



Course Syllabus

Course Code	Course Title	ECTS Credits
CEE-464	Air Pollution Engineering	5
Prerequisites	Department	Semester
CEE-260, CHEM-121	Engineering	Fall, Spring
Type of Course	Field	Language of Instruction
Elective	Civil & Environmental Engineering	English
Level of Course	Lecturer(s)	Year of Study
1 st Cycle	Prof Demetris Drikakis	4 th
Mode of Delivery	Work Placement	Corequisites
Face-to-face	N/A	None

Course Objectives:

The main objectives of the course are to:

- provide information on the different types of air pollutants and their effects on materials, humans, animals, vegetation, etc.;
- identify sources (stationary and mobile) of air pollution;
- explain the effects of meteorology on air pollution;
- introduce mathematical/statistical models of atmospheric dispersion (e.g., horizontal and vertical) of air pollutants;
- discuss control methods for different types of air pollutants (e.g., gasses, vapors, sulfur oxides, nitrogen oxides, etc.);
- present emissions from various mobile and stationary sources.

Learning Outcomes:

After completion of the course students are expected to be able to:

- identify the different types of air pollutants and their effects on the environment and human beings;
- identify stationary and mobile sources of air pollution;
- apply mathematical/statistical models to predict dispersion of air pollutants in the atmosphere;
- suggest and apply control techniques to restrict air pollution from stationary and mobile sources;
- explain the interaction of meteorology with air pollution;

- apply methods to control air pollution from sulfur oxides, nitrogen oxides, acid gases, and hazardous vapors.

Course Content:

- Air pollutants: sources and effects.
- Regulations and legislature.
- Meteorology and air pollution.
- Dispersion of pollutants in the atmosphere.
- Particulate control.
- General control of gasses and vapors.
- Control of sulfur oxides and other acid gases.
- Control of nitrogen oxides from stationary sources.
- Emissions from mobile sources based on different types of engines.

Learning Activities and Teaching Methods:

Lectures, in-class examples and exercises, and homework assignments.

Assessment Methods:

Homework assignments, mid-term exam, and final exam.

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Air Pollution: Its origin and Control, 3 rd Edition	K. Wark, C. F. Warner, W. T. Davis	Pearson	1997	978-0673994165

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Environmental Pollution and Control, 4 th Edition	J. J. Peirce, P. A. Vesilind, R. Weiner	Butterworth-Heinemann	1997	978-0750698993