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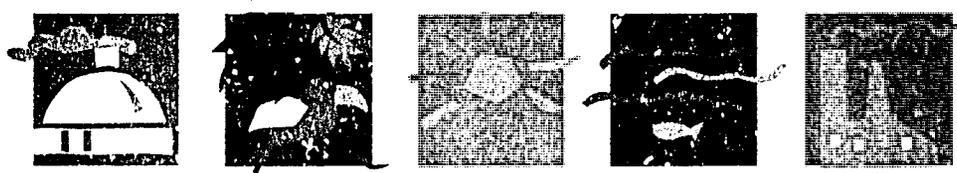
DIRECTORY OF SHORT-TERM ENVIRONMENTAL COURSES

US-AEP



United States-Asia
Environmental Partnership

06



United States Environmental Training Institute

**Selected
Short-Term
Environmental Courses in the United States
Appropriate for Professionals from Developing Countries**

November 1993 - December 1996

Prepared by:

**United States Environmental Training Institute
in cooperation with:
United States Asia Environmental Partnership**

**Washington, D.C.
November 1993**

Preface

Dear Reader:

This Directory of Short-Term Environmental Courses was produced by the United States Environmental Training Institute (USETI) under a cooperative agreement funded by the United States Agency for International Development as part of the United States Asia Environmental Partnership (US-AEP) program.

US-AEP is a coalition of Asian and American businesses, community groups, and governmental institutions. The coalition enhances environmental protection and promotes sustainable development in Asia and the Pacific by mobilizing U.S. environmental technology, expertise and financial resources. US-AEP is supported by a U.S. Agency for International Development program under guidance of the US-AEP Working Group of the inter-agency Trade Promotion Coordinating Committee. Tropical Research & Development, Inc. (TR&D) is the technical support contractor to USAID.

USETI is a joint effort between the U.S. environmental industry and the U.S. Government. As a non-profit institute, USETI's goal is to promote the transfer of environmentally sound technology and management principles by providing training courses to qualified public and private sector officials from developing countries around the world.

The objective of the Directory is to serve a target population of public and private environmental officials in Asia and the Pacific with easily accessible information on environmental training opportunities in the U.S. private sector, government agencies, non-governmental organizations and universities. The courses listed in the Directory provide training to environmental officials in economically sustainable environmental technologies and management practices.

We hope that the courses in the Directory will serve the environmental training needs of professionals in developing countries, and facilitate the dissemination of U.S. technical know-how, products and services.

Comments on the Directory with respect to ease of use, responsiveness to needs, and effectiveness of format will be sincerely appreciated. You can address your comments to Catalogue Editor, USETI, 3000 K Street, NW, Suite 690, Washington, DC 20007. We have included an evaluation form at the end of the Directory for your convenience.

We appreciate the time and effort the organizations listed in this Directory took to provide us with information. We hope this Directory is useful to both users and providers of training courses, as we integrate environmental concerns with economic development for a sustainable future.

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Overview

The purpose of this Directory is to provide environmental professionals in developing countries with information and environmental training opportunities in the U.S. To achieve this purpose, the guideline for organizing the information in the Directory was the anticipated needs of the user. Usefulness, ease of use, clarity, and completeness were all important considerations in determining the content and format.

The information on courses in the Directory is based on responses to a survey sent to a broad range of potential training providers. To serve professionals from a wide variety of environmental fields, the Directory sought to reflect the diversity available in environmental training in the U.S. Survey distribution targeted the following groups:

- Private businesses, corporations and professional associations;
- Government agencies and the public sector;
- Non-governmental/environmental organizations and associations; and
- Universities.

Selecting information for this Directory was also based on the survey. The Directory sought to include courses that are current, cost-effective for training participants, and available to the broadest range of nationalities. Courses chosen from survey responses met the following criteria:

Suitable for environmental professionals from developing countries, especially those in the Asia/Pacific region.

Focusing on U.S. technology, and/or services.

Scheduled or available on demand from November 1993 to December 1996.

Of short-term duration (generally between one week and three months; however, certain courses lasting over three months or less than one week which were judged pertinent have been included. While courses of less than one week may not justify the cost of international travel, participants already attending courses in the U.S. may wish to add these short courses to the beginning or end of a training itinerary.)

Relevant to people with at least a secondary school diploma, preferably a bachelor's degree.

Providing training and materials in English;

Not offering a formal degree, such as a bachelor's or master's. Programs offering certificates were included.

The courses listed in this Directory were limited to twenty topics judged to be priority areas in the environmental field, particularly in Asia. The courses in the body of the text are arranged by topic. Under each topic, courses are further divided into subtopics. An index of courses listed under each subtopic is provided. Each course is assigned a reference code (i.e. LM18) which is relevant to Directory use only. **(Persons contacting course providers should not expect them to be familiar with Directory course codes.)** This code consists of the topic abbreviation and the number indicating the numerical order of the listing in the Directory.

Topic Code	Topic
AC	Aquatic and Coastal Resources Management
AQ	Air Quality (air pollution control)
BC	Biodiversity Conservation (protected areas and wildlife management)
CC	Climate Change (local, regional, global)
EC	Environmental Economics (economics of pollution prevention, clean up, market and policy failure)
ED	Environmental Education
EN	Energy Efficiency/Renewable Energy
ET	Ecotourism
GI	Geographic Information Systems
HW	Hazardous Waste Management
IA	Environmental Impact Assessment
EH	Environmental and Industrial Health
LM	Land Management (forests)
PA	Environmental Policy, Planning, and Administration
PP	Pollution Prevention/Control (urban/industrial)
PU	Population Growth and Urbanization
RR	Resource Recovery/Recycling
SP	Soil Protection/Rehabilitation
SW	Solid Waste Management
WR	Water Resources Management (water quality issues, industrial and municipal waste water management)

Each course listing is designed to provide thirteen categories of information:

Course code	TITLE OF COURSE <i>Name of Course Provider</i>
Dates the course is held	Participants: Description of who should take the course.
Duration of the course	Course objectives: Explanation of what the participant will gain from the course.
Location of the course	Course overview: Explanation of what the course will cover, course methods, activities, and other details.
Contact name and address for information about the course	Scholarship funds: Information about the availability of scholarships or discounts through the course provider.
Telephone and Fax numbers of course contact	
Fees and expenses	

In the descriptions, courses listed as "offered on demand" may be scheduled by the course provider according to the needs of the participants. Usually these courses require a minimum number of approximately fifteen participants to be cost-effective for the provider (unless otherwise indicated.) Exact dates and constraints must be negotiated between participants and the provider. Locations may also be negotiable. Persons interested in arranging courses should contact the provider well in advance (at least 2-3 months) to allow time for preparation.

Where fees are listed, the course cost and average daily expenses are provided when possible. Under "scholarship funds" if none are available through the course provider, the potential participant may seek funds through their employer, governments, or other sources. As for the course content and methods described in the Directory, these are often flexible and can sometimes be adapted to the specific needs of participants.

The format of the Directory is designed to respond to the varying needs of users. Indices which list the course descriptions by topic/subtopics and by course provider are included. The index of course providers may be used to identify several 2-3 day courses by the same provider to maximize the participant's stay in the country. When users contact course providers, they may want to ask if the training provider is offering courses in addition to those listed in the Directory. New courses may become available after the Directory is published. In addition, the Directory provides a listing of institutions with graduate programs in environmental studies for those users looking for longer-term training.

The information in this compilation is believed to be accurate and complete. However, courses are occasionally cancelled, beginning dates altered, locations modified, contact persons changed, and costs increased. In view of these limitations, precise planning should be based on original course brochures or direct communication with the course provider. While every effort was made to serve Directory users, assuring the quality of courses listed in this Directory, and the responsiveness of course contact persons is outside the scope of the service provided.

Finally, to solicit user comments on the Directory, an evaluation form has been included.

AC 1

Dates: September 12-16, 1994

Duration: 5 days

Location: Logan, Utah

Contact:
Ms. Shelly Witt
Continuing Education Program
Wildlife and Fisheries Staff
Logan, UT 84322-5210 USA

Phone: (801) 750-1090

Fax: (801) 750-3798

Fees: \$550 (Tuition)

**AQUATIC RESOURCE MONITORING FOR
NATURAL RESOURCE SPECIALISTS**

Utah State University

Participants: Journey-level fish and wildlife biologists, botanists, silviculturalists, timber management officers, and other resource managers at forest supervisors and district offices.

Course objectives: To better understand the conceptual framework, legal policies, biological/physical/statistical principles, and field techniques for developing an effective aquatic resource monitoring program.

Course overview: This course includes field demonstrations of data collection techniques and equipment, and case studies which illustrate successful application of monitoring information. Lectures cover issues such as grazing, timber harvest/roading, and effects of chemical pollution on aquatic resources in the east and the west. Participants have the opportunity to consult with noted experts and to design an actual monitoring program for use at field units.

Scholarship funds: None available through the course provider.

AC 2

Dates: To be determined

Duration: 2 weeks

Location: Amherst, Massachusetts

Contact:
Professor Joseph S. Larson
Blaisdell House
University of Massachusetts
Amherst, MA 01003-0040 USA

Phone: (413) 545-0111

Fax: (413) 545-2304

Fees: \$500-600 (approximately)

**ASSESSMENT OF FUNCTIONS OF FRESHWATER
WETLANDS**

University of Massachusetts at Amherst

Participants: Employees of environmental agencies.

Course objectives: To become familiar with rapid assessment techniques for freshwater wetland functions.

Course overview: This course consists of lectures and a two day field trip. Participants receive an introduction to the biological and physical characteristics of wetlands and how these can be used to rapidly screen wetlands in order to predict the presence of wetland functions important to health, welfare, and safety.

Scholarship funds: None available through the course provider.

Aquatic and Coastal Resources Management

AC 3

BASIN SURVEYS AND APPLICATIONS

Utah State University

Dates: May 9-12, 1994

Participants: Technicians working in the field.

Duration: 4 days

Course objectives: To learn comprehensive watershed inventory techniques as a basis for fisheries programs.

Location: Logan, Utah

Contact:

Dr. Jeffrey Kershner
Fisheries and Wildlife Department
Utah State University
Logan, UT 84322-5210 USA

Course overview: This course includes an overview of inventory techniques; field work demonstrating these approaches; computer storage and manipulation of data; and applications in project planning, area planning, and monitoring.

Phone: (801) 750-2500

Fax: (801) 750-1871

Scholarship funds: None available through the course provider.

Fees: \$300 (Tuition)

AC 4

COASTAL AQUACULTURE

University of South Carolina, Baruch Institute

Dates: Offered on demand: April-October 1994-1996

Participants: Vary widely from rural farmers to upper management, novices to experts, and others seeking training tailored to their needs.

Duration: 4 weeks to 9 months

Course objectives: To build skills in areas of interest or need.

Location: South Carolina, North Carolina, or Georgia

Contact:

Mr. Paul Scholz, Director
International Coastal Programs
Baruch Institute
University of South Carolina
Columbia, SC 29209 USA

Course overview: The course begins with individual assessments of participant's needs. Topics can include: site selection, construction, and management of both saltwater and freshwater ponds; biology of different species; water quality management; and marketing. Case studies, action plans, and/or country proposals can also be formulated. Activities are structured so that skills learned in one activity are utilized in the next.

Phone: (803) 777-3925

Fax: (803) 777-3935

Scholarship funds: None available through the course sponsor.

Fees: \$600-\$900 per person per week (Course fees, housing and meals)

AC 5

Dates: Offered on demand:
November-December 1993-1996

Duration: 4 weeks to 9 months

Location: North Carolina, Georgia,
or South Carolina

Contact:
Mr. Paul Scholz, Director
International Coastal Programs
Baruch Institute
University of South Carolina
Columbia, SC 29208 USA

Phone: (803) 777-3925
Fax: (803) 777-3935

Fees: \$600-\$900 per person per
week (Course fees, housing and
meals)

AC 6

Dates: October 1994

Duration: 5 days

Location: Bear Lake, Utah

Contact:
Dr. Glen Chen
Fisheries and Wildlife Department
Utah State University
Logan, UT 84322-5210 USA

Phone: (801) 750-2459
Fax: (801) 750-1871

Fees: \$850 (Tuition)

COASTAL POLICY PROCESSES

University of South Carolina, Baruch Institute

Participants: Vary widely from rural farmers to upper
management, novices to experts, and others seeking training tailored
to their needs.

Course objectives: To build skills in areas of interest or need.

Course overview: This course uses an experiential approach to
learning, and begins with an individual assessment of the
participants' needs. Possible topics include policy and management
use of coastal biological, chemical, and geological policy processes.
If desired, participants discuss typical coastal policy action plans and
formulate their own action plans. In addition, case studies can be
formulated with materials from the participants' countries.
Activities are structured so skills learned in one activity are utilized
in the next.

Scholarship funds: None available through the course provider.

**INVENTORY AND MANAGEMENT OF LAKES AND
RESERVOIRS**

Utah State University

Participants: Biologists and managers with background knowledge
in aquatic biology, ecology, and basic statistics. Prior completion of
the "Fish Habitat Management" short course is strongly urged.

Course objectives: To be able to efficiently design sampling
programs to satisfy specific management objectives.

Course overview: This course teaches how chemical, physical, and
biological components and processes structure lake and reservoir
ecosystems on different temporal and spatial scales. Participants
learn to apply this knowledge, and to deal with uncertainty.
Demonstrations involve field equipment use and techniques for data
collection under complete, moderate, and "shoestring" budget
scenarios. Course lectures provide an overview to the diversity of
lakes and reservoirs found across the U.S. and to discuss
management from different geographic regions.

Scholarship funds: None available through the course provider.

Aquatic and Coastal Resources Management

AC 7

Dates: November 1993, 1994, 1995;
July 1994, 1995

Duration: 8 weeks

Location: Wilberforce, Ohio

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$5,000

LIMNOLOGY OF LAKES AND RESERVOIRS

Central State University

Participants: Practicing engineers, agricultural specialists, fishery managers, biologists, and graduate students.

Course objectives: To learn ecology and management of surface water reservoirs with emphasis on tropical and developing countries.

Course overview: This course addresses ecology of lakes and reservoirs, emphasizing tropical and developing countries. Practical aspects of controlling water quality deterioration through control of algae bloom resulting from chemicals, and the elimination of nuisance fauna are addressed. Field trips may be included.

Scholarship funds: None available through the course provider.

AC 8

Dates: Offered on demand:
November-December 1993-1996

Duration: 4 weeks to 9 months

Location: South Carolina, North Carolina, Georgia

Contact:

Mr. Paul Scholz, Director
International Coastal Programs
Baruch Institute
University of South Carolina
Columbia, SC 29209 USA

Phone: (803) 777-3925

Fax: (803) 777-3935

Fees: \$600-\$900 per person per week (Course fees, housing and meals)

MARINE FISHERIES PLANNING

University of South Carolina, Baruch Institute

Participants: Vary widely from rural farmers to upper management, novices to experts, and others seeking training tailored to their needs.

Course objectives: To gain skills in making management decisions for the legislative development of fishery planning.

Course overview: This course uses an experiential approach to learning, and begins with an individual assessment of the participants' needs. Topics can include: policy and management strategies of fisheries resources; local, regional, and national legislative perspectives; and positive and negative aspects of strategies, regulations, and mechanisms for planning. Case studies can also be developed with material brought from the home country. Activities are structured so that skills learned in one activity are utilized in the next.

Scholarship funds: None available through the course provider.

AC 9

Dates: Offered on demand: April-October 1994-1996

Duration: 4 weeks to 9 months

Location: South Carolina, North Carolina, or Georgia

Contact:

Mr. Paul Scholz, Director
International Coastal Programs
Baruch Institute
University of South Carolina
Columbia, SC 29208 USA

Phone: (803) 777-3925

Fax: (803) 777-3935

Fees: \$600-\$900 per person per week (Course fees, housing and meals)

AC 10

Dates: To be determined

Duration: 2 weeks

Location: Various Asian-Pacific locations

Contact:

Training Coordinator
Coastal Resources Center
Narragansett Bay Campus
The University of Rhode Island
Narragansett, RI 02882 USA

Phone: (401) 792-6224

Fax: (401) 789-4670

Fees: \$1,900 (includes room and board)

MARINE FISHERIES TECHNOLOGY

University of South Carolina, Baruch Institute

Participants: Commercial level fishermen interested in the latest technology, and self-sufficient fishermen needing the appropriate technology to improve productivity.

Course objectives: To build skills in areas of interest or need.

Course overview: The appropriate technology of fishing is covered according to the participants' needs. Each course begins with an individual assessment of the participant's needs. Examples from past courses include types of fishing gear, management of small fishing businesses, and aspects of fishing cooperatives. All instruction is experiential and hands-on in nature. Course activities build on skills learned in preceding course activities.

Scholarship funds: None available through the course provider.

SPECIAL AREA MANAGEMENT FOR COASTAL ENVIRONMENT

University of Rhode Island-Coastal Resources Center

Participants: Planners, project managers, and other professionals from natural resources, fisheries, and environmental agencies, academia, non-governmental environmental and community development organizations, and regional development banks.

Course objectives: To learn practical skills to design and implement special area management plans for coastal areas, and coral reef environments.

Course overview: This course teaches how to analyze coastal management problems through an issue-driven, integrated, participatory approach. Participants learn to design strategic, community-based management programs that can be effectively implemented and to empower community members to participate in all phases of the Special Areas Management process. The course emphasizes coral reef and mangrove habitat destruction, declining fish production, water pollution, user conflicts, and inadequate community capacity management.

Scholarship funds: None available through the course provider.

AC 11

**THE SUMMER INSTITUTE IN COASTAL
MANAGEMENT**

University of Rhode Island-Coastal Resources Center

Dates: May 30-late June 1994
June-July 1996

Duration: 4 weeks

Location: Kingston, Rhode Island

Contact:

Training Coordinator
Coastal Resources Center
University of Rhode Island
Narragansett Bay Campus
Narragansett, RI 02882 USA

Phone: (401) 792-6224

Fax: (401) 789-4670

Fees: \$3,900

Participants: Professionals responsible for coastal management programs from natural resource and fisheries agencies, non-governmental environmental and community development organizations, foreign assistance agencies, and development banks.

Course objectives: To develop practical skills for designing and implementing coastal management programs.

Course overview: The course teaches how to formulate effective strategies for managing coastal resources, applying integrated, interdisciplinary approaches to solving coastal problems, applying problem definition and analysis, research, policy formation, planning, public education and public participation to issue driven coastal management programs in developing nations. Course content includes major ecological, social and economic trends, their implications for developing coastal management strategies, and institutional problems that challenge coastal management initiatives.

Scholarship funds: None available through the course provider.

Air & Waste Management Association's
87TH ANNUAL MEETING & EXHIBITION
June 19-24, 1994
Cincinnati Convention Center

Attendees can personally examine the products and services of the world's leading suppliers of instrumentation, pollution control equipment, and waste management and consulting services.

This annual exhibition is recognized as the most comprehensive annual show of its kind in North America. More than 400 exhibitors are on hand, giving participants the rare opportunity to evaluate the products and services they need to do their job.

More than 6,000 attendees from every sector of the economy

Manufacturing and process industries	Utilities
Raw materials and materials processing	Control agencies
Consultant and service industries	

For more information contact:
Air & Waste Management Association
P.O. Box 2861
Pittsburg, PA 15230 USA
Tel: (412) 232-3444 Fax: (412) 232-3450

AQ 12

Dates: To be determined

Duration: 1 week

Location: U.S. and Asia sites negotiable

Contact:
Mr. David A. Burack
Director of International Affairs
CH2M Hill International, Ltd.
1250 H Street, NW, Suite 575
Washington, DC 20005 USA

Phone: (202) 393-2426

Fax: (202) 783-8410

Fees: To be negotiated

AQ 13

Dates: 1) November 18-19, 1993
2) February 19-20, 1994
3) March 11-12, 1994
4) August 19-20, 1994

Duration: 2 days

Location: 1) Somerset, New Jersey
2) Chicago, Illinois
3) San Diego, California
4) Washington, D.C.

Contact:
Ms. Pamela McNally
American Chemical Society
1155 16th Street, NW
Washington, DC 20036 USA

Phone: (202) 872-4058

Fax: (202) 872-6336

Fees: \$825

AIR QUALITY (AIR POLLUTION CONTROL)

CH2M Hill International, Ltd.

Participants: Environmental pollution control personnel, chemical engineers, air monitoring personnel, industrial and public works engineers, and government officials responsible for air quality program policy and monitoring.

Course objectives: To gain a working knowledge in organizing local air quality monitoring and inspection programs.

Course overview: The course presents techniques for the calculation and measurement of emissions monitoring, dispersion modeling, and ground level continuous emission monitoring, criteria for pollutant and air toxics levels, and methods for organizing regulatory oversight functions.

Scholarship funds: None available through the course sponsor.

AIR TOXICS ANALYSIS BY U.S. ENVIRONMENTAL PROTECTION AGENCY METHODS

American Chemical Society

Participants: Chemists or laboratory personnel who analyze air samples for trace organic and inorganic constituents.

Course objectives: To learn the latest sampling and analysis techniques for air toxics measurements.

Course overview: Course lectures cover the status of air toxics regulations, modern sampling techniques, and air pollution resources available to the analytical chemist or planner. Included are demonstrations of air measurement equipment and special techniques such as denuders, cryogenic preconcentration, and passive samples.

