. This course is designed to familiarize the student with techniques for controlling gaseous air pollutants. The basic principles of adsorption, absorption, incineration, as well as duct design and fan selection, and the measurement of gas pollutants will be covered. In addition, the course will include discussions concerning data required for the design of flue gas desulfurization and denitrification systems. A term report in the form of a technical paper is required for each student detailing a specific method of evaluating or controlling a gaseous air pollution problem. This paper will include an oral presentation/demonstration during the final week of the class.
- Prerequisites:** CEE senior or graduate status or permission of the instructor.
- Textbook:** K. Wark, C. F. Warner and W. T. Davis (1998) *Air Pollution: Its Origin and Control, Third Edition*, Addison Wesley, Menlo Park, California
- References:** Journal articles and class handouts
- Coordinator:** Dr. Tim C. Keener, 472 ERC, 513-556-3676  
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- Lecture or Lab Topics:**
1. Introduction/Scope of Course/Methods for Measuring Gas Pollutants (3 classes)
  2. Design Principles for Absorption Control Equipment (6 classes)
  3. Design Principles for Adsorption Control Equipment (6 classes)
  4. Systems for Controlling Acid Gases and Hazardous Air Pollutants (3 classes)
  5. Incineration (3 classes)
  6. Design of Ventilation Systems (3 classes)
  7. Oral Presentations (3 classes)
- Computer Usage:** Students are required to use Mathematica for problem solutions. Computer simulations and demonstrations are strongly encouraged for the student paper.
- ABET criterion 3:** a, b, c, e, g, h, j, k
- ABET criterion 8:** a, b, c, e, f
- Date prepared:** December 5, 2002 Last Update April 25, 2007