



Training Course Brought to you by CPANS A&WMA

Air Quality Modelling with AERMOD

March 26 - 27, 2010

Instructed by EnviroMod-U (BEE-Line Software)

Southern Alberta Institute of Technology (SAIT)
1,301 - 16th Ave NW, Calgary, Alberta

PRELIMINARY COURSE OUTLINE

This is a tentative course outline and description.

Please be advised that actual course topics may vary slightly from those listed below.

Lesson Topic List:

- Basics of computer modelling
- Fundamentals of modelling & air pollution meteorology
- Overview of provincial and national modelling guidance
- GEP, building downwash, & BPIP-Prime
- Screening techniques using SCREEN3
- Meteorological data processing with AERMET/AERSURFACE
- Receptor grid considerations and terrain data processing with AERMAP
- Refined modelling with AERMOD
- Graphics
- Hands-on exercises for:
 - AERMET/AERSURFACE
 - AERMAP
 - SCREEN3
 - BPIP/BPIP-Prime
 - AERMOD

Background:

Air Quality Modelling with AERMOD is EnviroMod University's introductory course in air modelling for industrial permitting and other regulatory applications. Most modelling scenarios, from construction permits to risk assessments to environmental impact studies, use techniques taught in this class.

Air Quality Modelling with AERMOD has been a continuous highlight of EnviroMod University. Its popularity is reflected in the number of companies who regularly send their new modelers to "learn from the experts" at EnviroMod University. Anyone from new modelers to somewhat more experienced modelers who want to brush up on their skills will benefit from Air Quality Modelling with AERMOD.

Like other EnviroMod University courses, Air Quality Modelling with AERMOD teaches students practical modelling methods and strategies. We don't stress theory. After all, when that big modelling project looms, knowing how to organize, manage, and model the project is a lot more important than how to derive modelling equations!

In addition, we believe in the concept of "learning by doing." We intersperse lectures with hands-on exercises, allowing the student to immediately practice what has been discussed in class. We feel this approach works better than a "day of lecture, day of lab" type of class.

Day One:

We introduce students to some of the basic concepts of modelling; these are fundamentals we believe are important for any modeler. These include the US National Ambient Air Quality Standards, Canadian provincial air quality objectives, averaging periods, and how to compare model results with standards/objectives. Then, we introduce some of the things the modeler will need to know for his or her project before the computer even gets switched on. This includes how to select and interpret meteorological data. We will focus on standard surface and upper air data, on-site meteorological data, and prognostic meteorological model (MM5)-generated meteorological data. There will be detailed exercises on how to process these data in the AERMET/AERSURFACE processors. We'll show students how to properly implement and set up GEP and building downwash data (BPIP & BPIP-Prime). We'll also review some of the modelling guidance and requirements for national and provincial agencies and programs.

Day Two:

We'll focus on actual models and modelling strategies, including the latest guidance from U.S. EPA, Alberta Environment, and the British Columbia Ministry of the Environment. Current methods and guidance on "screening" modelling is presented, along with hands-on modelling with the SCREEN3 for Windows modelling software. We then dive into refined modelling strategies, including placing receptors, entering source data, and choosing model options. We'll have a detailed session on using elevation data and processing it with AERMAP. We also look at how to create high-quality graphics for use in your modelling report. These hands-on exercises help reinforce the subjects presented. Finally, we wrap things up by "putting it all together." Our final modelling exercise uses AERMOD and BEE-Line Software's BEEST for Windows enhanced user interface to it. By the end of this course, students should be prepared to return to the office, and, with a little practice, perform most modelling.



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AERMOD Modelling For Permits

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SEND COMPLETED FORMS WITH PAYMENT TO:

Robert Mick, CPANS

Husky Energy, 707 - 8th Avenue SW, Box Station D 6525, Calgary, Alberta, T2P 3G7

Email: bob.mick@huskyenergy.ca Tel: (403) 750-4948 Fax: (403) 298-6227

Last Name _____ First Name _____ MI _____

Position Title _____

Affiliation/Company _____

Address _____

City _____ Province _____ Postal Code _____

Telephone () _____ Fax () _____

Email _____

Registration Fees:

Please select one of the following options:

A&WMA Members – Course Registration Fee \$850

Please Provide A&WMA Membership ID#: _____

Non-Members – Course Registration Fee \$1,100

Deadline for all Course Registrations is Friday, March 5th, 2009.

All prices are in Canadian Dollars. Confirmation of registration and payment receipts will be sent to participants via email. Registration includes a copy of course materials and dispersion modelling user manuals.

Please note that lunch is not provided.

Payment Options:

Make checks payable to the “Canadian Prairie and Northern Section”.

To pay by credit card, provide the following information. Please print clearly.

Credit Card Payment Method: MasterCard Visa (CPANS does not accept American Express)

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Disclaimer: CPANS will attempt to promptly notify all registrants in the event of course cancellation. If courses are cancelled, CPANS is not liable for any expenses incurred by the registrant other than the refund of the registration fee(s) paid.