Scholarship funds: None available through the course sponsor.

Air Quality

AQ 14

Dates: To be determined

Duration: 5 days

Location: Pittsburgh, Pennsylvania

Contact:

Ms. Maureen McFalls
Center for Hazardous Materials
Research
University of Pittsburgh
320 William Pitt Way
Pittsburgh, PA 15238 USA

Phone: (412) 826-5320

Fax: (412) 826-5552

Fees: \$475

AIR SAMPLING AND SURVEILLANCE

University of Pittsburgh Applied Research Center

Participants: Engineers, technicians, and policy makers.

Course objectives: To learn procedures for planning and conducting air surveillance programs, air emissions sampling, and calculations and reporting for compliance with Federal, state, and local regulations.

Course overview: Course lectures cover topics including techniques for compiling and reporting data to meet permit requirements.

Scholarship funds: Discounts for government and groups from the same organization are available through the course provider.

AQ 15

Dates: Each month

Duration: 3 days

Location: Lincolnshire Illinois, or
Atlanta, Georgia

Contact:

Ms. Rhoda Kriesel, Manager
Corporate Market Research and
Planning
MDA Scientific, Inc.
405 Barclay Boulevard
Lincolnshire, IL 60069 USA

Phone: (708) 634-2800

Fax: (708) 634-1371

Fees: none

AIR QUALITY MEASUREMENT SYSTEM: REMOTE SENSING

MDA Scientific, Inc.

Participants: Environmental engineers, air quality managers of environmental services companies or environmental agencies

Course objectives: To understand the capabilities of remote sensing systems for environmental applications such as plant perimeter monitoring, fugitive emissions, documenting manufacturing emissions, emergency leak detection, and personnel protection.

Course overview: The course presents techniques for measuring trace gases in air. Presentations and discussions emphasize the use of systems in hazardous waste applications at military, nuclear, and industrial facilities to provide concentration data useful to industry and agencies in efforts to reduce toxic emissions.

Scholarship funds: None available through the course provider.

AQ 16

Dates: December 6-17, 1993

Duration: 2 weeks

Location: Washington, D.C. and
Branchburg, New Jersey

Contact:

Ms. Heather Burck
Program Manager
USETI
3000 K Street, NW Suite 690
Washington, DC 20007

Phone: (202) 338-3400

Fax: (202) 333-4782

Fees: \$200 (administrative fee)

AIR POLLUTION CONTROL TECHNOLOGIES

Research-Cottrell/ U.S. Environmental Training Institute

Participants: Managing directors, plant engineering and operations managers, and decision makers responsible for evaluating, directing, and managing the engineering, construction and operation of fossil fueled power generation and industrial facilities.

Course objectives: To learn technologies and strategies for air pollution control for power industries in Asia.

Course overview: This course is highly interactive, and includes technical sessions, case studies, and site visits to plants and corporate offices. Topics cover Total Quality Environmental Management (TQEM); pollution prevention; budget development; community relations; particulate, sulfur dioxide and acid gas removal; and technologies for emission monitoring and reporting. Practical applications of control technologies focus on addressing emissions reductions requirements.

Scholarship funds: USETI offers a limited number of scholarships covering transportation, administrative fees and per diem expenses.

AQ 17

Dates: January 14-May 14, 1995

Duration: 14 weeks (estimated)

Location: Chicago, Illinois;
Wheaton, Illinois

Contact:

Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887

Fax: (312) 567-7517

Fees: \$1,425 (Tuition)

AIR POLLUTION METEOROLOGY (ENVE 570)

Illinois Institute of Technology

Participants: Professionals currently working in the field.

Course objectives: To further professional development.

Course overview: Course lectures cover physical processes associated with the dispersion of wind-borne materials from industrial and other sources, atmospheric motion, including turbulence and diffusion, mathematical models and environmental impact assessment.

Scholarship funds: None available through the course provider.

Air Quality

AQ 18

Dates: Offered on demand

Duration: 1 week

Location: Pittsburgh, Pennsylvania

Contact:

Mr. Harilal L. Patel
Unipack, Inc.
3253A Old Frankstown Road
Pittsburgh, PA 15239 USA

Phone: (412) 733-7381

Fax: (412) 327-6265

Fees: \$500

AIR QUALITY MONITORING

Unipack, Ltd.

Participants: Government air pollution control officials, industry officials, health and environmental educators, university professors, and graduate students.

Course objectives: To learn methods for setting up, monitoring, and operating air monitoring networks.

Course overview: Course lectures and hands-on instrumentation cover the selection of monitoring locations and equipment; its installation, operation, maintenance, and repair; data acquisition, reduction, validation, and quality assurance; and report preparation.

Scholarship funds: May be available through USEPA or USAID.

AQ 19

Dates: Offered on demand

Duration: 1 week

Location: Pittsburgh, Pennsylvania

Contact:

Mr. Harilal L. Patel
Unipack, Inc.
3253A Old Frankstown Road
Pittsburgh, PA 15239 USA

Phone: (412) 733-7381

Fax: (412) 327-6265

Fees: \$500

AIR TOXIC MONITORING

Unipack, Ltd.

Participants: Government air pollution control officials, industry officials, health and environmental educators, university professors, and graduate students.

Course objectives: To learn methods for obtaining reliable air toxics data and monitoring pollution in ambient air and from sources.

Course overview: Course lectures and hands-on instrumentation cover the selection of monitoring locations and equipment; its installation, operation, maintenance, and repair; data acquisition, reduction, validation, and quality assurance; and report preparation.

Scholarship funds: May be available through USEPA or USAID.

AQ 20

Dates: To be determined

Duration: 12 weeks

Location: To be determined

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

AQ 21

Dates: November 12-13, 1993

Duration: 2 days

Location: St. Louis, Missouri

Contact:

Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$825

AIR POLLUTION CONTROL TECHNOLOGIES

*U.S. Agency for International Development/Institute of
International Education*

Participants: Plant managers and senior operations personnel.

Course objectives: To be better able to mitigate environmental impacts of fossil fuel burning for industrial purposes and electric power generation at the plant level.

Course overview: This course provides comprehensive practical training in technologies for managing environmental impacts. Topics include sizing, specification, procurement, and installation of pollution control equipment and its operation and maintenance.

Scholarship funds: May be available through the local USAID mission.

ATMOSPHERIC DIFFUSION MODELING

American Institute of Chemical Engineers

Participants: Engineers and professional personnel responsible for assessing the effect of air pollution emissions on air quality.

Course objectives: To become familiar with diffusion models used to assess the effect of emissions on air quality.

Course overview: The course reviews diffusion models commonly used for calculating ground-level concentrations from stationary sources. Application of puff models and several computer codes to spills and emergency vapor releases are discussed. Emphasis is placed on using atmospheric diffusion models in process stack design to limit ground-level concentrations to meet regulations. A single source model computer program based on the Industrial Source Complex algorithm has been prepared for use in class demonstrations and for hands-on use by participants. Participants complete practice problems and use the computer program. This course may be combined with "Fundamentals, Measurement & Regulations" and "Technology of Air Pollution Control" (both listed herein) to be a week long course.

Scholarship funds: None available through the course provider.

Air Quality

AQ 22

Dates: November 12, 1993

Duration: 1 day

Location: St. Louis, Missouri

Contact:

Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$475

AQ 23

Dates: 1) November 17-18, 1993
2) December 8-9, 1993

Duration: 2 days

Location: 1) Princeton, New Jersey
2) Dallas, Texas

Contact:

Ms. Kris Baumler
Course Registrar
Trinity Consultants, Inc.
12801 North Central Expressway
Suite 1200
Dallas, TX 75243 USA

Phone: (214) 661-8100

Fax: (214) 385-9203

Fees: \$750

CATALYSTS AND REACTORS FOR EMISSION CONTROL

American Institute of Chemical Engineers

Participants: Engineering professional involved in the regulation of air emissions, the development and manufacture of catalysts, the engineering of emission control systems and the operation of equipment with nitrogen oxides, carbon monoxide, non-methane hydrocarbons, and volatile organic emissions.

Course objectives: To become familiar with uses of catalyst for air pollution control.

Course overview: The course presents an overview of catalytic emission control chemistry. Process requirements for emission control are presented, as well as the catalysts which have been developed for each application. The design considerations for the catalyst and the reactor are covered and illustrated with examples.

Scholarship funds: None available through the course provider.

COMPUTER MODELING LABORATORY

Trinity Consultants, Inc.

Participants: Environmental engineers, scientist, and managers; safety officers; meteorologists; chemists responsible for environmental control.

Course objectives: To increase understanding of dispersion modeling through exercises with widely used USEPA and other air dispersion models.

Course overview: Course lectures focus on practical aspects of modeling by examining sample printouts of model inputs and outputs. Participants gain "hands-on" experience through modeling exercises with personal computers, and by applying modeling to realistic situations.

Scholarship funds: Discounts for government, students, or groups from the same organization may be available through the course provider.

AQ 24

Dates: Offered on demand

Duration: 2 days

Location: Negotiable

Contact:

Mr. Mark Turner
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513 USA

Phone: (919) 677-0249, ext. 5255

Fax: (919) 677-0065

Fees: Negotiable

CONTINUOUS EMISSIONS MONITORS

Midwest Research Institute

Participants: Air agency personnel, local, state, and national level agency inspectors who audit continuous emissions monitors.

Course objectives: To present technical training and field auditing techniques for assessing accuracy and reliability of both opacity and gaseous CEMs.

Course overview: Course lectures describe inspection procedures to be used to assess the accuracy and reliability of installed continuous emission monitors.

Scholarship funds: None available through the course provider.

AQ 25

Dates: 1) November 12, 1993
2) December 3, 1993

Duration: 1 day

Location: 1) Chicago, Illinois
2) Detroit, Michigan

Contact:

Ms. Kris Bauman
Course Registrar
Trinity Consultants, Inc.
12801 North Central Expressway
Suite 1200
Dallas, TX 75243 USA

Phone: (214) 661-8100

Fax: (214) 385-9203

Fees: \$295 per person

**EMISSIONS QUANTIFICATIONS PROCEDURES-
CHEMICALS, OIL, AND GAS**

Trinity Consultants, Inc.

Participants: Technical staff members responsible for determining emissions for internal planning or reporting; environmental engineers, scientist, and managers; safety officers; meteorologists; and chemists responsible for environmental control.

Course objectives: To gain tools to estimate emissions accurately with EPA-accepted techniques.

Course overview: This working course deals with the quantification of problems in industry related to combustion sources (boilers, heaters, furnaces, turbines, compressor engines, catalytic crackers, cokers, and flares), fixed and floating rook tanks, cooling towers and wastewater treatment emissions, and process fugitives. Basic definitions are provided, and emissions data discussed.

Scholarship funds: Discounts for government, students, or groups from the same organization may be available through the course provider.

Air Quality

AQ 26

Dates: To be determined

Duration: 3 days

Location: Various U.S. sites

Contact:

Ms. Janet Stevens
Shell Engineering & Associates
2403 West Ash Street
Colombia, MO 65203 USA

Phone: (314) 445-0106

Fax: (314) 445-0137

Fees: \$695

FUNDAMENTALS OF AMBIENT AIR MONITORING

Shell Engineering & Associates, Inc.

Participants: Professionals from government, industry, and consulting firms seeking a general understanding of ambient air monitoring requirements.

Course objectives: To understand the resources required in establishing and maintaining an ambient air monitoring program.

Course overview: Topics of course lectures include modeling versus monitoring; locating ambient air monitoring sites; EPA guidelines and quality assurance; standard operational procedure manuals; samplers and analyzers; meteorological instruments; and calibration systems. Demonstrations of instrument use are sometimes followed by limited hands-on instrument use by participants.

Scholarship funds: None available through the course provider.

AQ 27

Dates: 1) November 8-9, 1993
2) December 7-8, 1993

Duration: 2 days

Location: 1) St. Louis, Missouri
2) New York, New York

Contact:

Mr. Harold Abramson
American Institute of Chemical Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$825

FUNDAMENTALS, MEASUREMENT & REGULATIONS

American Institute of Chemical Engineers

Participants: Engineers and professional personnel responsible for assessing the effect of air pollution emissions on air quality, and/or reducing the emissions from operating plants or new facilities.

Course objectives:

-To appreciate the techniques, problems, and needs of control agencies;
-To learn methods for measuring, and monitoring the quality of ambient air.

Course overview: This course addresses problems of accurate measurement of particle size in aerosols, relating particle mass emission rates to plume appearance, or opacity for predicting regulatory compliance for new or modified installations. Included are principles of meteorologic dispersion modeling as needed to indicate compliance with regulations for permit application. This course may be combined with "Technology of Air Pollution Control" and Atmospheric Diffusion Modeling" (both listed herein) to be a week-long training.

Scholarship funds: None available through the course provider.

AQ 28

Dates: 1) November 16-17, 1993
2) December 6-7, 1993

Duration: 2 days

Location: 1) Princeton, New Jersey
2) Dallas, Texas

Contact:

Ms. Kris Baumler
Course Registrar
Trinity Consultants, Inc.
12801 North Central Expressway
Suite 1200
Dallas, TX 75243 USA

Phone: (214) 661-8100

Fax: (214) 385-9203

Fees: \$650

AQ 29

Dates: 1994 (to be determined)

Duration: 2 days

Location: Negotiable

Contact:

Ms. Lisa Vortherms
Honeywell, Inc.
Home and Building Control
University
8200 Normandale Boulevard
Bloomington, MN 55437 USA

Phone: (612) 921-2960

Fax: (612) 921-2975

Fees: \$475 (Minneapolis)
\$595 (elsewhere)

FUNDAMENTALS OF AIR DISPERSION MODELING

Trinity Consultants, Inc.

Participants: Environmental engineers, scientists, and managers; safety officers; meteorologists; and chemists responsible for environmental control.

Course objectives:

-To participate in an up-to-date, practical discussion of air dispersion modeling emphasizing current regulatory requirements;
-To get an overview of the effects of air quality.

Course overview: The instructors relate fundamental concepts to practical aspects of such issues as atmospheric turbulence, dispersion parameters, plume rise, and building wake effects. In-class exercises enable participants to quickly apply what they have learned.

Scholarship funds: Discounts for government, students, or groups from the same organization may be available through the course provider.

INDOOR AIR QUALITY

Honeywell, Inc.

Participants: Facility managers and engineers; professional consulting engineers; safety/health officials.

Course objectives:

-To be aware of resources for resolving complex indoor air quality problems and of appropriate mitigation and prevention strategies;
-To understand fundamentals of indoor environmental control, and recognize how building design, operation, maintenance procedures, HVAC control strategies impact the indoor environment.

Course overview: The course focus is prevention of and response to indoor air quality problems in commercial buildings. It explains how building systems, operations, maintenance and design impact the indoor environment, emphasizing how poorly designed, and maintained HVAC systems are associated with indoor air quality problems, including Sick Building Syndrome. An overview covers indoor air quality diagnostics, and offers a practice survey of a hypothetical building with an instrumentation demonstration.

Scholarship funds: None available through the course provider.

Air Quality

AQ 30

Dates: Offered on demand

Duration: 1 week

Location: Pittsburgh, Pennsylvania

Contact:

Mr. Harilal L. Patel
Unipack, Inc.
3253A Old Frankstown Road
Pittsburgh, PA 15239 USA

Phone: (412) 733-7381

Fax: (412) 327-6265

Fees: \$500

INDOOR AIR QUALITY

Unipack, Ltd.

Participants: Government air pollution control officials, industry officials, health and environmental educators, university professors, and graduate students.

Course objectives: To learn methods for monitoring indoor air quality/pollution and techniques for remediation.

Course overview: Course lectures and hands-on instrumentation cover the selection of monitoring locations and equipment; its installation, operation, maintenance, and repair; data acquisition, reduction, validation, and quality assurance; and report preparation.

Scholarship funds: May be available through USEPA or USAID.

AQ 31

Dates: October 19, 1993

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

INDOOR AIR QUALITY

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives:

-To understand major issues of ventilation in commercial buildings and the relationship between indoor air quality and ventilation;
-To increase awareness of common causes of indoor pollution and health risks and sick buildings.

Course overview: This course discusses issues from the building management perspective. Topics include problem assessment and practical methods of control with emphasis on the role of adequate ventilation in problem prevention. Tours and field work involving CO₂, temperature and humidity monitoring, equipment, and maintenance procedures may be included.

Scholarship funds: None available through the course provider.

AQ 32

Dates:
November 30-December 2, 1993

Duration: 3 days

Location: Boston, Massachusetts

Contact:
Ms. Kathryn Lord
Office of Continuing Education
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115 USA

Phone: (617) 432-1171
Fax: (617) 432-1969

Fees: \$795 (approximately)

AQ 33

Dates: Offered on demand

Duration: 1-2 days

Location: Negotiable

Contact:
Mr. Richard Crume
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513-2412 USA

Phone: (919) 677-0249 ext. 5223
Fax: (919) 677-0065

Fees: Negotiable

INDOOR AIR QUALITY: EVALUATION, MEASUREMENT, AND CONTROL

Harvard School of Public Health

Participants: Industrial hygienists, safety supervisors, building designers and managers, occupational health professionals, and legislators seeking a scientific background for new regulations.

Course objectives: To gain a complete perspective on the health effects and mitigation of indoor pollution.

Course overview: This course addresses health-related issues in indoor air quality in both residential and commercial environments. Course topics include indoor air pollution problems, an understanding of the physiological, toxicological, and perceptual aspects of indoor air quality, and the analysis and discussion of current field studies. The individual effects of combustion by-products, volatile organic compounds, microbiological pollutants, and environmental tobacco smoke are also examined.

Scholarship funds: Discounts are offered by the course provider on a case-by-case basis on request.

INSPECTIONS OF PRODUCERS, TRANSFORMERS, OR IMPORTERS OF CONTROLLED SUBSTANCES THAT DEplete THE STRATOSPHERIC OZONE

Midwest Research Institute

Participants: Inspectors and contractors responsible for inspecting producers, transformers or importers of ozone-depleting substances.

Course objectives: To receive training to effectively inspect producers, transformers and importers of ozone-depleting chemicals.

Course overview: This course provides an overview of types and classes of compounds that deplete stratospheric ozone; production and transformation processes associated with ozone-depleting chemicals; consumption allowances; and example forms used to track production and transformation of ozone-depleting chemicals. Participants learn how to verify production and transformation records at individual plants through records checks and chemical mass balances. The latter half of the course is a case study in which participants conduct a mock inspection of an actual plant.

Scholarship funds: None available through the course provider.

Air Quality

AQ 34

Dates: August-December 1995

Duration: 14 weeks (estimated)

Location: Chicago, Illinois;
Wheaton, Illinois

Contact:
Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887
Fax: (312) 567-7517

Fees: \$1,425 (Tuition)

INTRODUCTION TO AIR POLLUTION CONTROL (ENVE 463)

Illinois Institute of Technology

Participants: Professionals currently working in the field.

Course objectives: To further professional development.

Course overview: Course lectures address air pollution sources and characteristics of source emissions, atmospheric reactions, effects of pollutants, and techniques of emission control, and legal and administrative aspects of air pollution control.

Scholarship funds: None available through the course provider.

AQ 35

Dates: Offered on demand

Duration: 5 days

Location: Negotiable

Contact:
Mr. Richard Crume
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513-2412 USA

Phone: (919) 677-0249 ext. 5223
Fax: (919) 677-0065

Fees: Negotiable

INTRODUCTION TO OPERATING AIR PERMITS

Midwest Research Institute

Participants: Air quality regulatory agency staff.

Course objectives: To understand the requirements and processes used in obtaining air permits under the U.S. Federal Clean Air Act.

Course overview: The course provides an introduction to the concepts of air pollution, meteorology, air pollution control equipment, the Clean Air Act, and the history of efforts to control air pollution through regulation.

Scholarship funds: None available through the course provider.

AQ 36

Dates: Offered on demand

Duration: 1 day

Location: California

Contact:

Mr. Alan N. Scarsella
Director of International Business
Development
Wahlco Environmental Systems, Inc.
3600 West Segerstrom Avenue
Santa Ana, CA 92704 USA
Attn: International Business

Phone: (714) 979-7300

Fax: (714) 979-0114

Fees: To be determined

PARTICULATE AND NOX CONTROL FOR POWER PLANTS

Wahlco Environmental Systems, Inc.

Participants: Energy ministers, electric utility executives, power plant managers and chief engineers.

Course objectives:

-To understand Flue Gas Conditioning (FGC) systems and their economic, environmental, and energy efficiency benefits.

-To become aware of economic NOx emissions control that can be integrated into heat exchangers and ducting.

Course overview: Course lectures explain the following: function and value of FGC in coal-burning power plants; economic, environmental, and energy efficiency benefits of FGC; and economic in-duct NOx emissions control technology that can be integrated with FGC if used in non-coal burning facilities. Site visits to a power plant where Wahlco FGC and/or deNOx systems are installed may possibly be included.

Scholarship funds: None available through the course provider.

AQ 37

Dates: Offered on demand

Duration: 1 week

Location: Pittsburgh, Pennsylvania

Contact:

Mr. Harilal L. Patel
Unipack, Inc.
3253A Old Frankstown Road
Pittsburgh, PA 15239 USA

Phone: (412) 733-7381

Fax: (412) 327-6265

Fees: \$500

QUALITY ASSURANCE IN AIR MEASUREMENTS

Unipack, Ltd.

