

AIR QUALITY EMISSIONS AND EQUIPMENT SHORT COURSE

CENTER FOR AGRICULTURAL AIR QUALITY ENGINEERING AND SCIENCE
TEXAS A&M UNIVERSITY
COLLEGE STATION, TEXAS

Day One (8 hours)

Program Overview and Objectives

Basic Understanding

Students will learn fundamental principles useful for evaluating control practice effectiveness and/or unintended consequences, understanding air quality regulations, and determining how agricultural practices and controls relate to existing and proposed regulations.

- Ideal Gas Law
- Psychrometrics
- Conservation Of Mass and Energy
- Particulate Matter Statistics

Practical Application

Students will learn about equipment used for sampling gases and particulate matter, the analysis techniques to determine emission rates and emission factors, and understand the assumptions and associated errors.

- Gaseous Measurements
- Particulate Measurements
- Emissions Calculations

Regulations

Students will be given an introduction to the various regulatory issues facing agricultural operations. Instructors will discuss thresholds, permitting requirements, control requirements, and multimedia concerns.

- Concepts and Terms
- NAAQS

Practice Exam

Day Two (8 Hours)

Review Practice Exam

Review Concepts and Terms

Control Equipment

Students will be exposed to various control methods for point sources. Instructors will discuss the applicability, effectiveness, and costs associated with the various methods.

- Hoods, Ducts, and Fans
- Cyclones
- Fabric Filters
- Electrostatic Precipitators
- Particulate Scrubbers
- Adsorption, Absorption
- Biological Filters
- Waste Treatment Lagoons

Agricultural Sources and Controls

Students will learn about typical agricultural pollutant sources, associated regulations, and proven and potential control strategies.

- Confined Animal Feeding Operations
- Field Operations
- Feed Mills and Grain Handling Facilities
- Cotton Gins

Final Exam