

**Air Quality in the
Mid-Atlantic
United States:
*An Educational Series***

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What is this Course?

- An educational series that covers regional air quality issues, particularly those that confront the Mid-Atlantic United States.
- Consists of eight independent modules
 - Use alone or
 - any combination.

Who Developed the Course?

- Developed in 2006/2007 with a grant from EPA and through a contract with Michigan Technological University.
- Principle Investigator: Dr. Kurt Paterson
- Technical Oversight Committee:
 - Jayme Graham & Steve Noorbakhsh, Allegheny County
 - Randy Mosier & Reider White, MD
 - Tonalee Key, NJ
 - Bebhinn Do, NC
 - Dan Salkovitz, VA
 - Alice Lutrey & Susan Wierman, MARAMA
 - Julie McDill & Angela Crenshaw, MARAMA

Why?

- Provide the state & local agencies with tools to easily develop presentations for:
 - agency staff
 - the general public,
 - decision makers.
- Information is focused on Mid-Atlantic region-specific challenges.

Topics Covered

- Module 1 - Air Pollution Impacts
- Module 2 - Major Air Pollutants
- Module 3 - Meteorology & Transport
- Module 4 - Measurements - Stack & Ambient
- Module 5 - Emissions
- Module 6 - Communicating Air Quality
- Module 7 - Solutions
- Module 8 - Overview

Module 1 – Air Pollution Impacts

- Air quality impacts on human health:
Respiratory and Pulmonary systems & Morbidity
- Dose and response
- Covers O₃, PM, Air Toxics, and Acid Deposition & lists the specific effects to human health and the environment

Module 2 – Major Air Pollutants

- Covers the 6 criteria pollutants and HAPs
- For each the module lists:
 - The NAAQS
 - Sources
 - Effects
 - Trends
- Also touches on Indoor Air Quality

Module 3 – Meteorology & Transport

- Goes over Meteorological concepts pertinent to air quality
 - Global circulation, Pressure systems, Fronts, Winds, Inversions & stability.
- How meteorological factor aid in transport, and the combined affects they have

Module 4 – Measurements – Stack & Ambient

- Concepts behind monitoring
 - Reasons for monitoring
 - Monitor placement
- Pictures and descriptions of actual monitors
- Data analysis and QA procedures

Module 5 – Emissions

- Ways to classify emissions
 - Stationary vs. Mobile
 - Point, Area, on-road, non-road
 - By pollutant
 - Criteria vs. Hazardous
 - By activity
 - Fugitive vs. Accidental vs. Natural
- Estimation methods

Module 6 – Communicating Air Quality

- Explains AQI and Action Days
- Where to get forecasts

Module 7 – Solutions

- Regulatory solutions
- Engineered solutions

Gives examples/diagrams of how Incinerators, Absorptions and Adsorption techniques, Biofilters, Settling Chambers, Cyclones, Baghouses, and Electrostatic Precipitators work

- Explains market based solutions
- Explains Voluntary solutions

Module 8 – Overview

- General overview of all the other 7 modules.
- Meant for a general/public audience or new employees

Available Materials

- Instructor Manual
- Instructor's Manual Overview
- PowerPoint Slides
- Student Materials (handouts)
- Example presentations

Where can I find it?

- Download modules via a link through the MARAMA website:
<http://www.marama.org/calendar>
- Request a CD
 - Email: marama@marama.org

Setting it Up

1. Know your audience & objectives
2. Select module(s)
3. Choose subject matter experts/trainers
4. Mini train-the-trainer session
5. The Presentation

1. The Audience

- Who is the Audience?
 - Level of knowledge (basic, experienced)
 - Interest in subject (general, specific)
- What is the objective of the presentation?
 - Basic information
 - Job preparation
 - Public outreach

2. The Module(s)

- What topic is going to be covered?
 - Select the appropriate module
- Do only a few modules in a day
 - More information than can be easily processed in one day
 - Long term retention is ~10%

3a. The Presenters

- Identify subject matter experts & trainers
- Identify trainer's strengths and limitations
 - Presenting experience?
 - Technical background?
- Choose someone who can present with confidence and appropriate knowledge.

3b. The Presenters (continued)

- Will other trainers or experts be on hand during the presentation?
 - Provide additional information
 - Answer more technical or programmatic questions
 - Encourage participation
- Consider MARAMA staff presentation

4a. Presenter Preparation

- Customize the Presentation
 - Modules are designed with more slides than required to facilitate customization based on the goals.
- Consider adding a field trip
- Add:
 - relevant examples
 - relevant current events or story
 - state specific data

4b. Presenter Preparation

- Review Instructor Manual Overview
 - Setting the Stage
 - Instructor Preparation
- Review additional learning documents
- Hold or Participate in a Train-the-Trainer Session with other presenters
- Review the Material & Practice

5. The Presentation

- The Set Up:
 - Consider space and equipment needs
- Presenting Modules:
 - Provide time for discussion
 - Consider planting questions
 - Don't be afraid to say you don't know

Next Steps

Identify audience & event coordinator

Download the information from the website or contact MARAMA

We would like to hear how this tool is being used.

Contact Alice Lutrey with any feedback and requests at alutrey@marama.org