Participants: Government air pollution control officials, industry officials, health and environmental educators, university professors, and graduate students.

Course objectives: To learn to prepare quality assurance work, and to become proficient in audit and collection of relevant and valid data.

Course overview: This course covers the selection of monitoring locations and equipment; its installation, operation, maintenance, and repair; data acquisition, reduction, validation, and quality assurance; and report preparation.

Scholarship funds: May be available through USEPA or USAID.

Air Quality

AQ 38

Dates: 1994 (to be determined)

Duration: 12 weeks

Location: Columbia, Missouri

Contact:

Ms. Kathy Smith
Shell Engineering & Associates, Inc.
2403 West Ash Street
Columbia, MO 65203 USA

Phone: (314) 445-0106

Fax: (314) 445-0137

Fees: No tuition

REGIONAL AIR QUALITY MONITORING

Shell Engineering & Associates, Inc.

Participants: Developing country professionals responsible for conducting ambient air monitoring for government and industry.

Course objectives: To gain practical and theoretical experience in siting, installing, operating, and maintaining air quality stations, as well as analyzing and reporting data.

Course overview: Introductory lectures address topics such as basic ambient air monitoring; instrumentation; dispersion modeling; monitoring field work; source stack testing; data management; and instrument audits. Participants receive hands-on training using equipment and take part in exercises involving a simulated air monitoring training site. They collect and analyze data and produce a report explaining findings and methods.

Scholarship funds: Stipends to cover daily expenses may be available from the local USAID mission.

AQ 39

Dates: To be determined

Duration: 12 weeks

Location: Columbia, Missouri

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

REGIONAL AIR QUALITY MONITORING

U.S. Agency for International Development/Institute of International Education

Participants: Regulatory and company technical personnel.

Course objectives: To develop skills for regional air quality monitoring.

Course overview: This course is a practical internship on ambient air pollution modeling, monitoring, measurement, analysis, and reporting. Participants examine regulatory environments and required infrastructure.

Scholarship funds: May be available through the local USAID mission.

AQ 40

Dates: Offered on demand

Duration: 2 days

Location: Flexible

Contact:

Mr. Mark Turner
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513 USA

Phone: (919) 677-0249, ext. 5255

Fax: (919) 677-0065

Fees: Negotiable

SAMPLING AND ANALYSIS OF INDOOR AIR

Midwest Research Institute

Participants: Air agency personnel.

Course objectives: To examine in detail the sampling and analytical methods available for characterizing indoor air pollutants.

Course overview: Course lectures provide information on the various sampling and analytical methods available for characterizing indoor air pollutants including volatile organic compounds, aromatic compounds, acids, particulate matter, and inorganic gases. Some instrumentation will be available for demonstration.

Scholarship funds: None available through the course provider.

AQ 41

Dates: Offered on demand

Duration: 2 days

Location: Negotiable

Contact:

Mr. Mark Turner
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513 USA

Phone: (919) 677-0249, ext. 5255

Fax: (919) 677-0065

Fees: Negotiable

SITE SPECIFIC MONITORING FOR AIR TOXINS

Midwest Research Institute

Participants: Air agency personnel.

Course objectives: To examine in detail the modeling, risk assessment, sampling, and analytical methods available for characterizing emissions of hazardous air pollutants from industrial sources.

Course overview: The course provides an overview of air impacts at industrial sites, including hazardous waste sites, and summarizes procedures for evaluating these impacts. Emission estimation equations are presented with predictive emission modeling and risk assessment data. Sampling methodologies covered include SUMMA polished canisters, multi-bed absorbents, polyurethane foam, annular denuders, emission flux chambers, and passive/active filters.

Scholarship funds: None available through the course provider.

AQ 42

Dates: Offered on demand

Duration: 1 week

Location: Pittsburgh, Pennsylvania

Contact:

Mr. Harilal L. Patel
Unipack, Inc.
3253A Old Frankstown Road
Pittsburgh, PA 15239 USA

Phone: (412) 733-7381

Fax: (412) 327-6265

Fees: \$500

SOURCE EMISSION TESTING

Unipack, Ltd.

Participants: Government air pollution control officials, industry officials, health and environmental educators, university professors, and graduate students.

Course objectives: To learn methods for emissions testing, and obtaining data on emissions of different pollutants.

Course overview: Course lectures and hands-on instrumentation cover the selection of monitoring locations and equipment; its installation, operation, maintenance, and repair; data acquisition, reduction, validation, and quality assurance; and report preparation.

Scholarship funds: May be available through USEPA or USAID.

AQ 43

Dates: Offered on demand

Duration: 2-3 days

Location: Negotiable

Contact:

Mr. Mark Turner
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513 USA

Phone: (919) 677-0249, ext. 5255

Fax: (919) 677-0065

Fees: Negotiable

STACK SAMPLING AND EVALUATION

Midwest Research Institute

Participants: Air agency personnel.

Course objectives: To examine the sampling and analytical methods for characterizing emissions of hazardous air pollutants (HAPs) from industrial sources.

Course overview: Course lectures cover: chemical and physical properties of HAP's; stack testing basics including Federal reference methods 1 through 5, isokinetic sampling; velocity measurement techniques; Method 0010 (condensable organic compounds); Method 0011 (formaldehyde), Method 0012 (multiple metals), Methods 0030, 0040 (volatile organic compounds), and Method 0050 (particle and HCL/CL2). A field testing demonstration is also included.

Scholarship funds: None available through the course provider.

AQ 44**STATIONARY SOURCE AIR POLLUTION MONITORING***U.S. Agency for International Development/Institute of International Education***Dates:** To be determined**Participants:** Regulatory and company technical personnel.**Duration:** 16 weeks**Course objectives:** To gain skills in stationary source air pollution monitoring.**Location:** Walpole, Massachusetts**Contact:**

Dr. Ahmad Ghamarian
 Energy Training Program
 Institute of International Education
 1400 K Street, NW, Suite 650
 Washington, DC 20005-2403 USA

Course overview: This course is a practical internship on point source monitoring (stack gas and industrial emission), chemical analysis, and data collection, analysis and reporting. Participants examine U.S. Environmental Protection Agency regulatory requirements as one possible model.**Phone:** (202) 682-6560**Fax:** (202) 682-6576**Scholarship funds:** May be available through the local USAID mission.**Fees:** To be determined**AQ 45****TECHNOLOGY OF AIR POLLUTION CONTROL**
*American Institute of Chemical Engineers***Dates:** 1) November 10-11, 1993
2) December 9-10, 1993**Participants:** Engineers and professional personnel responsible for assessing the effects of air pollution emissions on air quality and/or reducing emissions from operating plants or new facilities.**Duration:** 2 days**Course objectives:** To develop an understanding of the selection of optimum control device for emissions from processes or manufacturing operations.**Location:** St. Louis, Missouri**Contact:**

Mr. Harold Abramson
 American Institute of Chemical Engineers
 345 East 47th Street
 New York, NY 10017 USA

Course overview: The course reviews methods to maintain the control device at peak efficiency, and typical performance that can be expected. Principles of control devices that effect capture of air pollutants are discussed. Additional topics include insuring pollutant capture with minimum dilution through optimum hood design, minimizing formation or release of pollutants through process design modification, and changes in process flowsheet or selection of raw materials. Alternative methods for design, selection, and application of particulate collectors and of gaseous control devices are considered. This course may be combined with "Fundamentals, Measurement, & Regulations" and Atmospheric Diffusion Modeling" (both listed herein) to be a week long course.**Phone:** (212) 705-7372**Fax:** (212) 752-3297**Scholarship funds:** None available through the course provider.**Fees:** \$825

Biodiversity Conservation

BC 46

Dates: 1) December 13-17, 1993
2) January 10-14; April 18-22, 1994
3) To be determined

Duration: 5 days

Location: 1) Phoenix, Arizona
2) Montrose, Colorado; Cheyenne, Wyoming
3) To be determined

Contact:

Mr. Charles Pregler
BLM Phoenix Training Center
5050 North 19th Avenue, Suite 300
Phoenix, AZ 85015 USA

Phone: (602) 336-6500

Fax: (602) 336-6555

Fees: \$1,100 (Tuition)

BC 47

Dates: 1) June 1994
2) Mid-June-late August 1994
3) late September-November 1994

Duration: 1) 10 weeks
2) 6 weeks 3) 6 weeks

Location: 1) Front Royal, Virginia
2) Malaysia 3) P.R. China

Contact:

Mr. Rudy Rudran
Conservation and Research Center
Front Royal, VA 22630 USA

Phone: (202) 673-4826

Fax: (202) 673-4686

Fees: \$2,100 (for overseas courses)
\$3,300 (Tuition and daily expenses)

APPLIED BIODIVERSITY CONSERVATION

Bureau of Land Management

Participants: Natural resource specialists at the field office level who are interagency and interdisciplinary.

Course objectives:

-To understand biodiversity, and influences that various climate or human-facilitated changes have on landscape processes and species;
-To learn management strategies to be applied in the absence of clear biodiversity strategy at a larger scale, and to incorporate biodiversity efforts into land use plans.

Course overview: Course lectures provide descriptions of needs types, and the scale and format of inventory needed; demonstrate reserve and corridor design techniques; predict how keystone, indicator and umbrella species would be affected by changes; and explain how ecosystem management is an institutional problem while identifying barriers and methods to implement needed changes.

Scholarship funds: None available through the course provider.

CONSERVATION BIOLOGY AND WILDLIFE MANAGEMENT

Smithsonian Institution-Conservation and Research Center

Participants: Wildlife biologists, resource managers, and environmental educators from government agencies, universities, and non-governmental organizations.

Course objectives: To learn methods of developing field projects related to biodiversity conservation and environmental education.

Course overview: The course introduces issues such as protected areas management, captive wildlife management, and scientific theories in biodiversity conservation in lectures. Through actual work experience, participants learn techniques for collecting, analyzing, and interpreting field data for wildlife conservation and management, and for using computers and field equipment. The course also trains in the use of communication and public education strategies to promote effective resource management.

Scholarship funds: Course provider offers a small number of partial scholarships.

BC 48

Dates: Offered on demand

Duration: 3-4 weeks

Location: Laramie, Wyoming

Contact:

Mr. Ed Bradley
International Programs
University of Wyoming
401 Old Main
Laramie, WY 82071 USA

Phone: (307) 766-2872

Fax: (307) 766-2871

Fees: \$2,700 (Course fees and materials)

BC 49

Dates: 1) June 21-26, 1994
2) Late August, 1994

Duration: 6 days

Location: 1) Shawnee National Forest, Illinois
2) Flathead Lake, Montana;
Croasnore, North Carolina

Contact:

Ms. Shelly Witt
Continuing Education Program
Wildlife and Fisheries Staff
Logan, UT 84322-5210 USA

Phone: (801) 750-1090

Fax: (801) 750-3798

Fees: \$1,000 (All costs except travel)

FISHERIES AND WILDLIFE MANAGEMENT

University of Wyoming

Participants: Professionals in natural resource, Wildlife and fisheries management, or other related fields.

Course objectives: To gain first hand knowledge of the following areas: wildlife and fisheries sampling techniques, population ecology, biodiversity sampling, habitat measurement techniques and strategies for management.

Course overview: This course is taught by faculty and professional staff who are experts in conservation biology, population ecology and biodiversity. Much of the course is taught using practical field site visits and demonstration techniques, and emphasizes general scientific techniques which can be used in developing regional management strategies.

Scholarship funds: None available through the course provider.

INTRODUCTION TO ECOLOGICAL MONITORING

The Nature Conservancy

Participants: Land managers from the Forest Service, Federal and State agencies, the Nature Conservancy, and other not-for-profit organizations.

Course objectives: To understand basic monitoring and sampling techniques, and to be able to determine and define project priorities and objectives.

Course overview: Course lectures and field exercises using legal and technical reference materials and a hand-held calculator provide participants with experience in developing sampling designs, choosing sampling methods, analyzing and interpreting monitoring data, and reporting the results. The workshop is designed to meet real-life needs and to present information in an effective learning environment with numerous exercises, demonstrations, and field projects. Plant populations and communities are emphasized.

Scholarship funds: None available through the course provider.

Biodiversity Conservation

BC 50

Dates: March 28-April 1, 1994

Duration: 5 days

Location: Phoenix, Arizona

Contact:

Mr. Paul Sawyer
BLM Phoenix Training Center
5050 North 19th Avenue, Suite 300
Phoenix, AZ 85015 USA

Phone: (602) 336-6500

Fax: (602) 336-6555

Fees: \$750 (Tuition)

INVENTORY MONITORING FOR SPECIAL STATUS PLANTS

Bureau of Land Management

Participants: Employees with Special Status Plant responsibility.

Course objectives:

-To be able to identify objectives and requirements essential to quality inventory and monitoring, and to summarize, analyze and evaluate data in terms of stated objectives;

-To design and conduct inventory and monitoring of special status plants with appropriate accuracy and precision.

Course overview: This course is designed to provide employees with Special Status Plant responsibility with state-of-the-art information on policy implementation, inventory and monitoring Special Status Plants. Course information will be applied to a field situation.

Scholarship funds: None available through the course provider.

BC 51

Dates: February 20-25, 1994

Duration: 6 days

Location: Portland, Oregon

Contact:

Dr. Craig W. Shinn
Public Administration and Political
Science
Lewis and Clark College
615 West Palatine Hill Road
Portland, OR 97219-7899 USA

Phone: (503) 768-7750

Fax: (503) 768-7736

Fees: \$750 (Tuition)

POLICY AND LEGAL ASPECTS OF ENDANGERED SPECIES MANAGEMENT

Lewis and Clark College

Participants: Professionals currently working in the field.

Course objectives: To better understand policy and legal aspects of managing threatened, endangered, and sensitive species.

Course overview: The course focuses on law, policy context and administrative practices. Lectures, round table discussions and field visits allow participants to learn from each other as well as from leading experts. The course uses a live case study in the Pacific Northwest to explore the practical application of ideas offered in lectures. Experts and practicing professionals present specific lectures and reflect on the live case. Various landscapes situations such as forested range, wetland, and aquatic are examined.

Scholarship funds: None available through the course provider.

BC 52

Dates: March 21-25, 1994

Duration: 5 days

Location: Logan, Utah

Contact:

Dr. Jeffrey Kershner
Fisheries and Wildlife Department
Utah State University
Logan, UT 84322-5210 USA

Phone: (801) 750-2500

Fax: (801) 750-1871

Fees: \$300 (Tuition)

PROGRAM MANAGEMENT FOR BIOLOGISTS

Utah State University

Participants: Journey-level biologists responsible for program development.

Course objectives: To acquire the skills to effectively develop and implement a program of work on home units.

Course overview: Course lectures cover the use of Forest Plans to develop a Program plan, personnel development, budgeting, and marketing. Participants are given morning lectures by experienced instructors in each topic area and have afternoons to work with instructors and other participants to develop a draft program document for their home unit. Draft documents are presented on the final day.

Scholarship funds: None available through the course provider.

BC 53

Dates: June and July, 1994

Duration: 6 weeks, (2-3 week optional short courses available)

Location: U.S. and/or Asia sites negotiable

Contact:

Director
International Programs Office
216 Morrill Hall
University of Idaho
Moscow, ID 83844-3013 USA

Phone: (208) 885-8984

Fax: (208) 885-6198

Fees: \$4,000 (Course fees)

TRAINING PROGRAM FOR SOUTHEAST ASIA WILDLIFE PRESERVE MANAGERS

University of Idaho, College of Forestry, Wildlife, and Range Sciences

Participants: Park and wildlife officials who supervise and implement management programs and who are involved in daily management of parks; park superintendent and mid-level managers; and other wildlife and park professionals.

Course objectives:

-To address some of the most critical needs for managing nature preserves on a worldwide basis.

-To gain knowledge and technical skills necessary to better meet the challenge of protected area management.

Course overview: This course teaches wildlife management, species management, multiple use management, and people management around national parks. Lectures may be supplemented with visits to U.S. parks and wildlife areas, such as Yellowstone, or the Olympic Peninsula Rainforest.

Scholarship funds: None available through the course sponsor.

BC 54

Dates: To be determined

Duration: 10 days to 3 weeks

Location: U.S. and Asia sites negotiable

Contact:

Dr. Alan Rabinowitz
NYZS/The Wildlife Conservation Society
The Bronx Zoo
The Bronx, NY 10460 USA

Phone: (718) 220-5100

Fax: (718) 364-4275

Fees: Negotiable

WILDLIFE CONSERVATION TECHNIQUES

New York Zoological Society/Bronx Zoo

Participants: Wildlife conservation department staff, wildlife management authorities, forestry department officials and staff, and protected areas managers.

Course objectives: To improve the skills of professional wildlife managers in practical techniques of wildlife conservation research.

Course overview: This is an intensive, field-based course for practical training in geography, map & compass, wildlife identification, habitat assessment, and interview and wildlife survey techniques, including transect surveys and radio telemetry. Optional modules for senior staff cover personnel management and reserve management.

Scholarship funds: Full scholarships available through the course provider.

BC 55

Dates: 1) April 5-15, 1994
2) October 24-November 4, 1994

Duration: 2 weeks

Location: 1) Blacksburg, Virginia
2) Logan, Utah

Contact:

Ms. Shelly Witt
Continuing Education Program
Wildlife and Fisheries Staff
Logan, UT 84322-5210 USA

Phone: (801) 750-1090

Fax: (801) 750-3798

Fees: \$2,000 (All costs except travel)

WILDLIFE HABITAT AND PLANT MANAGEMENT

Virginia Polytechnical Institute & State University/Utah State University

Participants: Botanists, wildlife biologists and other resource professionals.

Course objectives:

-To understand the habitat issues and concepts that shape National Forest Management at the national, regional and local levels.
-To be able to use new habitat concepts and management to deal with actual problems encountered in national forest management.

Course overview: This course describes habitat concepts and management in light of recent theory, technology and research findings. The course design incorporates study and practice with habitat issues and concepts that shape national forest management.

Scholarship funds: None available through the course provider.

CC 56

ECONOMIC AND ENVIRONMENTAL CHALLENGES OF GLOBAL CLIMATE CHANGE

Winrock International Environmental Alliance

Dates: Offered on demand

Participants: Governmental officers, economists.

Duration: 3 to 4 days

Course objectives: To examine the latest scientific knowledge and address issues associated with global climate change.

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Course overview: The course introduces modeling and simulation techniques such as general circulation models, GIS and remote sensing. Emphasis is placed on economic analyses (benefit-cost and full-cost), and potential policy initiatives to alleviate environmental destruction related to industrialization and deforestation.

Phone: (703) 525-9430

Scholarship funds: May be available through the local USAID mission.

Fax: (703) 516-0481

Fees: Vary

CC 57

NATIONAL GREENHOUSE GAS INVENTORIES: METHODS FOR ESTIMATING EMISSIONS AND DEVISING POLICY SCENARIOS

Winrock International Environmental Alliance

Dates: Offered on demand

Participants: Energy and environmental analysts in government ministries responsible for monitoring or preventing greenhouse gases, and representatives from non-governmental organizations.

Duration: 1 to 2 days

Location: Asia sites negotiable

Course objectives: To learn to develop national inventories of greenhouse gas emission for setting targets for future emissions, planning control strategies, and monitoring progress towards obtaining abatement objectives.

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Course overview: This course covers greenhouse gas sources and the problems surrounding their estimation. Participants are also introduced to the use of G2S2 (Greenhouse Gas Scenario System), a data base and scenario assessment tool. Participants will need access to IBM compatible 286 computers (386 preferred) with a minimum of 10 MB hard disk space and 1 MB memory. Ideally there will be at least one computer for each two participants.

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

Scholarship funds: May be available through the local USAID mission.

Environmental Economics

EC 58

Dates: To be determined

Duration: 2 weeks

Location: Bangkok, Thailand

Contact:

Dr. Kjell Christopherson
Washington State University
International Programs Development
Cooperation
Pullman, WA 99164-6226 USA

Phone: (509) 335-2980

Fax: (509) 335-2982

Fees: To be determined

EC 59

Dates: Offered on demand
(contact at least 6 weeks in advance)

Duration: 3 weeks

Location: To be negotiated

Contact:

Dr. Daniel E. Chappelle
Global Analytics
2092 Lac du Mont Drive, #D-1
Haslett, MI 48840 USA

Phone: (517) 339-8060

Fax: Not yet available

Fees: \$6,000 (course fee)
(daily expenses and material costs
depend on location)

AGROFORESTRY AND NATURAL RESOURCES ECONOMICS

Washington State University

Participants: Multi-disciplinary natural resource specialists including foresters, sociologists, agronomists, economists, livestock specialists.

Course objectives: To understand economic concepts, principles, and basic terms for economic and financial analysis of agroforestry systems for developing and implementing projects for agroforestry and resource management, social, and economic objectives.

Course overview: Course lectures, "do-it-yourself" sessions, and laboratory work are complemented with field work to carry out practical case studies. Major topics covered include: basic economic principles, capital theory and analytical techniques, economic versus financial analysis, management alternatives, establishment and analysis of a base case, and sensitivity analysis. A field trip of several days is led by a faculty "coach" who guides case studies in accordance with approaches and techniques taught in lecture.

