Course Code	Course Title	Credit Hours
ENE-817	Air and Noise Pollution Control	3 (3+0)

Course Description

This course is designed to familiarize the students of environmental Engineering with the atmosphere and the prevalent pollutants in it. The course is divided into three parts mainly. In the first part, students are introduced to the major air pollutants, their sources and effects, basic concepts of the air pollution, sampling and measuring techniques, the meteorological processes that govern the dispersion and transfer of pollutants and basic models used in the ambient air quality determination. The second part covers air pollution control techniques in which students learn about the design aspects of the major air pollution control equipment. The third and last part of the course covers the noise pollution, its impact and mitigation techniques.

Course Outline

Introduction to Air Pollutants: Classification of Air Pollutants, Sources of Air Pollution, Effects of Air Pollutants, Reporting Air pollution data

Regional and Global Air Pollution Issues: Energy and Environment, Ozone Layer Depletion, Greenhouse Effect, Climate Change, Photochemical Smog, Acid Rain

Air Quality Management: Design of Air Pollution Monitoring Program, Sampling and Analytical Techniques for air pollutants, Source Monitoring and Emission Inventory, Meteorology and Air Pollution

Air Pollution Meteorology: The Atmosphere, Atmospheric stratification, Motion in the Atmosphere, Atmospheric Stability, Atmospheric turbulence and mixing height

Air Pollution Control: Particulate Matter and gaseous emissions control in stationary sources, Particulate Matter and gaseous emissions control in mobile sources

Noise Pollution: Introduction to Noise, Noise sources, Noise Control

Recommended Books

1. K. Wark, C.F. Warner, and T.W. Davis: Air Pollution: Its Origin and Control, Harper & Row, New York, 1998.
2. Air Pollution Control: A Design Approach (2010), 4th Edition, C. David Cooper and F. C. Alley