

Environment Business



Air Quality Management

In recent years, air quality assessment requirements have become more demanding with the introduction of new environmental regulations, the need for regional airshed assessments, the need to address non-criteria contaminants and the availability of more sophisticated dispersion models. The level-of-effort to meet regulatory and stakeholder expectations has increased for both large and small projects. This course provides an understanding of air quality processes and assessment tools. While this course is directed at the beginner to intermediate level, experience in the physical sciences or engineering would be an asset.

Outline:

1. Introduction

- Emission Sources
- Air Quality Issues
- Air Quality Management System
- Alberta Regulatory Guidance

2. Regulatory Tools

- Emission Standards
- Ambient Air Quality Objectives
- Regulatory Models

3. Gas Properties

4. Emission Sources

- Characterization
- Inventory Methods
- Combustion Sources
- Control Technology
- Uncontrolled Releases
- Source Testing

5. Ambient Air Quality Monitoring

- Monitoring Approaches
- Data Management

6. Meteorology

- Atmospheric Motion
- Vertical Profiles
- Plume Types
- Meteorological Monitoring
- Meteorological Models

7. Dispersion Models

- Need for Modeling

- Physical Models
- Mathematical Models
- Gaussian Plume Model
- Regional Modeling
- Model Performance
- Model Application
- Multidisciplinary EIAs

8. Resources

This two-day course is for scientists, engineers, field technicians and project managers with ambient air quality management responsibilities. Please note that this course does not focus on greenhouse gas management.

Instructor:

Mervyn J.E. Davies, B.Sc., M.Sc.

Mr. Mervyn Davies is the Western Regional Leader of Air Quality with Stantec Consulting in Calgary, Alberta. Mervyn has conducted air quality assessments for the oil and gas, oil sands, power production, petrochemical, mining, manufacturing, and residential development sectors in western Canada for more than 35 years. His involvement in these assessments include the preparation of source and emission inventories; the design and development of ambient air quality networks; the supervision of specialized field studies; the review and interpretation of ambient air quality data; and the development, evaluation and application of dispersion models. Mr. Davies has worked with industry, regulatory, and third-party stakeholder clients; and has provided air quality training programs to industry. He received a B.Sc. in Physics from the University of British Columbia and a M.Sc. in Physics (Meteorology) from the University of Toronto. He is a member of the Air and Waste Management Association (AWMA), the Canadian Meteorological and Oceanographic Society (CMOS), and the American Meteorological Society (AMS).