Scholarship funds: None available through the course provider.

ECONOMIC IMPACT ANALYSIS

Global Analytics

Participants: Environmental and/or natural resource professionals.

Course objectives:

-To gain a basic understanding of economic impact analysis for conducting comprehensive environmental impact assessment;
-To develop problem-solving skills in impact assessment.

Course overview: Course lectures review concepts, techniques, models and methods of economic impact analysis with a major focus on regional input-output modeling to link the economy with environmental sectors. Participants attend problem-solving workshops, work on short term projects measuring inputs, and use computerized models wherever possible.

Scholarship funds: None available through the course provider.

EC 60

Dates: Offered on demand

Duration: 5 days

Location: Negotiable

Contact:

Mr. Jerry Newsome
USEPA-Office of Policy, Planning
and Evaluation
401 M Street, SW, PM-220
Washington, DC 20460 USA

Phone: (202) 260-8666

Fax: (202) 260-0174

Fees: No tuition

ECONOMIC ANALYSIS

U.S. Environmental Protection Agency

Participants: Government officials, scientists, personnel from non-governmental organizations.

Course objectives: To be better able to apply economic principles in evaluating and mitigating environmental problems.

Course overview: Course lectures and case studies identify economic benefits and the uses of incentives, and provide information on cost-effective solutions. The first two days cover economic theory and fundamentals, after which participants work through case studies dealing with setting standards, permits, production possibilities frontiers, supply and demand, and microeconomic theory.

Scholarship funds: None available through the course provider.

EC 61

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

ECONOMICS AND MANAGEMENT OF PARKS AND NATIONAL FORESTS

Winrock International Environmental Alliance

Participants: National foresters and economists from governments and non-governmental organizations.

Course objectives: To learn to apply generally accepted principles of economic analysis to policy formation for management of parks and national forests as an innovative approach to natural resource conservation.

Course overview: This course introduces concepts of forestry economics and policy analysis. Discussions cover economic forecasting for efficient harvest and regeneration schedules, modeling, economic price/output indicators, optimal rotation (the time between planting and harvesting) strategies, and sources of inefficiency (e.g., biodiversity, global warming, policy, and debt). Sustained yield practices and agroforestry programs are emphasized.

Scholarship funds: May be available through the local USAID mission.

EC 62

Dates: June/July 1994;
June/July 1995

Duration: 5 weeks

Location: Cambridge, Massachusetts

Contact:

Mr. Theodore Panayotou
Environmental and Resource
Economics-Harvard Institute for
International Development
One Elliot Street
Cambridge, MA 02138 USA

Phone: (617) 495-9173

Fax: (617) 496-0527

Fees: \$7,500 (workshop fee)
\$1,400 (total daily expenses)

**ENVIRONMENTAL ECONOMICS AND POLICY
ANALYSIS**

Harvard Institute for International Development

Participants: Mid-level career development professionals involved in natural resource management, environmental protection, and sustainable development.

Course objectives:

-To gain skills in the analysis, quantification, and economic valuation of the impact of policies, programs, and projects on the environment and natural resources;

-To be better able to formulate policies to protect the environment without restricting growth.

Course overview: This workshop consists of lectures, discussion groups, and case studies covering the integration of economic and environmental policies, the devising of innovative instruments for sustainable development and the development of financing mechanisms for environmental investments. The course focuses on the computer-based analysis of case studies and data provided by the participants to create and evaluate policy decisions.

Scholarship funds: Twenty-five scholarships are available through the course provider.

EC 63

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

ENVIRONMENTAL AND ECOLOGICAL ECONOMICS

Winrock International Environmental Alliance

Participants: Economists from government and non-governmental organizations.

Course objectives: To get an introduction to concepts of environmental and ecological economics to be better able to address issues of sustainability.

Course overview: This course addresses themes including: macro/micro economic theory, sustainability, efficiency, and attempts to treat the environment as a closed-system asset. Course lectures demonstrate how environmental and ecological economics complement sustainable development projects. Environmental economics takes a microeconomic approach while ecological economics is macroeconomically oriented. The dynamic interaction between both environmental and ecological economics yields a working agenda for research, education, and policies addressing issues of sustainability.

Scholarship funds: May be available through the local USAID mission.

EC 64

Dates: Offered on demand

Duration: 3 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Mr. Allen White
Tellus Institute
11 Arlington Street
Boston, MA 02116-3411 USA

Phone: (617) 266-5400

Fax: (617) 266-8303

Fees: Vary

**ENVIRONMENTAL INFORMATION DISCLOSURES
DURING TRANSITIONS TO PRIVATIZATION AND
MARKET ECONOMIES**

Tellus Institute, Inc.

Participants: Government regulators, enterprise managers, legal communities, representatives of non-governmental organizations.

Course objectives: To address issues related to the development and management of environmental data during transitions from centrally planned to market economies or from public to private ownership of individual enterprises.

Course overview: The course focuses on relevant approaches to data development and access for regulators, enterprises, and investors involved in processes of privatization. Case material examines regulations in the U.S. and Western Europe (and their applicability elsewhere), identifies elements adaptable to different countries, and explores necessary modifications. Specific themes include: the protection of proprietary information; objectives and methods of public reporting data; and coordination of data bases.

Scholarship funds: May be available through the local USAID mission.

EC 65

Dates: Offered on demand

Duration: 1 week

Location: U.S. and Asia sites negotiable

Contact:

Mr. David A. Burack
Director of International Affairs
CH2M Hill International, Ltd.
1250 H Street, NW, Suite 575
Washington, DC 20005 USA

Phone: (202) 393-2426

Fax: (202) 783-8410

Fees: To be negotiated

**ENVIRONMENTAL ECONOMICS: POLLUTION
PREVENTION AND CLEANUP, POLICY AND
MARKET FAILURES**

CH2M Hill International, Ltd.

Participants: Environmental engineers, planners, social scientists, government and private sector officials concerned with and involved in environmental policy development and planning.

Course objectives: To gain insight into achieving a sustainable balance between economic development and environmental quality.

Course overview: The course offers an integrated resource planning framework that includes institution building; demand management; and achieving a synergy between the need to control/prevent environmental damage, thereby improving the quality of life, yet sustaining economic goals and development.

Scholarship funds: None available through the course provider.

EC 66

Dates: Offered on demand

Duration: 3 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:

Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

**EVALUATING THE ECONOMICS OF INVESTMENTS
IN POLLUTION PREVENTION IN STATE AND
PRIVATE ENTERPRISES**

Winrock International Environmental Alliance

Participants: Environmental managers, production engineers, and general managers of state and private enterprises; governmental officials with responsibility for pollution prevention or reduction.

Course objectives: To understand how data constraints, regulatory and cost uncertainties, self-imposed requirements to recoup investments in short-term horizons, and a lack of overall analytical frameworks for financial analysis hinder enterprises in evaluating the economics of pollution prevention investments.

Course overview: This course uses P2/FINANCE software (Pollution Prevention/ Financial Analysis and Cost Evaluation) and introduces participants to a tested and systematic approach to the assessments of investments in pollution control. Participants need access to IBM-compatible 286 computers (386 preferred) with a minimum of 10 MB hard disk space and 1 MB memory. Ideally, there will be at least one computer for each two participants.

Scholarship funds: May be available through the local USAID mission.

EC 67

Dates: Offered on demand

Duration: 5 to 7 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:

Dr. Rich Tobin
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

EXTENDED BENEFIT-COST ANALYSIS

Winrock International Environmental Alliance

Participants: Economists from governmental and non-governmental organizations.

Course objectives: To understand benefit-cost analysis and the quantitative framework it provides in order to better evaluate the relative merits of alternative environmental policies.

Course overview: This course focuses on benefit-cost analysis as it applies to the management of natural resources and emphasizes information collection; decision-making rules; techniques for measurement and quantification; and the use of surveys and other analytical methods. Such analysis quantifies information in a structured manner and calculates the anticipated costs and benefits of policy actions or investment alternatives. The course illustrates the usefulness of benefit-cost analysis in decision-making processes associated with regulatory and environmental control efforts.

Scholarship funds: May be available through the local USAID mission.

EC 68

Dates: Offered on demand

Duration: 3 days

Location: Negotiable

Contact:

Mr. Adam Saslow
USEPA
401 M Street, SW PM-220
Washington, DC 20460 USA

Phone: (202) 260-2857

Fax: (202) 260-0174

Fees: No tuition

FINANCING ENVIRONMENTAL INVESTMENTS

U.S. Environmental Protection Agency

Participants: Government officials, scientists, and personnel from non-governmental organizations.

Course objectives:

- To understand the spectrum of revenue raising instruments;
- To be able to develop criteria for evaluation.

Course overview: This course uses the experiential approach to learning to facilitate the application of theory, solving of case studies, and sessions in which participants learn by actually performing tasks. In addition, course lectures survey topics such as user fees, emission charges, and product taxes.

Scholarship funds: None available through the course provider.

EC 69

Dates: Offered on demand
(contact at least 6 weeks in advance)

Duration: 3 weeks

Location: To be negotiated

Contact:

Dr. Daniel E. Chappelle
Global Analytics
2092 Lac du Mont Drive, #D-1
Haslett, MI 48840 USA

Phone: (517) 339-8060

Fax: Not yet available

Fees: \$6,000 (course fee)
(daily expenses and material costs depend on location)

FOREST RESOURCE ECONOMICS

Global Analytics

Participants: Natural resource and/or environmental professionals.

Course objectives:

- To introduce students to principles, concepts and methods of economics applied to forest resources;
- To develop skills in applied economic analysis leading to decision guidelines for forest managers, planners, and policy makers.

Course overview: Course lectures review principles, concepts and methods of economics (such as multiple use, sustained yield, and biodiversity) applied to forest resources. All forestry goods and services, priced and non-priced, are considered. The participants practice using information from lectures in problem-solving workshops.

Scholarship funds: None available through the course provider.

Environmental Economics

EC 70

Dates: Offered on demand

Duration: 4 weeks

Location: Pullman, Washington

Contact:

Dr. Kjell Christopherson
International Program Development
Cooperation
Washington State University
Pullman, WA 99164-6226 USA

Phone: (509) 335-2980

Fax: (509) 335-2982

Fees: \$4,500 (course fees excluding per diem and health insurance)

EC 71

Dates: Offered on demand

Duration: 3-4 weeks

Location: Laramie, Wyoming

Contact:

Mr. Ed Bradley
International Programs
University of Wyoming
401 Old Main
Laramie, WY 82071 USA

Phone: (307) 766-2872

Fax: (307) 766-2871

Fees: \$2,600 (Course fees and materials)

FOREST AND NATURAL RESOURCE ECONOMICS

Washington State University

Participants: Mid-career foresters or natural resource managers.

Course objectives: To enhance analytic capacity.

Course overview: This course provides tools, skills and approaches to guide participants and to facilitate and support their informed decision-making at multiple levels regarding natural resources and management.

Scholarship funds: None available through the course provider.

NATURAL RESOURCE ECONOMICS

University of Wyoming

Participants: Individuals working in government administration, management, economics, or related fields.

Course objectives: To gain policy analysis skills in the following areas: resource allocation, social costs of resource extraction, and effective environmental management.

Course overview: In this course, participants study the economic issues associated with renewable and non-renewable natural resources. Hard rock minerals, fossil fuels, fisheries, and forestry are emphasized. Much emphasis is directed towards current environmental issues.

Scholarship funds: None available through the course provider.

EC 72

**NATURAL RESOURCES ACCOUNTING AND THE
MANAGEMENT OF ENVIRONMENTAL AND
NATURAL RESOURCES**

Winrock International Environmental Alliance

Dates: Offered on demand

Participants: Government economists, managers and conservation specialists.

Duration: 5 days

Location: Asia sites negotiable

Course objectives: To understand natural resource accounting for the management of environmental and natural resources, and to examine efforts to apply the approach in developing countries.

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Course overview: This course examines natural resource accounting and the assigning of tangible values to natural resources, and demonstrates the linkage between economic development and environment management. The course also emphasizes the economic theory associated with income accounting and depreciation, ecological economics, valuation systems, and issues relating to the feasibility of implementing revised national accounting systems.

Phone: (703) 525-9430

Fax: (703) 516-0481

Scholarship funds: May be available through the local USAID mission.

Fees: Vary

EC 73

**THE ECONOMICS OF WATER SYSTEMS
REHABILITATION**

Central State University

Dates: December 1993, 1994, 1995;
June 1994, 1995

Participants: Natural resource/agricultural economists, engineers, agricultural resource professionals.

Duration: 17 days

Course objectives:

Location: Wilberforce, Ohio

-To learn economics of water systems rehabilitation, cost-benefit analysis, and systemic methods to distribute benefits and costs to water users;

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

-To learn computer applications in water resources allocation.

Phone: (513) 376-6212

Fax: (513) 376-6530

Course overview: This course includes an overview of economics, theory and use of cost/benefit analysis, the role of time discounting in policy development, various statistical methods to estimate water systems demand, and computer-based operations to compare and assess different policy options to determine optimal policy response.

Fees: \$3,000

Scholarship funds: None available through the course provider.

EC 74

USE AND APPLICATION OF USER FEES

Winrock International Environmental Alliance

Dates: Offered on demand

Participants: Governmental economists and environmentalists.

Duration: 5 days

Course objectives: To understand the use and application of user fees in relation to natural resources.

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Course overview: This course emphasizes the theoretical underpinnings of supply and demand, price-setting strategies, and regulatory mechanisms. Participants examine air and water quality, soil fertility, and natural resource sustainability and their economic value in terms of agricultural productivity, food supplies, economic development, and human health. The course also addresses price ceilings, elasticity, controls, and price-based policy instruments which guide economic systems consistently with ecosystem goals.

Phone: (703) 525-9430

Fax: (703) 516-0481

Scholarship funds: May be available through the local USAID mission.

Fees: Vary

WORKSHOPS, SEMINARS, CONFERENCES, AND OTHER ACTIVITIES

Winrock International Environmental Alliance

To encourage policy dialogue and to strengthen institutions as they deal with the management of natural and environmental resources, The Winrock International Environmental Alliance will organize in-country seminars or conferences to:

Understand and manage the effects of economic and environmental policies of industrialized nations on environmental issues in developing countries;

Develop and implement policy initiatives related to international environmental conventions and agreements;

Coordinate and monitor the implementation of national and regional strategies for environmental protection;

Negotiate and facilitate regional coordination and implementation of environmental policies; and

Launch new technical assistance projects or periodically review existing projects.

For More Information, contact: Dr. Rich Tobin
Winrock International Environmental Alliance
1611 North Kent Street, Suite 600, Arlington, VA 22209 USA
Telephone: (703) 525-9430 Fax: (703) 516-0481

ED 75

Dates: Monthly (except for December and January)

Duration: 4 days

Location: Varies

Contact:

Mr. Charles L. Richardson
NETA
2930 East Camelback Rd., Suite 185
Phoenix, AZ 85011 USA

Phone: (602) 956-6099

Fax: (602) 956-6399

Fees: \$995

ED 76

Dates: Offered on demand

Duration: Negotiable

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

DESIGNING AND DELIVERING EFFECTIVE ENVIRONMENTAL TRAINING

National Environmental Training Association

Participants: Environmental safety and health trainers.

Course objectives: To improve basic adult education design and delivery skills specifically for environmental fields.

Course overview: This course uses instructional media to address needs analysis; task analysis; learning objectives; evaluation techniques; lesson plans; measures of problem effectiveness; training adult learners; instructional methods and strategies; learning styles; and delivery techniques. Participants have the opportunity to apply course information in mock instruction training, videotaped presentations and critiques. The course provider also offers additional sessions for certification if requested in advance.

Scholarship funds: One scholarship per course available through the course provider.

DEVELOPING PROGRAMS IN SCHOOLYARD ECOLOGY: LOCALIZED, LOW-COST APPROACHES TO HANDS-ON SCIENCE AND ENVIRONMENTAL EDUCATION

Winrock International Environmental Alliance

Participants: Environmental educators, experts in pedagogic techniques, science education experts, school teachers (especially at the elementary level), administrators, officials from education ministries, representatives from non-governmental organizations, and scientific experts in the natural history of local plants and animals.

Course objectives: To develop a curriculum outline for local environmental, biological, and social conditions to serve the dual functions of environmental and science/mathematics education.

Course overview: This course was developed in conjunction with scientists, pedagogic experts, and school teachers, and emphasizes hands-on inquiry and open-ended investigations utilizing the plants, animals, habitats, and human impacts accessible in the typical schoolyard. The course focuses on programs for upper primary grades; modifications for older and younger age groups are also discussed.

Scholarship funds: May be available through the local USAID mission.

Environmental Education

ED 77

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin, Director

Human Resources Development

EPAT/Winrock International

Environmental Alliance

1611 North Kent Street, Suite 600

Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

ED 78

Dates: To be determined

Duration: 2 days

Location: U.S. and Asia sites negotiable

Contact:

Mr. David A. Burack

Director of International Affairs

CH2M Hill International, Ltd.

1250 H Street, NW, Suite 575

Washington, DC 20005 USA

Phone: (202) 393-2426

Fax: (202) 783-8410

Fees: To be negotiated

DEVELOPING NATIONAL POLICIES FOR ENVIRONMENTAL EDUCATION

Winrock International Environmental Alliance

Participants: Policy makers and planners from ministries of education and the environment; heads of national or provincial education offices; representatives from non-governmental organizations and from the mass media, particularly editors and executives.

Course objectives: To focus on approaches to formulating public policy to create a heightened awareness of environmental issues and a disposition to act in environmentally sound ways.

Course overview: The course deals with ways to identify environmental issues to be addressed through publicly supported educational efforts; policy adjustments necessary for issues to be covered in formal curricula; and the legal, human, and financial resources to start and sustain appropriate environmental education activities. Discussion considers ways of mobilizing public support for and involvement in environmental education and means of initiating public education campaigns and encouraging behavioral change and environmental awareness among businesses and industry.

Scholarship funds: May be available through the local USAID mission.

ENVIRONMENTAL EDUCATION

CH2M Hill International, Ltd.

Participants: Government officials involved in environmental policy/planning and public works; and industry plant managers.

Course objectives: To raise awareness of environmental damage and its impact on quality of life as well as on plants and animals.

Course overview: The course presents the history of environmental awareness and regulatory/legislative initiatives; sources of environmental pollution; strategies/techniques to control the damage; and the need to have clean air, water and land resources.

Scholarship funds: None available through the course provider.

ED 79

ENVIRONMENTAL EDUCATION

University of Wisconsin-River Falls

Dates: To be determined

Participants: Elementary and secondary teachers

Duration: 4 weeks

Course objectives: To gain a background in environmental issues and related topics by learning about resources and techniques for infusing environmental content into primary and secondary level curricula and various subject areas.

Location: U.S. sites negotiable

Contact:

Mr. Stephen Ridley, Associate Dean
College of Agriculture
University of Wisconsin-River Falls
River Falls, WI 54022 USA

Course overview: This course presents a basic overview of the environment, and the interaction between humans and their environment. In using this information, the course presents resources and techniques for incorporating the subject into a school curriculum and gives participants the opportunity for research, and discussion.

Phone: (715) 425-3535

Fax: (715) 425-3785

Scholarship funds: None available through the course provider.

Fees: \$1,500 (Course fees)

ED 80

ENVIRONMENTAL ISSUES: STRATEGIES TO ADDRESS ISSUES AND CONDUCT EDUCATIONAL PROGRAMS

University of South Carolina, Baruch Institute

Dates: Offered on demand:
November-December 1993-1996

Participants: Farmers, community leaders, managers, policy makers, and university level students and professors, or others seeking training tailored to their needs.

Duration: 2 weeks to 9 months

Course objectives: To build skills in areas of interest or need.

Location:

McClellanville, South Carolina

Contact:

Mr. Paul Scholz, Director
International Coastal Programs
Baruch Institute
University of South Carolina
Columbia, SC 29209 USA

Course overview: Programs are designed and implemented based on the participants' needs. Past topics have included formulation of environmental education campaigns, national environmental policy proposals and local, regional, and national plans of action. Teachers and/or community members might focus on formal and non-formal education strategies. Skills development is emphasized over memorization of theoretical facts. Activities are structured so that skills learned in one session are utilized in the next.

Phone: (803) 777-3925

Fax: (803) 777-3935

Scholarship funds: None available through the course provider.

Fees: \$600-\$900 per person per week (Course fees, housing and meals)

Environmental Education

ED 81

Dates: June 18-July 16, 1994

Duration: 4 weeks

Location: Corvallis, Oregon

Contact:

Mr. Jim Peters
International Training Coordinator
Office of International Research &
Development, Snell Hall 400
Oregon State University
Corvallis, OR 97331-1641 USA

Phone: (503) 737-6408

Fax: (503) 737-3447

Fees: \$2000 (Course materials,
tuition, and field trips)

ED 82

Dates: Offered on demand

Duration: 4 days

Location: U.S. sites to be
determined; Asia sites negotiable

Contact:

Ms. Sandra Baker
Halliburton NUS Corporation
910 Clopper Road
P.O. Box 6032
Gaithersburg, MD 20877-0692 USA

Phone: (301) 258-2459

Fax: (301) 258-5808

Fees: \$899 (Course fees and
materials for U.S. sites)

EVALUATING INTERNATIONAL TRAINING PROGRAMS

Oregon State University

Participants: Top or mid-level managers of all types of training programs.

Course objectives: To enhance skills in: defining the purpose of the evaluation, identifying target populations, planning evaluations, assessing changes, defining progress, identifying expected and unplanned effects, conducting evaluation reviews, and documenting evaluation findings and decisions.

Course overview: The course is action- and experience-oriented. Participants develop evaluation skills from information exchanges with a team of international scholars. Skills acquired by participants enable them to assess whether planned results are being achieved and what impact a project, program, method or procedure is having upon the host country. Participants use case studies to test the validity and relevance of hypotheses concerning performance and impact.

Scholarship funds: None available through the course provider.

INSTRUCTOR TRAINING WORKSHOP

Halliburton NUS Corporation

Participants: All persons newly assigned to train co-workers in technical subjects.

Course objectives: To be able to implement the five phases of institutional systems design: analysis, design, development, implementation, and evaluation.

Course overview: This course is composed of hands-on session in which participants learn to build a training program; prepare materials; and present and evaluate training. Course content may be tailored to suit the needs of environmental trainers.

Scholarship funds: None available through the course provider.

ED 83

Dates: June 18-mid-July 1994

Duration: 1 month

Location: Corvallis, Oregon

Contact:

Mr. Jim Peters
International Training Coordinator
Office of International Research &
Development, Snell Hall 400
Oregon State University
Corvallis, OR 97221-1641 USA

Phone: (503) 737-6408

Fax: (503) 737-3447

Fees: \$2,000 (course materials,
tuition, and field trips)

ED 84

Dates: Offered on demand

Duration: Negotiable

Location: Pullman, Washington;
other U.S. and Asia sites negotiable

Contact:

International Program Development
Cooperation
Washington State University
Pullman, WA 99164-6226 USA

Phone: (509) 335-2980

Fax: (509) 335-2982

Fees: \$3,850 (course fees excluding
per diem and health insurance)

MANAGING INTERNATIONAL TRAINING PROGRAMS

Oregon State University

Participants: Top or mid-level managers of all types of training programs.

Course objectives: To enhance skills in managing human resource development, developing training plans, staffing training programs, budgeting and cost control, coordinating facilities, providing support services, and monitoring performance.

Course overview: This course develops management skills through a variety of activities including individualized and group learning experiences, case analysis, role playing, simulation, and direct observation through field visits. A team of international scholars facilitates a management information exchange among participants. Participants design a training management plan to address specific problems and identify opportunities in their home countries.

Scholarship funds: None available through the course provider.

MICROCOMPUTER APPLICATIONS FOR TEACHING POPULATION ECOLOGY

Washington State University

Participants: University and college level instructors of ecology and population dynamics.

Course objectives:

-To learn microcomputer applications for illustrating important ecological principles and theories;

-to learn to apply microcomputer-based theoretical models to actual data and to identify regulating mechanisms.

Course overview: This course provides participants with new approaches and methods for using microcomputers to teach ecology and population dynamics.

Scholarship funds: None available through the course provider.

Environmental Education

ED 85

MULTI-FACETED APPROACHES TO ENVIRONMENTAL EDUCATION: EXPERIENCE IN LOCAL, NATIONAL, AND MULTI-NATIONAL ARENAS

Booz-Allen & Hamilton, Inc./Management Training and Development Institute

Dates: August 21-September 2, 1994
Summer 1995; Summer 1996

Duration: 2 weeks

Location: Washington, D.C.

Contact:

Mr. Robert C. Morris, Ph.D.
MTDI; P.O. Box 23975
Washington, DC 20026 USA

Phone: (202) 646-7910

Fax: (202) 646-7911

Fees: \$1850 (Course fees and materials)

Participants: Policy makers, program developers, and others responsible for developing environmental education programs.

Course objectives: To develop skills for constructing delivery systems for environmental messages and strategies.

Course overview: Participants are introduced to environmental education efforts at community, national, and international levels. They receive instruction in methods of design, implementation and evaluation of environmental education programs, including communication strategies for effectively reaching target population through formal and non-formal education channels, and use of resources in support of education efforts. Topics are covered through presentations, exercises, group discussions, case analysis and field visits.

Scholarship funds: None available through the course sponsor.

ED 86

PRINCIPLES OF ENVIRONMENTAL ENFORCEMENT

U.S. Environmental Protection Agency

Dates: Offered on demand

Duration: 3 days

Location: Negotiable

Contact:

Ms. Ann DeLong
USEPA
401 M Street, SW LE-133
Washington, DC 20460 USA

Phone: (202) 260-8870

Fax: (202) 260-7553

Fees: No tuition

Participants: Policy-makers from government and representatives from academia, non-governmental organizations, and industry concerned with compliance with environmental requirements.

Course objectives: To develop a training course on designing and implementing environmental enforcement programs.

Course overview: This "train-the-trainer" course provides a framework for designing effective compliance strategies and enforcement programs. It defines the terms "enforcement" and "compliance," introduces basic principles and explores approaches for implementing the framework. The first day consists of exercises to introduce basic principles. On the second day, participants apply concepts introduced on the first day to a case study and design their own enforcement program. The third day is a negotiation role-play addressing violations of requirements.

Scholarship funds: None available through the course provider.

ED 87

**SOLVING NATURAL RESOURCE PROBLEMS
THROUGH SOCIAL MARKETING AND
COMMUNICATION STRATEGIES**

North American Association for Environmental Education

Dates: To be determined

Duration: 3 weeks

Location: Front Royal, Virginia

Contact:

Ms. Andrea Shotkin

NAAEE

1255 23rd Street, NW, Suite 400
Washington, DC 20037 USA

Phone: (202) 467-8753

Fax: (202) 862-1947

Fees: \$2,100

Participants: Persons who administer or conduct education programs in natural resource conservation or environmental or sustainable development for governmental or resource management agencies, ministries of education, zoos, schools, and universities.

Course objectives: To be better able to implement resource-based communication and social marketing strategies and teach courses in applied environmental education.

Course overview: The course emphasizes hands-on experience, relevant examples and in-depth analysis of the means by which education and communication strategies are effective natural resource management tools with the public and decision-makers.

Scholarship funds: Limited numbers of partial scholarships are available through the course provider.

NETCSC - TRAINING INFORMATION SERVICES TO ENVIRONMENTAL TRAINERS

The National Environmental Training Center for Small Communities (NETCSC) works with other training institutions to provide environmental training services to small communities. These services are designed to help environmental professionals maintain a clean environment in the areas of drinking water, wastewater, and solid waste.

NETCSC collects information about environmental training activities (such as courses, workshops, and certification programs) for entry into the Training Activities Database. Environmental professionals may request a search for training activities by keyword, date, place, content, trainers, audience, subject, training organization or any of the database fields. NETCSC staff provides clients with paper reports of the searches. There is a fee for photocopies of information sent and for shipping and handling charges.

NETCSC also:

maintains a Training Resources Database;
publishes *E-Train* (a quarterly training newsletter); and
develops and delivers training curricula for environmental trainers.

Contact: National Environmental Training Center for Small Communities, West Virginia University, P.O. Box 6064, Morgantown, WV 26506-6064 Telephone: (304) 293-4191, Fax: (304) 293-3161.

Environmental and Industrial Health

EH 88

Dates: Offered on demand

Duration: 1 week

Location: Pittsburgh, Pennsylvania

Contact:

Mr. Harilal L. Patel
Unipack, Inc.
3253A Old Frankstown Road
Pittsburgh, PA 15239 USA

Phone: (412) 733-7381

Fax: (412) 327-6265

Fees: \$500

ENVIRONMENTAL HEALTH

Unipack, Ltd.

Participants: Government air pollution control officials, industry officials, health and environmental educators, university professors, and graduate students.

Course objectives: To survey air, water, radiological, and hazardous pollutants for improving health and preventing disease.

Course overview: This course covers the selection of monitoring locations and equipment; its installation, operation, maintenance, and repair; data acquisition, reduction, validation, and quality assurance; and report preparation.

Scholarship funds: May be available through USEPA or USAID.

EH 89

Dates: March 1994

Duration: 5 days

Location: Boston, Massachusetts

Contact:

Ms. Kathryn Lord
Office of Continuing Education
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115 USA

Phone: (617) 432-1171

Fax: (617) 432-1969

Fees: \$1,050 (approximately)

FUNDAMENTALS OF INDUSTRIAL HYGIENE

Harvard School of Public Health

Participants: Professional personnel responsible for managing programs related to occupational health and safety.

Course objectives: To learn the fundamentals of industrial hygiene practice.

Course overview: This course focuses on developing the ability to recognize health hazards in occupational settings, and to evaluate the physiological and toxicological effects of exposures to industrial hazards. Lectures address physical and chemical behavior of aerosols and gas mixtures, principles used to evaluate industrial exhaust ventilation systems, heat and noise stresses, the effects of ionizing and non-ionizing radiation, personal protective equipment, the sources of physical stress in the factory and the office, and occupational respiratory concerns.

Scholarship funds: Discounts are offered by the course provider on a case-by-case basis on request.

EH 90

Dates: November 1994

Duration: 1 day

Location: Madison, Wisconsin

Contact:

Mr. Michael Waxman
Department of Engineering
Professionals Development
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706 USA

Phone: (608) 262-0493

Fax: (608) 263-3160

Fees: \$325 (course fee, materials and some meals)

EH 91

Dates: December 1993; June, November/December 1994

Duration: 1 week

Location: Atlanta, Georgia

Contact:

Mr. D.R. Stone, President
D.R. Stone and Associates, Inc.
5407 Sky Valley Drive
Chattanooga, TN 37343 USA

Phone: (615) 875-4601

Fax: (615) 697-2426

Fees: \$995

HEALTH AND SAFETY TRAINING REFRESHER COURSE

University of Wisconsin-Madison

Participants: Degreed professionals, managers of hazardous waste sites.

Course objectives: To receive supplemental training to better address current problems, and to learn new technologies and equipment use.

Course overview: Course lectures address new air monitoring and safety equipment, such as emergency eyewash and showers, limitations of equipment, and common site problems. Participants are encouraged to present their problems for consideration in the course. Demonstrations of equipment will be followed by some hands-on use by participants.

Scholarship funds: None available through the course provider.

INDUSTRIAL HYGIENE

D.R. Stone and Associates, Inc.

Participants: Technical personnel, managers, engineers, and first line supervisors involved with either chemically or radiologically hazardous materials.

Course objectives: To learn to safely assess, evaluate, and work with hazardous materials.

Course overview: The course is designed to provide technical skills required to develop site safety plans, assess hazards (chemical and radiological) and to properly work in environments containing these materials. A large component of each course is devoted to the regulatory requirements pertinent to real situations. Topics addressed include industrial hazards, light, noise, dust, and chemicals in the workplace. Participants visit a simulated site to apply skills, dress out in safety suits, and practice using instruments.

Scholarship funds: Possibly available through the course provider.

Environmental and Industrial Health

EH 92

Dates: Offered on demand

Duration: 1 day to 1 week

Location: Negotiable

Contact:

Ms. Marla Shoop Johnson, CET
EnviroSearch International
844 South 200 East
Salt Lake City, UT 84111 USA

Phone: (801) 532-1717

Fax: (801) 532-1777

Fees: \$150 per day or \$750 per week

EH 93

Dates: August 1994; March 1994; 1995

Duration: 5 days

Location: Boston, Massachusetts

Contact:

Ms. Kathryn Lord
Office of Continuing Education
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115 USA

Phone: (617) 432-1171

Fax: (617) 432-1969

Fees: \$1,200 (approximately)

OCCUPATIONAL HEALTH AND SAFETY

EnviroSearch International

Participants: Industrial facility or petrochemical managers.

Course objectives: To learn all aspects of 29 CFR 1910 Occupational Safety and Health Administration regulations for general worker safety and awareness.

Course overview: This course uses lecture and scenarios specific to industry to teach equipment design appropriate for different scenarios, and to develop skills for selecting remediation technology. Examples of scenarios include tank and pipe ruptures, acid bath spills, and paint/solvent spills. The course also provides management training to assist in additional training, and gives an overview of regulations.

Scholarship funds: None available through the course provider.

OCCUPATIONAL AND ENVIRONMENTAL RADIATION PROTECTION

Harvard School of Public Health

Participants: Industrial hygienists, health physicists, medical and educational researchers, occupational health professionals, nuclear safety specialists, federal and state regulators, and industrial managers.

Course objectives: To learn the fundamentals for managing hazards and administering programs in radiation safety.

Course overview: The course addresses fundamental issues in occupational and environmental radiation protection. Session topics include: ionizing radiation; biological effects; external and internal radiation protection; radiation monitoring and instrumentation; radiation protection standards and dosimetry; Federal inspection and regulatory guides; indoor radon exposures; and management, transport and disposal of radioactive materials.

Scholarship funds: Discounts are offered by the course provider on a case-by-case basis on request.

EH 94

Dates: June, 1994

Duration: 5 days

Location: Boston, Massachusetts

Contact:

Ms. Kathryn Lord
Office of Continuing Education
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115 USA

Phone: (617) 432-1171

Fax: (617) 432-1969

Fees: \$1,075 (approximately)

PLANNING FOR NUCLEAR EMERGENCIES

Harvard School of Public Health

Participants: Emergency management personnel from nuclear facilities, military and industrial installations, regulatory agencies, law enforcement offices, civil defense agencies, and disaster control offices.

Course objectives: To be better able to immediately implement and execute a comprehensive emergency plan for controlling on-site and off-site radiation exposures in case of a nuclear accident.

Course overview: This course covers major aspects of nuclear emergency planning, including scenario development, accident source terms and dose estimates, notification and emergency response systems, protective action guides (PAGs), the roles of state and federal agencies, meeting public health needs, and working with public information organizations and the media.

Scholarship funds: Discounts are offered by the course provider on a case-by-case basis on request.

EH 95

Dates: September 1994 (to be determined)

Duration: 4 days

Location: Boston, Massachusetts

Contact:

Ms. Kathryn Lord
Office of Continuing Education
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115 USA

Phone: (617) 432-1171

Fax: (617) 432-1969

Fees: \$1,000 (approximately)

RISK ANALYSIS IN OCCUPATIONAL AND ENVIRONMENTAL HEALTH

Harvard School of Public Health

Participants: Industrial, public health, and regulatory and occupational health professionals.

Course objectives: To be better able to meet the challenges of occupational and environmental health hazards by understanding basic principles and methodology for conducting risk assessments and comparing the relative risks of individual toxic agents.

Course overview: The course provides fundamental knowledge of public health concerns and risk analysis, and addresses: the epidemiology of environmental and occupational hazards; the development of data through toxicological studies; use of animal and other data as predictors of human risk; benefit/cost analysis in the regulation of toxic chemicals; specific and generic approaches to risk assessment; sampling indoor and outdoor environments; and risk analysis within the context of the law.

Scholarship funds: Discounts are offered by the course provider on a case-by-case basis on request.

EH 96

TOXICOLOGY FOR NON-TOXICOLOGISTS
Government Institutes, Inc.

Dates: April 1994

Duration: 2 days

Location: Arlington, VA

Contact:

Mr. Walter Eggers
Government Institutes, Inc.
4 Research Place, Suite 200
Rockville, MD 20850 USA

Phone: (301) 921-2345

Fax: (301) 921-0373

Fees: \$499

Participants: Business owners, engineers, environmental managers, attorneys, association members, and other professionals with environmental concerns.

Course objectives: To acquire an expanded and useful toxicology vocabulary and a new awareness of the use of toxicology considerations in making informed management decisions.

Course overview: The course provides necessary information for understanding toxicology and how its concepts are applied to industrial safety and health protection, and to environmental compliance program development. This information is valuable in dealing with complex risk assessment and risk management strategies.

Scholarship funds: None available through the course provider.

EN 97

ADVANCED PASSIVE SOLAR DESIGN
Solar Energy International

Dates: Offered on demand

Duration: 2 weeks

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

Participants: Professionals who understand solar principles, technicians, engineers, end users, trainers, and others seeking practical hands-on skills with state-of-the-art products and services.

Course objectives: To learn state-of-the-art design tools and products, and the design and installation of renewable systems for small scale village power application in less-developed countries.

Course overview: Course lectures and case studies focus on successful products and applications. Participants use tools of the trade and meet recognized experts in the renewable/energy efficiency field. Topics covered include: super-insulated building envelope design; high performance glazings; daylighting; building science; progressive building techniques; health issues; and mechanical systems.

Scholarship funds: The course provider offers discounts for courses lasting ten weeks or longer.

EN 98

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

**ADVANCED HEATING/VENTILATION/AIR
CONDITIONING CONTROLS**

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators. This course is intended for those already familiar with pneumatic controls.

Course objectives: To be better able to solve control problems.

Course overview: The course reviews conventional control systems for single zone, multi-zone and central fan reheat systems. Systems covered will be redesigned to reduce energy use and provide better temperature control. Discussion covers the integration of stand alone electronic controllers into existing pneumatic systems to improve accuracy of control. Participants are encouraged to bring a schematic of their HVAC system and a control problem they wish to resolve.

Scholarship funds: None available through the course provider.

EN 99

Dates: Offered on demand

Duration: 2 weeks

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

**ADVANCED PHOTOVOLTAIC FOR REMOTE
HOMES**

Solar Energy International

Participants: Technicians, engineers, end users, trainers, and others seeking practical hands-on skills with state-of-the-art products and services.

Course objectives: To learn up-to-date techniques, products, principles, components, systems, systems design, equipment specification and installation practices.

Course overview: This course focuses on successful up-to-date products and applications. Participants use tools of the trade and meet recognized experts in the renewable/energy efficiency field. Topics covered include: AC/DCPV/Hybrids; hardware selection; code compliance; wiring; and retrofitting appliances. The course also includes case studies, laboratory exercises, and tours.

Scholarship funds: Information available from the course provider upon request.

Energy Efficiency/Renewable Energy

EN 100

Dates: Offered on demand

Duration: 3 days

Location: Watervliet, New York

Contact:

Ms. Pamela Schemenaur
Lighting Research Center
Rensselaer Polytechnic Institute
Troy, NY 12180-3590 USA

Phone: (518) 276-8717

Fax: (518) 276-4835

Fees: To be determined

BASICS OF LIGHTING

Lighting Research Center

Participants: Utility field and customer contact personnel, electrical engineers, electrical contractors, and architects.

Course objectives:

- To recognize lighting techniques and become more familiar with lighting terminology;
- To understand incentives and the reasons for them;
- To appreciate the quality of lighting in the workplace.

Course overview: This workshop consists of lectures explaining issues of fluorescent lighting such as energy-efficient ballasts, compact fluorescent lights, disposal of ballasts, and luminaire performance. Lectures are followed by demonstrations of color boxes, CFLs, and fixture construction. Participants use information from lectures and demonstrations in application exercises and a final team task.

Scholarship funds: None available through the course provider.

EN 101

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

BOILER SYSTEM FUNDAMENTALS

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To become familiar with boiler operations.

Course overview: Course lectures cover types of boilers, components, combustion theory, steam tables, heat transfer, heat recovery options, safety, preventative maintenance, and operator responsibilities.

Scholarship funds: None available through the course provider.

EN 102

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

EN 103

Dates: Offered on demand

Duration: 2 to 12 weeks (flexible)

Location:

Grand Forks, North Dakota

Contact:

Mr. Michael Mann, Project Manager
Energy and Environmental Research
Center
Box 9018
Grand Forks, ND 58202 USA

Phone: (701) 777-5193

Fax: (701) 777-5274

Fees: Depend on duration and content

BOILER OPERATION AND CONTROLS

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To optimize boiler performance and energy efficiency for boiler operators.

Course overview: Course lectures address types of boilers, controls, key elements of good boiler operation, fireside and waterside care, feedwater treatment and equipment, flame safeguard, safety practices, measuring boiler efficiency, oil pumping systems, pressure/temperature interaction, and control strategies for instantaneous load demands. Participants analyze combustion for a large boiler unit and may tour a boiler plant.

Scholarship funds: None available through the course provider.

CLEAN COAL TECHNOLOGIES

University of North Dakota-Energy and Environmental Research Center

Participants: Technical, managerial, and policy makers from the energy production, mining, and environmental control sectors.

Course objectives: To understand and be able to evaluate different clean coal technologies and select the most appropriate alternative.

Course overview: Each course is tailored to meet client needs. The course typically includes classroom training, computer training, and field trips to utility scale plants. A recent course had modules on economic and financial analysis, clean coal technologies, power plant operational improvements, and demand side management. Clean coal options evaluated include gasification, atmospheric and pressurized fluidized bed combustion, slagging combustion, and a wide variety of SO₂, NO_x and particulate cleanup devices/methods. This course concludes with a case study allowing participants to apply new knowledge to a case relative to their country's needs.

Scholarship funds: May be available through the local USAID mission.

Energy Efficiency/Renewable Energy

EN 104

Dates: To be determined

Duration: 9 weeks

Location: To be determined

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

CLEAN COAL TECHNOLOGIES

U.S. Agency for International Development/Institute of International Education

Participants: Engineers and scientists responsible for the identification, selection and/or operation of coal utilization technologies (including fluidized-bed combustion, coal beneficiation, gasification and liquification).

Course objectives: To be better able to ensure energy-efficient and environmentally-acceptable energy production.

Course overview: This course provides participants with the fundamentals of clean coal technologies and information needed to evaluate technologies currently available to determine the one that best fits their particular applications.

Scholarship funds: May be available through the local USAID mission.

EN 105

Dates: Offered on demand

Duration: 2 to 12 weeks (flexible)

Location:

Grand Forks, North Dakota

Contact:

Mr. Michael Mann, Project Manager
Energy and Environmental Research
Center
Box 9018
Grand Forks, ND 58202 USA

Phone: (701) 777-5193

Fax: (701) 777-5274

Fees: Depend on duration and content

COAL QUALITY IMPACTS ON BOILER PERFORMANCE

University of North Dakota-Energy and Environmental Research Center

Participants: Technical, managerial, and policy makers from the energy production, mining, and environmental control sectors.

Course objectives: To be able to evaluate different fuels and determine their impact on the operation of boilers.

Course overview: Each course is tailored to meet the needs of the client. The course typically includes classroom training, computer training, and field trips to utility scale plants. The technical content details each major system in a utility power plant, including coal handling, mills and pulverizers, boilers, furnaces, mechanical dust collectors, SO₂ and NO_x cleanup devices, electrostatic precipitators and baghouses. A recent course had modules on economic and financial analysis, power plant operational improvements, and project evaluation and management. A visit to an operational power plant demonstrates coal quality impacts at the utility scale.

Scholarship funds: May be available through the local USAID mission.

EN 106

COAL GEOLOGY: EXPLORATION, RESOURCES AND THE ENVIRONMENT

U.S. Department of the Interior, Geological Survey/Pennsylvania State University

Dates: To be determined

Duration: 6 weeks

Location:
University Park, Pennsylvania

Contact:
Ms. Olga Marinenko
Training Section
Office of International Geology
U.S. Geological Survey
917 National Center
Reston, VA 22092 USA

Phone: (703) 648-6064

Fax: (703) 648-4227

Fees: \$8,300 (Course fee only)

Participants: Environmental managers, engineers, geologists, planners, and others responsible for making decisions about coal exploitation.

Course objectives:

-To learn how coal forms, where it occurs, how to find it, how to exploit it, and negative/positive aspects of its exploitation;
-To assist in the establishment and/or implementation of an appropriate coal geology program.

Course overview: This course presents a Total Systems Approach to environmental and management aspects of coal. Topics include: peat, coal, coalification, and the geology of coal; coal exploitation and geology of mining; mining technology; coal resources/reserves; coal-bed methane; coal handling, preparation, and utilization; environmental impact of coal mining and utilization; coal data systems; and data handling.

Scholarship funds: None available through the course provider.

EN 107

COAL UTILIZATION TECHNOLOGIES

U.S. Agency for International Development/Institute of International Education

Dates: To be determined

Duration: 9 weeks

Location: To be determined

Contact:
Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

Participants: Mid- to upper-level technical supervisors and managers of utility and industrial plants responsible for utilizing low-rank coal or lignite energy sources.

Course objectives: To be better able to ensure energy-efficient and environmentally-acceptable energy production.

Course overview: This course covers the complete coal cycle, including transportation, handling, combustion, environmental issues and equipment design.

Scholarship funds: May be available through the local USAID mission.

EN 108

DEMAND SIDE MANAGEMENT-ENERGY EFFICIENCY: DEVELOPMENT OF COMPREHENSIVE MANAGEMENT PROGRAMS

U.S. Environmental Training Institute

Dates:
November 29-December 10, 1993

Duration: 2 weeks

Location: Washington, D.C.

Contact:
Ms. Heather Burck
Program Manager
USETI
3000 K Street, NW Suite 690
Washington, DC 20007 USA

Phone: (202) 338-3400
Fax: (202) 333-4782

Fees: \$200 (administrative fee)

Participants: Decision makers from government, non-governmental organizations, and electric utilities responsible for implementing energy-efficiency and conservation programs.

Course objectives: To learn techniques and tools for establishing demand side energy efficiency programs for reducing air pollution and energy consumption through the use of energy-efficient technology.

Course overview: The course uses case studies, discussions, and site visits to describe the systematic process for developing and implementing a demand side management program. These steps involve initial program development and design considerations, planning tools, energy-efficient technologies, and methods for measuring program effectiveness.

Scholarship funds: USETI offers a limited number of scholarships covering transportation, administrative fees and per diem expenses.

EN 109

DEMAND SIDE MANAGEMENT COMMERCIAL PROGRAM PLANNING AND DESIGN

Demand Side Management Training Institute

Dates: To be determined

Duration: 2 days

Location: To be determined

Contact:
Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350
Fax: (215) 667-3346

Fees: To be determined

Participants: Energy utility personnel, consultants, and government personnel who are starting a DSM program, or are updating existing programs.

Course objectives: To learn elements of a sound DSM program such as the tools, resources, techniques, the design of a tracking system, setting financial incentive levels, and up-to-date technology for end use application.

Course overview: This course consists of lecture, discussion, small group exercises, problem-solving sessions, and role plays to teach the concepts and methods associated with DSM programs.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

EN 110

DEMAND SIDE MANAGEMENT RESIDENTIAL PROGRAM PLANNING AND DESIGN

Demand Side Management Training Institute

Dates: To be determined

Duration: 2 days

Location: To be determined

Contact:

Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350

Fax: (215) 667-3346

Fees: To be determined

Participants: Energy utility personnel, consultants, and government personnel who are starting a DSM program, or are updating existing programs.

Course objectives: To learn elements of a sound DSM program such as the tools, resources, techniques, the design of a tracking system, the setting of financial incentive levels, and up-to-date technology for end-use application.

Course overview: This course consists of lecture, discussion, small group exercises, problem-solving sessions, and role plays to teach the concepts and methods associated with DSM programs.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

EN 111

DEMAND SIDE MANAGEMENT PROGRAM IMPLEMENTATION: DSM FOR CONTROLLING TRANSMISSION & DISTRIBUTION COSTS

Demand Side Management Training Institute

Dates: January 17, 1994

Duration: 1 day

Location: Orlando, Florida

Contact:

Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350

Fax: (215) 667-3346

Fees: To be determined

Participants: Utility personnel responsible for implementing new DSM programs or improving the implementation of ongoing DSM programs, program planners, regulatory agency staff, and program evaluators.

Course objectives: To learn the techniques and challenges for using DSM in a targeting way to provide cost-effective and reliable alternatives to capital investment in transmission and distribution systems.

Course overview: Course lectures emphasize economic analysis for planning and evaluation, and technical challenges of program design to match the local situation.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

EN 112

DEMAND SIDE MANAGEMENT: PRINCIPLES AND APPLICATIONS

Demand Side Management Training Institute

Dates: Spring, Fall 1994;
Spring, Fall 1995

Duration: 1 week

Location: Philadelphia,
Pennsylvania, and San Francisco,
California

Contact:
Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350
Fax: (215) 667-3346

Fees: \$2,500 (Course fees and
materials)

Participants: Gas or electric utilities personnel, and staff from
regulatory agencies, and government organizations.

Course objectives: To learn framework, uses and benefits, planning,
and other issues for the introduction or intermediate phases of a
demand-side management program.

Course overview: The course surveys demand side management
and the interrelationship of its various elements. Topics covered
include integrated resource planning, market segmentation and
penetration, and process and impact evaluation. Case studies blend
concept and practice, and address market barriers, free riders, snap-
back effects; and procedures and regulatory issues associated with
integrated resource planning. Participants learn ways to manage the
process, methods and resources required for successful DSM
planning.

Scholarship funds: Discounts for groups from the same
organization may be available through the course provider.

EN 113

**DEMAND SIDE MANAGEMENT INDUSTRIAL
PROGRAM DESIGN AND DELIVERY**

Demand Side Management Training Institute

Dates: To be determined

Duration: 2 days

Location: To be determined

Contact:
Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350
Fax: (215) 667-3346

Fees: To be determined

Participants: Energy utility personnel, consultants, and
government personnel who are starting a DSM program, or are
updating existing programs.

Course objectives: To learn elements of a sound DSM program
such as the tools, resources, techniques, the design of a tracking
system, the setting of financial incentive levels, and up-to-date
technology for end use application.

Course overview: This course consists of lecture, discussion, small
group exercises, problem-solving sessions, and role plays to teach
the concepts and methods associated with DSM programs.

Scholarship funds: Discounts for groups from the same
organization may be available through the course provider.

EN 114

DEMAND SIDE MANAGEMENT PROGRAM IMPLEMENTATION

Demand Side Management Training Institute

Dates: January 16-18, 1994;
April 12-14, 1994

Duration: 3 days

Location: Varies

Contact:

Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350

Fax: (215) 667-3346

Fees: To be determined

Participants: Utility personnel responsible for implementing new DSM programs, improving the implementation of ongoing DSM programs, program planners, regulatory agency staff, and program evaluators.

Course objectives: To understand the decisions necessary to bring a program from concept to delivery.

Course overview: Course lectures, case studies, role plays, and a variety of other methods address topics including: whether or not to contract out work, risks and liabilities of lighting programs, hazardous waste disposal, and designing of forms.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

EN 115

DEMAND SIDE MANAGEMENT

U.S. Agency for International Development/Institute of International Education

Dates: June 7-August 1994

Duration: 8 weeks

Location: Berkeley, California

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

Participants: Mid-level utility and government engineers, planners, and managers involved in energy conservation/efficiency programs.

Course objectives: To be aware of options for capacity-constrained utilities to reduce future costs of meeting end-user needs.

Course overview: This course provides tools for planning, implementation, and evaluation of DSM programs. Participants learn the fundamentals of program planning and implementation, and develop and refine prospective DSM programs for one or more promising markets in their service area. The course provides training in the use of computer models for DSM planning.

Scholarship funds: May be available through the local USAID mission.

EN 116

DEMAND SIDE MANAGEMENT REGULATORY INCENTIVES

Demand Side Management Training Institute

Dates: July 1994

Duration: 2 days

Location: To be determined

Contact:

Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350

Fax: (215) 667-3346

Fees: \$800 (Course fees and materials)

Participants: Utility personnel responsible for implementing new DSM programs or improving the implementation of ongoing DSM programs, program planners, regulatory agency staff, and program evaluators.

Course objectives: To better understand incentives for utilities in demand side management.

Course overview: Course lectures address regulatory policy framework, evolution of regulatory incentives, cost recovery, lost revenue, revenue decoupling, and a comparative analysis of incentive approaches. Course role plays involve a mock regulatory hearing.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

EN 117

DEMAND SIDE MANAGEMENT MONITORING AND TRACKING

Demand Side Management Training Institute

Dates: April 14, 1994

Duration: 1 day

Location: Varies

Contact:

Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350

Fax: (215) 667-3346

Fees: To be determined

Participants: Utility personnel responsible for implementing new DSM programs or improving the implementation of ongoing DSM programs, program planners, regulatory agency staff, and program evaluators.

Course objectives: To be better able to write specifications for monitoring and tracking systems.

Course overview: Course lectures and a variety of other methods address issues including: what should be tracked, trade-offs in tracking decisions, what should be evaluated, and methods for evaluating.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

EN 118

Dates: Spring 1994

Duration: 4 days

Location: To be determined

Contact:

Ms. June Appel, Executive Director
DSM Training Institute
45 East City Line Avenue, Suite 514
Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350

Fax: (215) 667-3346

Fees: To be determined

**DEMAND SIDE MANAGEMENT EVALUATION:
ADVANCED TOPICS**

Demand Side Management Training Institute

Participants: Utility personnel, and regulatory agency staff with some basic knowledge of program evaluation.

Course objectives: To learn advanced techniques for evaluating programs.

Course overview: Possible course topics include sample design, the use of engineering estimates for program evaluation, and combining engineering estimates and statistical methods for evaluation.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

EN 119

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

DIRECT DIGITAL CONTROLS

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To become familiar with control concepts, applications, and energy considerations.

Course overview: This course provides an overview of direct digital controls (DDC) technology and an update and demonstration of equipment. Topics covered include: integrating DDC with an existing control system, computer and hardware requirements, and better ways of operating buildings using the computerized control system. This course focuses on control concepts and logic, applications, field devices, and energy considerations, and includes an on-site tour of the host facility. Participants are encouraged to bring a schematic of their HVAC control system and a control problem they would like to resolve.

Scholarship funds: None available through the course provider.

Energy Efficiency/Renewable Energy

EN 120

Dates: Offered on demand

Duration: 2 to 12 weeks (flexible)

Location:
Grand Forks, North Dakota

Contact:
Mr. Michael Mann, Project Manager
Energy and Environmental Research
Center
Box 9018
Grand Forks, ND 58202 USA

Phone: (701) 777-5193

Fax: (701) 777-5274

Fees: Depend on duration and
content

ELECTRIC UTILITY IMPROVEMENT

*University of North Dakota-Energy and Environmental
Research Center*

Participants: Technical, managerial, and policy makers from the
energy production, mining, and environmental control sectors.

Course objectives: To be able to perform a review of utility plant
operation, and develop technically and economically sound methods
to improve performance.

Course overview: Each course is tailored to meet client needs.
The course typically includes classroom training, hands-on computer
training, and field trips to utility scale plants. Technical content can
vary from fundamentals, design and application for a specific
technology to an overview of a number of technologies. A recent
course had modules on economic and financial analysis, clean coal
technologies, power plant operational improvements, project
evaluation and management, and demand side management. This
course concluded with a case study in comparing different retrofit
and life-extension options to the cost of a new power plant.

Scholarship funds: May be available through the local USAID
mission.

EN 121

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:
Dr. Stephen Bernow
Tellus Institute
11 Arlington Street
Boston, MA 02116-3411 USA

Phone: (617) 226-5400

Fax: (617) 266-8303

Fees: Vary

ELECTRIC SYSTEM INTEGRATED RESOURCE PLANNING

Tellus Institute, Inc.

Participants: Energy planners, policy analysts, electric utility
managers, and energy regulators.

Course objectives: To build understanding and capability in the
evolving paradigm and practice of integrated resource planning.

Course overview: This course introduces regulatory and planning
background and key elements of developing and reviewing an
integrated resource plan. Topics addressed include end-use load
forecasting, avoiding costs, dispatch, production costing and
reliability, energy supply technology costs and characteristics,
demand side management screening, social costing/environmental
externalities, and ratemaking. Case studies and theoretical
presentations include the use of ECO, a Tellus DSM screening
model.

Scholarship funds: May be available through the local USAID
mission.

EN 122

Dates: May 18-21, July 20-23,
September 14-17, 1994

Duration: 4 days

Location: Olympia, Washington

Contact:

Mr. Jeff Clearwater, Instructor
Global Resources Institute
1210 Pearl Street
Eugene, OR 97401 USA

Phone: (503) 345-2204

Fax: (503) 345-2204

Fees: \$400

**ELECTRIC VEHICLES: HANDS-ON TRAINING IN
GAS TO ELECTRIC CONVERSIONS**

Global Resources Institute

Participants: Auto mechanics or trainees, and energy systems students desiring to learn theory and execution of converting gasoline auto to electric power. A minimum of five participants is required.

Course objectives: To understanding theory and gain practical hands-on experience in converting gasoline powered vehicles to electric.

Course overview: This course is a step-by-step training in the design and installation of a conversion package for a Chevy S-10 truck or Geo Metro. Participants actually convert gasoline vehicles to electric using prepared kits. Topics covered include total energy systems design, choice of components, removal of gasoline related components, installation of electric components, instrumentation, and testing.

Scholarship funds: May be available through the course provider.

EN 123

Dates: To be determined

Duration: 24 weeks

Location: To be determined

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

ENERGY PLANNING AND POLICY

*U.S. Agency for International Development/Institute of
International Education*

Participants: Mid- to senior-level energy managers and planners with five to fifteen years of professional experience.

Course objectives: To be better prepared to solve national and institutional energy planning problems in efficient and cost-effective ways.

Course overview: This course teaches participants to analyze various energy systems, anticipate future energy needs, and identify and evaluate options for developing and using national resources to meet national and institutional needs.

Scholarship funds: May be available through the local USAID mission.

Energy Efficiency/Renewable Energy

EN 124

Dates: To be determined

Duration: 2 days

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

ENERGY AUDITING

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To better understand how energy is used in buildings and to identify and prioritize conservation opportunities.

Course overview: This presentation covers the process and methods of performing organized and comprehensive energy audits of commercial and institutional buildings. Included is a short tour of a facility to demonstrate audit techniques. During the first day, participants learn to identify and prioritize conservation opportunities. The second day of the course covers the development of energy conservation measures based on information from energy audit methods of calculating costs, savings and paybacks of conservation recommendations. Included are studies of installed measures, key operation and maintenance procedures, and preventative maintenance planning.

Scholarship funds: None available through the course provider.

EN 125

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

ENERGY ACCOUNTING

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To gain experience collecting, organizing, and analyzing utility data for the purpose of evaluating and prioritizing conservation potential for your facilities.

Course overview: This course includes exercises on calculating energy use indices, graphing energy consumption, verifying savings, and correcting for differences in weather. Participants are asked to bring a calculator, twelve months of energy data and square footage calculation for their facility to use in course exercises.

Scholarship funds: None available through the course provider.

EN 126

Dates: To be determined

Duration: 10 weeks

Location: To be determined

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

ENERGY EFFICIENCY IN BUILDINGS

U.S. Agency for International Development/Institute of International Education

Participants: Energy conservation researchers, practitioners, engineers, policy makers, and planners from energy efficiency centers, utility companies, architectural institutions and city planning and housing departments.

Course objectives: To be able to implement energy efficiency projects in buildings.

Course overview: This course provides participants with the basic technologies for implementing energy efficiency building projects.

Scholarship funds: May be available through the local USAID mission.

EN 127

Dates: Offered on demand

Duration: 2 to 12 weeks (flexible)

Location: Grand Forks, North Dakota

Contact:

Mr. Michael Mann, Project Manager
Energy and Environmental Research Center
Box 9018
Grand Forks, ND 58202 USA

Phone: (701) 777-5193

Fax: (701) 777-5274

Fees: Depend on duration and content

FLUIDIZED BED COMBUSTION

University of North Dakota-Energy and Environmental Research Center

Participants: Technical, managerial, and policy makers from the energy production, mining, and environmental control sectors.

Course objectives: To be able to evaluate different FBC designs and determine which one best fits particular energy demands.

Course overview: Each course is tailored to meet the needs of the client. The course typically includes classroom training, hands-on computer training, and field trips to utility scale plants. The technical content can vary from fundamentals, design and application for a specific technology to an overview of a number of technologies. A recent course included modules on economic and financial analysis, power plant operational improvements, and project evaluation and management. Participants have the opportunity to obtain hands-on training with EERC 1-MW EFBC and to visit an 80 megawatt utility FBC plant.

Scholarship funds: May be available through the local USAID mission.

Energy Efficiency/Renewable Energy

EN 128

GAS SYSTEM INTEGRATED RESOURCE PLANNING

Tellus Institute, Inc.

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

Dr. Stephen Bernow
Tellus Institute
11 Arlington Street
Boston, MA 02116-3411 USA

Phone: (617) 226-5400

Fax: (617) 266-8303

Fees: Vary

Participants: Energy planners, policy analysts, electric utility managers, energy regulators.

Course objectives: To build understanding and capability in the evolving paradigm and practice of integrated resource planning.

Course overview: This course introduces the regulatory and planning background and explains key elements of developing and reviewing an integrated resource plan. Topics addressed include end-use load forecasting, avoiding costs, dispatch, production costing and reliability, energy supply technology costs and characteristics, demand side management screening, social costing/environmental externalities, and ratemaking. Case studies and theoretical presentations include the use of GASPLAN, a Tellus least cost gas acquisition model.

Scholarship funds: May be available through the local USAID mission.

EN 129

HEAT PUMPS: DIAGNOSING SYSTEM FAILURE

Washington State Energy Office-Energy Extension Service

Dates: 1) November 18, 1993;
2) December 7, 1993

Duration: 1 day

Location: 1) Wenatchee,
Washington
2) Tacoma, Washington

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

Participants: Commercial and institutional building operators.

Course objectives: To better understand heat pump systems and gain practical advice on eliminating money wasting problems to make informed decisions on replacing heat pumps with high efficiency equipment and controls.

Course overview: The course addresses common problems and methods to reduce the possibility of heat pump breakdowns; optimize performance through improved maintenance; reduce utility and repair costs; and maintain or improve building comfort. Lectures cover heat pump theory, performance, energy use considerations, types of systems, components, controls, optimizing performance through improved maintenance, selling equipment upgrades to management, and troubleshooting of small packaged heat pumps.

Scholarship funds: None available through the course provider.

EN 130

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

**HEATING/ VENTILATION/ AIR CONDITIONING
FUNDAMENTALS**

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To examine basic types and principles of heating/ventilation/air conditioning (HVAC) system controls to possibly reduce energy consumption.

Course overview: This course covers control concepts and functions using pneumatic controls as a basis for discussion, and the importance of controls for reliable HVAC systems operation and energy savings. The basic principles and terminology of heating/ventilation/air conditioning system types, classification, components, and controls, how each system uses energy and various energy-saving opportunities are also covered. A facility tour may be included.

Scholarship funds: None available through the course provider.

EN 131

Dates: Offered on demand

Duration: 1 week

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

HYDROGEN ENERGY

Solar Energy International

Participants: Technicians, engineers, end users, trainers, and others seeking practical hands-on skills with state-of-the-art products and services.

Course objectives: To learn how hydrogen can be used in energy applications.

Course overview: The course covers topics including: fundamental principles, safety, a historical overview, electrolyzer theory and operation, storage, available products, fuel cells, and future perspectives. Participants gain hands on experience generating and using hydrogen.

Scholarship funds: The course provider offers discounts for courses lasting ten weeks or longer.

EN 132

INTEGRATED ENERGY AND ENVIRONMENTAL PLANNING

Tellus Institute, Inc.

Dates: Offered on demand

Duration: 4-5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Mr. Michael Lazarus

Tellus Institute

11 Arlington Street

Boston, MA 02116-3411 USA

Phone: (617) 266-5400

Fax: (617) 266-8303

Fees: Vary

Participants: Energy planners, policy analysts, and managers of electric utilities.

Course objectives: To better face the challenge of energy planning to minimize social costs and ensure environmental protection.

Course overview: The course introduces LEAP, a computerized, user-friendly system that facilitates least-cost, integrated planning, and aids in assessing long-term energy and environmental options at all spatial scales. Concepts relate to integrated, least-cost planning and data needs for LEAP analyses. Sample cases are utilized to demonstrate a wide range of policy and planning options. Participants need access to IBM-compatible 286 computers (386 preferred) with a minimum of 10 MB hard disk space and 1 MB memory. Ideally there will be at least one computer for each two participants.

Scholarship funds: May be available through the local USAID mission.

EN 133

INTEGRATED RESOURCE PLANNING FOR GAS UTILITIES

Demand Side Management Training Institute

Dates: To be determined

Duration: 2 days

Location: To be determined

Contact:

Ms. June Appel, Executive Director

DSM Training Institute

45 East City Line Avenue, Suite 514

Bala Cynwyd, PA 19004 USA

Phone: (215) 667-3350

Fax: (215) 667-3346

Fees: \$600 (estimated)

Participants: Energy utility personnel, consultants, and government personnel who are starting a DSM program, or are updating existing programs.

Course objectives: To understand how integrated resource planning applies to gas utilities and to be better able to participate in the integrated resource planning process.

Course overview: Course lectures and case studies address the basic issues of integrated resource planning, including gas avoided cost, and cost-benefit analysis.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

EN 134

Dates: March 15-May 15, 1994

Duration: 8 weeks

Location: Berkeley, California

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

INTEGRATED RESOURCE PLANNING

U.S. Agency for International Development/Institute of International Education

Participants: Analysts involved in utility resource planning.

Course objectives: To learn how to evaluate the techno-economic benefits of implementing various DSM programs and to integrate such programs into overall resource planning.

Course overview: In this course, participants are trained in the use of computer models for integrated resource planning. Topics covered include the principles and practice of integrated resource planning for electric utilities.

Scholarship funds: May be available through the local USAID mission.

EN 135

Dates: Offered on demand

Duration: 2 to 12 weeks (flexible)

Location:

Grand Forks, North Dakota

Contact:

Mr. Michael Mann, Project Manager
Energy and Environmental Research
Center
Box 9018
Grand Forks, ND 58202 USA

Phone: (701) 777-5193

Fax: (701) 777-5274

Fees: Depend on duration and content

LEAST COST UTILIZATION OF LOW-RANK COALS

University of North Dakota-Energy and Environmental Research Center

Participants: Technical, managerial, and policy makers from the energy production, mining, and environmental control sectors.

Course objectives:

-To learn how to best locate, exploit, and utilize energy resources in order to serve interests of a participant's country;
-To be able to evaluate different energy options and select the best option for a company or country.

Course overview: Each course is tailored to meet the needs of the client. The course includes classroom training, hands-on computer training, and field trips to utility scale plants. A recent course had modules on economic and financial analysis, clean coal technologies, power plant operational improvements, project evaluation and management, and demand side management. This course concludes with a case study allowing participants to utilize their newly acquired knowledge in a case relative to their own country's needs.

Scholarship funds: May be available through local the USAID mission.

Energy Efficiency/Renewable Energy

EN 136

Dates: Offered on demand

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

LIGHTING

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To understand the importance of energy efficiency and its relation to environmental quality.

Course overview: This course provides an overview of major lighting sources such as incandescent, fluorescent, and high-intensity discharge. Lectures address issues such as lamp characteristics, lighting quality, energy efficiency, retrofit options, and principles of economic analysis, with emphasis on hands-on experience in determining lighting needs, evaluations and calculations, basic design strategies, and indoor applications. Participants are updated on newest lamps, ballasts, and fixtures technology.

Scholarship funds: None available through the course provider.

EN 137

Dates: Offered on demand

Duration: 1 week

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

MICRO-HYDRO ELECTRIC SYSTEMS

Solar Energy International

Participants: Technicians, engineers, end users, trainers; others seeking practical hands-on skills with state-of-the-art products and services.

Course objectives: To learn about residential to village scale water power systems.

Course overview: The course covers topics including: a comprehensive overview of AC/DC systems up to 100 KW; design and sizing; commercial products and suppliers; and site installation procedures.

Scholarship funds: The course provider offers discounts for courses lasting ten weeks or longer.

EN 138

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

OUTDOOR LIGHTING

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To become familiar with different exterior sources, and better evaluate lighting and controls for retrofit recommendations.

Course overview: This course covers lighting levels, sources, fixtures, controls for state-of-the-art energy-efficient outdoor lighting, equipment update, costs, and selection criteria for various applications. Additional topics include lighting for safety and security, building and area lighting options, and landscape lighting. The course may include a tour of a lighting facility.

Scholarship funds: None available through the course provider.

EN 139

Dates: 3 to 4 times per year

Duration: 3 days

Location: Cape Canaveral, Florida

Contact:

Ms. Joann Stirling
Florida Solar Energy Center
300 State Road 401
Cape Canaveral, FL 32920 USA

Phone: (407) 783-0300

Fax: (407) 783-2751

Fees: \$300

PHOTOVOLTAIC SYSTEM DESIGN

Florida Solar Energy Center

Participants: Installers, operators, maintenance and monitoring personnel, government officials and those involved in selecting and procuring photovoltaic systems.

Course objectives: To develop ability to design and size stand-alone systems.

Course overview: Topics covered include solar energy and photovoltaic fundamentals, photovoltaic applications and effects, cell manufacturing processes, current voltage characteristics of modules, batteries, charge controllers, inverters, balance of system components, systems sizing and design, electrical design, and mechanical and structural design.

Scholarship funds: None available through the course provider.

Energy Efficiency/Renewable Energy

EN 140

Dates: Offered on demand

Duration: 2 weeks

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

PHOTOVOLTAIC DESIGN AND INSTALLATION

Solar Energy International

Participants: Technicians, engineers, end users, trainers, and others who will use Photo Voltaic Cells or who are seeking employment in the solar industry.

Course objectives: To learn to design and install renewable systems for small scale village power application in less-developed countries, and be introduced to up-to-date products and applications.

Course overview: Course lectures and case studies focus on successful products and applications. Participants use tools of the trade and meet recognized experts in the renewable/energy efficiency field. Topics and case studies cover: fundamentals of practical design/sizing; typical applications; hardware selection; safety; and field installation.

Scholarship funds: The course provider offers discounts for courses lasting ten weeks or longer.

EN 141

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

PNEUMATIC CONTROL SYSTEMS

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To learn basic principles of control theory, applications, and energy use.

Course overview: This course surveys pneumatic equipment and control devices, calibration, maintenance, troubleshooting systems, control concepts, applications, and energy considerations, direct digital control (DDC) technology overview, equipment update related to integrating DDC with an existing pneumatic system, and some of the associated concerns. Emphasis is on hands-on experience with laboratory or on-site work.

Scholarship funds: None available through the course provider.

EN 142

Dates: Offered on demand

Duration: 1 day

Location: California

Contact:

Mr. Alan N. Scarsella
Director of International Business
Development
Wahlco Environmental Systems, Inc.
3600 West Segerstrom Avenue
Santa Ana, CA 92704 USA
Attn: International Business

Phone: (714) 979-7300

Fax: (714) 979-0114

Fees: To be determined

POWER PLANT EFFICIENCIES AND POLLUTION AVOIDANCE

Wahlco Environmental Systems, Inc.

Participants: Energy ministers, electric utility executives, power plant managers and chief engineers.

Course objectives: To understand power plant efficiencies possible from using Exergetic Systems products to refine control of operations, and the economic and environmental benefits.

Course overview: Course lectures explain the function and value of high tech systems developed by Wahlco's subsidiary Exergetic Systems, Inc., which are proven to achieve fuel savings of at least 3%, even when used in well run power plants. Demonstrations cover the process, equipment and software used by the system to achieve unusual refinements in control of plant operations. Discussions cover emissions control technology; fuel use rate measurements made possible by Exergetics Systems instrumentation; and economics of fuel savings and pollution avoidance. Site visits to a plant where Exergetic Systems are installed may be included.

Scholarship funds: None available through the course provider.

EN 143

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

PUMPS AND MOTORS

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To examine in detail pumps and motors technology.

Course overview: This course provides an overview of various types of pumps and motors with emphasis on proper selection and maintenance for energy efficiency. Participants discuss energy-efficient motors, variable speed drives and controllers, pump and motor testing, impeller and replacement motor sizing, troubleshooting, and maintenance. Portions of the course are conducted on site in mechanical rooms of commercial buildings.

Scholarship funds: None available through the course sponsor.

Energy Efficiency/Renewable Energy

EN 144

REFINERY ENERGY CONSERVATION

U.S. Agency for International Development/Institute of International Education

Dates: To be determined

Participants: Refinery engineers involved in unit contract, facility design, site energy coordination, and utility or off-site engineering.

Duration: 11 weeks

Location: To be determined

Course objectives: To be better able to conserve energy in petroleum refineries.

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Course overview: This course provides comprehensive, hands-on training in all techniques effective in reducing energy consumption and improving operational efficiency of petroleum refineries.

Phone: (202) 682-6560

Scholarship funds: May be available through the local USAID mission.

Fax: (202) 682-6576

Fees: To be determined

EN 145

SAVING ENERGY WITH VARIABLE SPEED DRIVES

Washington State Energy Office-Energy Extension Service

Dates: December 2, 1993;
December 9, 1993; 1994; 1995

Participants: Commercial and institutional building operators.

Duration: 1 day

Course objectives: To examine in detail variable speed motor technology.

Location: Olympia, Washington;
Richland, Washington

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Course overview: The course surveys how motors operate, various types of adjustable speed drives, and how motors respond to electronic control systems. The curriculum includes practical exercises evaluating nameplate data, estimating motor performance, and identifying energy saving opportunities in pump and fan systems. Included is a demonstration of MotorMaster, a software program that helps identify efficient and cost-effective motor replacements for specific applications.

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

Scholarship funds: None available through the course provider.

EN 146

Dates: To be determined

Duration: 6 weeks

Location: Fort Collins, Colorado

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

SOLARELECTRIC/PHOTOVOLTAIC TECHNOLOGY
U.S. Agency for International Development/Institute of International Education

Participants: Individuals with technical background who are responsible for implementing activities involving solar electricity.

Course objectives: To be able to size, design, install and operate a photovoltaic system, and set up business dealing with the photovoltaic industry.

Course overview: This course provides comprehensive hands-on training in all aspects of designing and utilizing photovoltaic (PV) powered systems, as well as the technical, economic, and practical information necessary to design a PV-based commercial enterprise.

Scholarship funds: May be available through the local USAID mission.

EN 147

Dates: Offered on demand

Duration: 1 week

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

SOLAR WATER PUMPING

Solar Energy International

Participants: Individuals with experience in PV system design, technicians, engineers, end users, trainers, and other seeking practical hands-on skills with state-of-the-art products and services.

Course objectives: To learn about up-to-date products, and to design and install renewable systems for small scale village power application in less-developed countries.

Course overview: The course uses case studies to focus on successful products and applications. Participants use tools of the trade and meet recognized experts in the renewable/energy efficiency field. Topics and working demonstrations cover: solar domestic water; drip irrigation; and stock watering.

Scholarship funds: The course provider offers discounts for courses lasting ten weeks or longer.

Energy Efficiency/Renewable Energy

EN 148

Dates: Offered on demand

Duration: 2 weeks

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

SOLAR HOME DESIGN PRINCIPLES

Solar Energy International

Participants: Technicians, engineers, end users, trainers and others seeking practical hands-on skills with state-of-the-art products and services.

Course objectives: To learn fundamentals of solar and energy efficiency.

Course overview: The course provides a comprehensive overview of passive solar concepts, design guidelines, construction techniques, insulational strategies, remodel/retrofit opportunities, solar water and air heating, sunspaces and greenhouses. Case studies and tours of successful designs are provided.

Scholarship funds: The course provider offered discounts for courses lasting ten weeks or longer.

EN 149

Dates: Offered on demand

Duration: 1 week

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

SOLAR COOKING, FOOD DRYING, & WATER DISTILLING

Solar Energy International

Participants: Technicians, engineers, end users, trainers, and others seeking practical hands-on skills with state-of-the-art products and services.

Course objectives: To learn about up-to-date products, and to build and use practical solar thermal appliances for application in less-developed countries.

Course overview: The course focuses on successful products and applications. Participants use tools of the trade and meet recognized experts in the renewable/energy efficiency field. Topics covered include: basic principles and fundamental practices; construction techniques and operating procedures; limitations and cultural issues; and appropriate indigenous materials.

Scholarship funds: The course provider offers discounts for courses lasting ten weeks or longer.

EN 150

Dates: To be determined

Duration: 1 day

Location: Washington State

Contact:

Mr. Bill Younger
914 East Jefferson, Suite 300
Seattle, WA 98122 USA

Phone: (206) 296-5646

Fax: (206) 296-5631

Fees: \$35 per day (Course fee and materials)

STEAM TRAPS

Washington State Energy Office-Energy Extension Service

Participants: Commercial and institutional building operators.

Course objectives: To understand how different types of steam traps operate to develop a preventative maintenance plan.

Course overview: Course lectures cover the basics of steam and condensate systems, terminology, reasons for condensate drainage, types of traps, how they work, benefits and drawbacks, maintenance, testing and troubleshooting, and energy saving opportunities. Participants gain some hands-on experience developing a preventative maintenance plan.

Scholarship funds: None available through the course provider.

EN 151

Dates: September 7-17, 1995

Duration: 2 weeks

Location: New York, New York

Contact:

Mr. Vincent Seglior
Manager, International Training
The World Trade Institute
One World Trade Center, 55W
New York, NY 10048 USA

Phone: (212) 435-3175

Fax: (212) 321-3305

Fees: \$2,500 (Tuition)

UTILITY MANAGEMENT/ENERGY CONSERVATION

World Trade Institute

Participants: Utility managers and other senior executives, power authority members, economic planners, energy conservation board and environmental agency members.

Course objectives: To learn to apply the experience of other experts in the field to home country utilities and communities to implement new energy-efficient technologies.

Course overview: This course consists of presentations by experts, discussions, and on-site inspections of power plants. Topics include cost reduction, increasing electricity reliability, power pooling to accommodate peak demand, and new developments in integrated resource planning for electricity and natural gas.

Scholarship funds: None available through the course provider.

Energy Efficiency/Renewable Energy

EN 152

UTILITY AND INDUSTRY ENERGY CONSERVATION *U.S. Agency for International Development/Institute of International Education*

Dates: To be determined

Duration: 9 weeks

Location: To be determined

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

Participants: Utility and industrial plant engineers and supervisors involved in the heat rate performance and/or efficiency of plant operations.

Course objectives: To be better able to conserve energy in utility plants and industry.

Course overview: This course covers the implementation of in-house energy conservation programs and the methodologies used to improve overall plant efficiency. Plant energy audits, load shifting and project planning are discussed.

Scholarship funds: May be available through the local USAID mission.

EN 153

WIND POWER *Solar Energy International*

Dates: Offered on demand

Duration: 1 week

Location: Carbondale, Colorado

Contact:

Ms. Joan Matranga
Solar Energy International
P.O. Box 715
Carbondale, CO 81525 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: \$400 per week

Participants: Technicians, engineers, end users, trainers, and others seeking practical hands-on skills with state-of-the-art products and services.

Course objectives: To learn to design and install wind generator systems, and gain practical experience erecting wind generators.

Course overview: The course covers topics including: aerodynamics, generators, alternators, induction machines, power design, site analysis/sizing, safety, energy storage, legal issues, and hybrid systems.

Scholarship funds: The course provider offers discounts for courses lasting ten weeks or longer.

ET 154

Dates: Offered on demand

Duration: 3-4 weeks

Location: Laramie, Wyoming

Contact:

Mr. Ed Bradley
International Programs
University of Wyoming
401 Old Main
Laramie, WY 82071 USA

Phone: (307) 766-2872

Fax: (307) 766-2871

Fees: \$2,600 (Course fees and materials)

DEVELOPMENT AND MANAGEMENT OF NATURAL RESOURCES FOR TOURISM AND RECREATION

University of Wyoming

Participants: Professional land use managers, administrators and community development specialists with interest in rural communities and natural resources.

Course objectives: To understanding and appreciate the economic potential of tourism for revitalizing rural communities.

Course overview: The focus of the course is on capitalizing natural resources such as wildlife, water, space, aesthetics, and livestock in rural communities to provide employment and satellite industries related to tourism and recreation. The course emphasizes technical and practical aspects of manipulating natural resources to achieve desired resource and landscape objectives, the tools needed to successfully market the assets to potential guests, and the people management skills necessary to provide satisfaction.

Scholarship funds: None available through the course provider.

ET 155

Dates: Offered on demand

Duration: 5 days

Location: Pullman, Washington

Contact:

Dr. Kjell Christopherson
International Program Development
Cooperation
Washington State University
Pullman, WA 99164-6226 USA

Phone: (509) 335-2980

Fax: (509) 335-2982

Fees: \$950 (course fees excluding per diem and health insurance)

ECOTOURISM ECONOMICS

Washington State University

Participants: Private sector ecotourism project planners, and personnel from development banks and organizations such as the World Bank, USAID, etc.

Course objectives: To explore and develop skills in determining the "bankability" of ecotourism projects and programs to approaches to ecotourism planning.

Course overview: This course addresses methods for applying economic and financial analysis to the ecotourism sector.

Scholarship funds: None available through the course provider.

Ecotourism

ET 156

Dates: Offered on demand

Duration: 5 days

Location: Negotiable

Contact:

Mr. Rich Tobin
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Depend on duration and location

ECOTOURISM AND THE ENVIRONMENTAL IMPACTS OF TOURISM

Environmental & Natural Resources Policy & Training Project

Participants: Government planners, tourism officials and representatives of the tourism and travel industry.

Course objectives:

-To gain skills in recognizing, assessing, and in minimizing adverse environmental impacts of tourism;

-To learn techniques for sustainable resource management while promoting foreign ecotourism.

Course overview: This course examines regionally relevant examples, paying attention to the social and environmental factors which relate to developing country efforts to attract tourists. Good environmental practices in both public and private sectors are examined to assess their applicability and effectiveness.

Scholarship funds: May be available through the local USAID mission.

ET 157

Dates: October 4-15, 1995

Duration: 2 weeks

Location: New York, New York

Contact:

Mr. Vincent Seglior
Manager, International Training
The World Trade Institute
One World Trade Center
New York, NY 10048 USA

Phone: (212) 435-3175

Fax: (212) 321-3305

Fees: \$2,500 (Tuition)

ECOTOURISM AND SPECIAL-INTEREST TRAVEL

World Trade Institute

Participants: Tourism developers from public and private sectors interested in planning and marketing strategies.

Course objectives: To learn new ways of shaping tourist attractions and services to meet the needs of existing and growing travel markets and to increase profitability in environmentally sound ways.

Course overview: Course lectures focus on defining and marketing "ecotourism," resource requirements for ecotourism development, and tying ecotourism to special interest groups. Participants visit an ecotourism location, tour a development organization, and become familiar with procedures of the tourism industry.

Scholarship funds: None available from the course sponsor.

GI 158

Dates: To be determined
Duration: 5 days (flexible)
Location: Negotiable
Contact:
Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA
Phone: (303) 491-7425
Fax: (303) 491-7727
Fees: \$895 (Course fees may be negotiable)

APPLICATION OF GEOGRAPHIC INFORMATION SYSTEMS IN WATER RESOURCES ENGINEERING
Colorado State University

Participants: Engineers in public agencies, private firms, and academic institutions with civil, environmental or agricultural engineering Bachelors of Science degrees or the equivalent.

Course objectives: To develop knowledge and skills in remote sensing and GIS, and to understand their applications to actual engineering problems.

Course overview: Course lectures introduce remote sensing and GIS, their specific application in water resources engineering and environmental planning/analysis, and show how remote sensing and GIS are powerful tools. Participants gain hands-on experience with microcomputer software for image processing and GIS.

Scholarship funds: None available through the course provider.

GI 159

Dates: To be determined
Duration: 4 days
Location: Lincoln, Nebraska
Contact:
Workshop Coordinator
CALMIT
113 Nebraska Hall
University of Nebraska
Lincoln, NE 68588-0517 USA
Phone: (402) 472-8197
Fax: (402) 472-2410
Fees: \$500

GEOGRAPHIC INFORMATION SYSTEMS FOR ENVIRONMENTAL MANAGEMENT
Center for Advanced Land Management Information Technologies

Participants: Individuals who are familiar with GIS concepts and who have previous exposure to at least one GIS software package.

Course objectives: To learn to apply spatial models for solving environmental problems.

Course overview: Laboratory exercises make use of both ERDAS and ARC/INFO software. Topics covered include techniques used in developing spatial and hydrologic models, use of vegetation indices to monitor environmental changes, using DRASTIC to estimate ground water pollution, integrating remote sensing and GIS, data accuracy and error propagation. The course presents problem-solving exercises for participants to practice using the GIS framework.

Scholarship funds: None available through the course provider.

GI 160

GEOGRAPHIC INFORMATION SYSTEMS IN SOIL SCIENCE

University of Arkansas Center for Advanced Spatial Studies

Dates: Offered on demand

Duration: Varies

Location: Fayetteville, Arkansas

Contact:

Ms. Marsha Bolstad
12 Ozark Hall
University of Arkansas
Fayetteville, AR 72701 USA

Phone: (501) 575-6159

Fax: (501) 575-3846

Fees: \$295 (Course fees and materials)

Participants: Land use planners, farm managers, other professionals working with soil analysis, quality, physics, or agronomy.

Course objectives: To obtain a working knowledge of GIS technologies, applications, and software, and to meet the needs of various levels of expertise.

Course overview: Course lectures and computer demonstrations present an introduction to GIS/LIS concepts and to the UNIX operating system. Participants receive hands-on instruction in GRASS software for applications, practical instruction on GPS receiver operation and applications, techniques used in soil analysis and classification, and design of relational databases for GRASS. Issues addressed include models for tracing pesticide mobility and nutrient transport in soils, and problems in crossing political boundaries.

Scholarship funds: None available through the course provider.

GI 161

GEOGRAPHIC INFORMATION SYSTEMS TECHNOLOGY

GeoResearch, Inc.

Dates: Offered on demand

Duration: 1 week (flexible)

Location: Billings, Montana; other U.S. or Asia sites negotiable

Contact:

Thomas G. Lyman
Director of Training
Georesearch, Inc.
115 North Broadway Street
Billings, MT 59101 USA

Phone: (406) 248-6771

Fax: (406) 248-6770

Fees: \$200 per person per day (if more than 6 people)

Participants: Field scientists, engineers, utility maintenance specialists, resource managers, and others interested in collecting data for GIS systems in the field.

Course objectives: To gain practical skills in GIS technology as it relates to air quality, biodiversity conservation, environmental impact assessment and policy making, land management or pollution prevention/control.

Course overview: The course introduction consists of lectures on the history of fundamentals such as NAVSTAR, GPS systems, receiver operation, differential corrections, mapping strategies, mission planning, and data editing. Participants apply lectures to collect and process field data while receiving further academic support. This data serve participants in producing a map or other forms of output of their findings. If desired, participants may use findings to develop a pilot project to integrate and apply this technology to their daily job operations.

Scholarship funds: None available through the course provider.

GI 162

GEOGRAPHIC INFORMATION SYSTEMS IN WATER RESOURCES AND ENVIRONMENTAL ENGINEERING AND PLANNING

University of California-Davis (Extension)

Dates: November 20, 1993

Duration: 1 day

Location: Sacramento, California

Contact:

Ms. Rita Smith-Simms
Engineering Programs
University Extension-UC
Davis, CA 95616-8727 USA

Phone: (916) 757-8899

Fax: (916) 757-8676

Fees: \$175 (Course fees, materials and lunch)

Participants: Interested individuals seeking an introduction to GIS.

Course objectives: To be introduced to basic GIS and its application to water resources design and planning.

Course overview: The primary focus of this course is the use of GIS in hydrology studies and master plans of drainage. The course includes an overview of key aspects of GIS; graphics database and intelligence layers, polygon processing, numeric database development, and database integration. Several significant case studies are also included. This course may be added to the November 1993 "Flood Plain Hydrology" course (included herein).

Scholarship funds: None available through the course provider.

GI 163

GEOGRAPHIC INFORMATION SYSTEMS AND REMOTE SENSING: APPLICATIONS FOR FISHERIES AND WILDLIFE

University of Montana/University of Vermont

Dates: 1) January 10-14, 1994
2) June 13-17, 1994

Duration: 5 days

Location: 1) Missoula, Montana
2) Burlington, Vermont

Contact:

Ms. Shelly Witt
Continuing Education Program
Wildlife and Fisheries Staff
Logan, UT 84322-5210 USA

Phone: (801) 750-1090

Fax: (801) 750-3798

Fees: 1) \$750 (Tuition)
2) \$1,250 (Tuition)

Participants: Mid-level managers.

Course objectives: To understand the fundamental concepts of GIS and remote sensed data as they relate to applications in wildlife management.

Course overview: This course provides training on a broad range of GIS concepts combined with the practical aspects of GIS implementation and use. Hands-on experience provides an opportunity to observe the wildlife management applications to address participants' expectations from GIS. Participants receive a copy of OSU MAP (software for the PC) to take home for extended practical experiences in the concepts of GIS.

Scholarship funds: None available through the course provider.

Geographic Information Systems

GI 164

GEOGRAPHIC INFORMATION SYSTEMS FOR ENVIRONMENTAL MANAGEMENT

Winrock International Environmental Alliance

Dates: Offered on demand

Participants: Environmental managers and planners.

Duration: 5 days

Course objectives: To learn spatially explicit methods using GIS to display and manipulate data to gain insight into existing problems.

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Course overview: This course introduces GIS and focuses on data acquisition, management, and analysis. Specific themes include: data collection and manipulation, land-use models, inventory assessment, and environmental management, particularly as they relate to developing countries. Suitable IBM computers will be necessary.

Phone: (703) 525-9430

Scholarship funds: May be available through the local USAID mission.

Fax: (703) 516-0481

Fees: Vary

GI 165

GEOGRAPHIC INFORMATION SYSTEMS TECHNOLOGY IN LAND & RESOURCE MANAGEMENT

Oregon State University

Dates: Fall 1994

Participants: Professionals with minimal exposure to GIS, but who anticipate using the technology or interacting with GIS specialists.

Duration: 2 days

Location: Corvallis, Oregon

Course objectives: To learn the fundamental concepts and general applications of GIS technology.

Contact:

Forestry Conference Assistant
Oregon State University
College of Forestry
Peavey Hall 202
Corvallis, Oregon 97331-5710

Course overview: Course discussion provides a basic level of understanding of computer-assisted map analysis and special characteristics of digital mapped data. The later portion of the workshop focuses on the specific conditions, requirements and processing considerations for spatial data handling. Particular attention is given to the various data structures and analytical operations. The potential and practical constraints of GIS, in light of various data types and applications, are clearly presented.

Phone: (503) 737-2329

Fax: (503) 737-2668

Fees: \$445 (Course fees and materials)

Scholarship funds: May be available through the course provider.

GI 166

Dates: Offered on demand

Duration: 1 week (flexible)

Location: Billings, Montana; other U.S. or Asia sites negotiable

Contact:

Thomas G. Lyman
Director of Training
Georesearch, Inc.
115 North Broadway Street
Billings, MT 59101 USA

Phone: (406) 248-6771

Fax: (406) 248-6770

Fees: \$200 per person per day
(if more than 6 people)

GLOBAL POSITIONING SYSTEM TECHNOLOGY

GeoResearch, Inc.

Participants: Field scientists, utility maintenance specialists, resource managers, engineers, and others interested in collecting data for GIS systems in the field.

Course objectives: To gain practical skills in GPS technology as it relates to air quality, biodiversity conservation, environmental impact assessment and policy making, land management or pollution prevention/control.

Course overview: The course introduction consists of lectures on the history of fundamentals such as NAVSTAR, GPS systems, receiver operation, differential corrections, mapping strategies, mission planning, and data editing. Participants apply lectures to collect and process field data while receiving further academic support. This data serves participants in producing a map or other forms of output of their findings. If desired, participants may use findings to develop a pilot project to integrate and apply this technology to their daily job operations.

Scholarship funds: None available through the course provider.

GI 167

Dates: Offered on demand

Duration: 1 week (flexible)

Location: Billings, Montana, other U.S. or Asia sites negotiable

Contact:

Thomas G. Lyman
Director of Training
Georesearch, Inc.
115 North Broadway Street
Billings, MT 59101 USA

Phone: (406) 248-6771

Fax: (406) 248-6770

Fees: \$200 per person per day
(if more than 6 people)

GLOBAL POSITIONING SYSTEM/GEOGRAPHIC INFORMATION SYSTEM INTERFACE APPLICATIONS

GeoResearch, Inc.

Participants: Field scientists, engineers, utility maintenance specialists, resource managers, and others interested in collecting data for GIS systems in the field.

Course objectives: To gain practical skills in GIS/GPS technologies as they relate to air quality, biodiversity conservation, environmental impact assessment and policy making, land management or pollution prevention/control depending on participants' needs.

Course overview: Course lectures introduce the history of fundamentals such as NAVSTAR, GPS systems, receiver operation, differential corrections, mapping strategies, mission planning, and data editing. Participants apply lectures to collect and process field data while receiving further academic support. This data serves participants in producing a map or other forms of output of their findings, or to develop a pilot project to apply this technology to their daily job operations.

Scholarship funds: None available through the course provider.

GI 168

**IMAGE PROCESSING OF SATELLITE DATA FOR
NATURAL RESOURCE APPLICATIONS**

University of New Mexico-Technology Application Center

Dates: June-July 1994
June-July 1995

Duration: 4 weeks

Location: Albuquerque, New
Mexico

Contact:

Dr. Dario Rodrigues-Bejarano
Manager of International Programs
Technology Application Center
University of New Mexico
Albuquerque, NM 87131 USA

Phone: (505) 277-3622

Fax: (505) 277-3614

Fees: \$3,000 (tuition and materials)
\$250 per day (daily expenses)

Participants: Natural resource managers and technicians in fields such as agriculture, forestry, geology, hydrology, soils, land use planning, and environmental assessment and monitoring.

Course objectives:

-To understand how geographic information systems and multi-dimensional data sets can be merged;
-To gain practical experience in computer image processing of digital satellite data and in conducting image processing projects.

Course overview: During the first week, participants attend theory lectures in the morning, and learn to apply theory in afternoon practice sessions. The second week focus is primarily hands-on practice of theory application. During the third week, participants outline and complete a project of their own. They present their results to other participants and prepare a written report on their experience.

Scholarship funds: None available through the course provider.

GI 169

**INTRODUCTION TO TERRAPAK GEOGRAPHIC
INFORMATION SYSTEM**

Forest Data Corporation

Dates: 2-4 times annually

Duration: 3 days

Location: Negotiable

Contact:

Mr. Thomas H. Gaman
Forest Data Corporation
PO Box 276
Inverness, CA 94937 USA

Phone: (510) 935-0735

Fax: (510) 935-0735

Fees: \$995 (Course fees and
software)

Participants: Natural resource professionals, cartographers, and scientists with medium level DOS experience.

Course objectives: To learn to apply the TERRAPAK GIS software to forest inventory, management and planning, fire hazard assessment, urban forest management, watershed and cumulative effect analysis, growth and yield projection, and resource monitoring.

Course overview: This course demonstrates programs and auxiliary programs which work in conjunction with TERRAPAK GIS to produce state-of-the-art map graphics and statistical analysis. Course content can be tailored to clients' needs. Participants are encouraged to bring their own projects for software applications.

Scholarship funds: None available through the course provider.

GI 170

Dates: March 21-24, 1994

Duration: 4 days

Location: Corvallis, Oregon

Contact:

Forestry Conference Assistant
Oregon State University
College of Forestry
Peavey Hall 202
Corvallis, Oregon 97331-5710

Phone: (503) 737-2329

Fax: (503) 737-2668

Fees: \$495

MODERN ANALYTICAL PHOTOGRAMMETRY

Oregon State University

Participants: Practicing foresters and others who use aerial photos in their professional work.

Course objectives: To learn the fundamentals of photos interpretation and photogrammetry, and advanced methods of field application.

Course overview: Course topics and laboratory exercises include digital mapping and preparation of GIS data from photos, overview of the source of aerial photographs, camera characteristics, interior orientation to a photogrammetric measurement system, relative orientation photographs with respect to control, sources of control for absolute orientation, expected photogrammetric accuracy, generation and use of digital elevation models in photogrammetry, and digital (softcopy) photogrammetry.

Scholarship funds: May be available through the course provider.

GI 171

Dates: March 1-4, 1993

Duration: 5 days

Location: Corvallis, Oregon

Contact:

Forestry Conference Assistant
Oregon State University
College of Forestry
Peavey Hall 202
Corvallis, Oregon 97331-5710

Phone: (503) 737-2329

Fax: (503) 737-2668

Fees: \$450 (course fees and materials)

PHOTOGRAMMETRY AND AERIAL PHOTO INTERPRETATION

Oregon State University

Participants: Practicing foresters and others who use aerial photos in their professional work.

Course objectives: To learn the fundamentals of photo interpretation and photogrammetry as well as the most advanced methods of field application.

Course overview: The course includes discussions concerning: geometry of vertical aerial photo, horizontal and vertical measurements, forest-type mapping, photo distortion and displacement, principles of photo interpretation, analytical photogrammetry, digital and non-digital orthophotography, small-format photography, analytical stereoplotters, and color infrared photography. Discussion is accompanied by laboratory exercises.

Scholarship funds: May be available through the course provider.

GI 172

REMOTE SENSING FOR NATURAL RESOURCES ASSESSMENT

University of Arizona

Dates: Offered on demand

Duration: 1 week to 3 months

Location: Tucson, Arizona

Contact:

Director

Arizona Remote Sensing Center

University of Arizona

845 North Park Avenue

Tucson, AZ 85719 USA

Phone: (602) 621-1955

Fax: (602) 621-3816

Fees: \$750 per week

Participants: Natural resource and agricultural scientists, technicians, and managers involved in assessing natural resources through the application of remote sensing and GIS technologies.

Course objectives: To gain a working knowledge of remote sensing as it is applied to specific problems.

Course overview: This course combines theoretical and practical training in a "hands-on" environment. Practical training deals with data and problems from the participants' regions, such as arid lands agriculture, desertification, environmental monitoring and global change.

Scholarship funds: None available through the course provider.

The INFOTERRA Network

INFOTERRA is the international environmental information exchange network coordinated by the United Nations Environment Program. Established in 1975, the INFOTERRA network is a partnership of 140 countries with designated national focal points to promote the exchange of environmental information.

Each national focal point prepares a list of environmental information sources in its country and selects the best sources for inclusion in the **INFOTERRA International Directory of Environmental Sources**. Several countries - Bangladesh, Canada, China, Guyana, Japan, Nepal, Thailand, and the United States - publish their own national directories. Both directories serve as a primary reference tool for the INFOTERRA network. To obtain the address of the INFOTERRA National Focal Point in your country, contact: Dr. Woyen Lee, Director, INFOTERRA Program Activity Center, United Nations Environment Program, P.O. Box 30552, Nairobi, Kenya. Telephone: (254 2) 230800, Fax: (254 2) 226890.

The **INFOTERRA/USA Directory of Environmental Sources** lists 445 national information sources - federal, state or local government, academic, and non-governmental groups - which have agreed to provide environmental information free or at a minimal fee to international requestors. The INFOTERRA/USA National Focal Point is a clearinghouse for all international queries received by the U.S. Environmental Protection Agency. For information, contact: Ms. Linda Spencer, Manager, INFOTERRA/USA, U.S. Environmental Protection Agency, PM-221A, 401 M Street, SW, Washington, DC 20460. Telephone: (202) 260-5917, Fax: (202) 260-3923.

HW 173

**ASBESTOS HAZARD EMERGENCY RESPONSE ACT:
CONTRACTOR AND SUPERVISOR COURSE**

Genesis VII Corporation

Dates: Offered on demand

Participants: Owners and operators of industrial or commercial business enterprises.

Duration: 4 days

Location: Negotiable

Course objectives: To learn the proper handling and disposal of asbestos containing building materials.

Contact:

Mr. Steve Slifco, Sales Director
Genesis VII Corporation
PO Box 387
Wayne, MI 48184 USA

Course overview: This course consists of hands-on training with demonstrations in asbestos handling and removal, and instruction in techniques of minimizing the dispersion of asbestos dust in the air. Lectures cover regulations, equipment, removal practices and respiratory and personal protection.

Phone: (313) 753-4416

Fax: (313) 692-3883

Fees: Depend on location

Scholarship funds: None available through the course provider.

HW 174

CHEMISTRY OF HAZARDOUS MATERIALS

D.R. Stone and Associates, Inc.

Dates: December 1993; June,
November-December 1994

Participants: Individuals dealing with chemical or radioactive hazardous waste. No background in the subject is necessary.

Duration: 1 week

Course objectives: To learn the fundamentals of assessing, evaluating and working with hazardous materials.

Location: Atlanta, Georgia

Contact:

Mr. D.R. Stone, President
D.R. Stone and Associates, Inc.
5407 Sky Valley Drive
Chattanooga, TN 37343 USA

Course overview: Course lectures and demonstrations cover chemical properties such as toxicity, reactivity, and management of chemicals. The course is designed to provide technical skills for developing site safety plans, and assessing hazards to properly work in environments containing these materials. A large component of each course is devoted to the regulatory requirements pertinent to real situations.

Phone: (615) 875-4601

Fax: (615) 697-2426

Fees: \$995

Scholarship funds: Possibly available through the course provider.

Hazardous Waste Management

HW 175

Dates: To be determined

Duration: 3 days

Location:

East Brunswick, New Jersey; other
U.S. and Asia sites negotiable

Contact:

Registrar, The Center for
Professional Advancement
P.O. Box 964
East Brunswick, NJ 08816 USA

Phone: (908) 613-4500

Fax: (908) 238-9113

Fees: \$990

CLEAN UP OF WASTE DISPOSAL SITES

Eckenfelder Inc./Center for Professional Advancement

Participants: Plant managers, environmental directors, regulators,
and consultants.

Course objectives: To understand objectives and processes involved
in remediating waste disposal and industrial plant sites including
remediation technologies and limitations.

Course overview: The course provides a historical perspective on
contaminated sites; an introduction to contaminant hydrogeology
including the particular problems associated with fractured rock; and
an overview of remediation strategies. Traditional technologies
including plume control, cutoff walls, and subsurface capping are
discussed. Various methods of addressing contaminated soil
including bioremediation, soil vapor extraction, in situ vitrification,
and electrokinetic soil treatment are presented.

Scholarship funds: None available through the course provider.

HW 176

Dates: January 19-21, 1993

Duration: 3 days (flexible)

Location: Fort Collins, Colorado

Contact:

Ms. Janet Lee Montera
Department of Civil Engineering
Colorado State University
Fort Collins, CO 80523 USA

Phone: (303) 491-7425

Fax: (303) 491-7727

Fees: \$395 (Course fees may be
negotiable) \$650-if paid after
December 6, 1993

CONFERENCE ON TAILINGS AND MINEWASTE

Colorado State University

Participants: Mine and mill managers, tailings engineers, mine
engineers, consulting engineers, environmental engineers, project
managers, regulatory personnel, geotechnical engineers,
geoenvironmental engineers, environmental attorneys.

Course objectives: To take part in a forum for presenting state-of-
the-art technologies with respect to mill tailings and mining wastes,
and to discuss current and future issues facing mining communities.

Course overview: This forum addresses issues related to technical
capabilities and developments, regulations, and environmental
concerns. The program includes invited talks and reviews by
recognized experts on the general themes of the conference. The
conference also includes exhibits of equipment and instrumentation.

Scholarship funds: None available through the course provider.

HW 177

Dates: 1) May 23-27, 1994
2) October 17-21, 1994

Duration: 5 days

Location: 1) Houston, Texas
2) Colorado Springs, Colorado

Contact:

Registrar
Oil & Gas Consultants Int'l, Inc.
P.O. Box 35448
Tulsa, OK 74135-0448 USA

Phone: (918) 742-2334

Fax: (918) 742-2272

Fees: \$1,125 (Course fees and materials)

DETECTION AND DELINEATION OF HYDROCARBON CONTAMINANTS

Oil & Gas Consultants International, Inc.

Participants: Environmental geoscientists, managers, and engineers; refinery and bulk plant managers; pipeline and production engineers; landmen; geologists; corporate executives and counsel; federal, state, and local environmental regulators; and attorneys.

Course objectives: To be better able to understand, evaluate, and use pollution measurement data.

Course overview: Lectures address topics such as sampling techniques, field instrument use and limitations, case histories of contamination by mercury and chlorinated solvents, and remediation recommendations. In practical exercises, participants use real data from refineries, service stations, pipelines, and underground storage facilities to analyze and interpret field observations, identify sources of contaminants, describe the shape and extent of contaminant plumes, and recommend locations and procedures for decontamination.

Scholarship funds: None available through the course provider.

HW 178

Dates: Monthly

Duration: 1 day

Location: Negotiable

Contact:

Mr. Tony Egitto
TEST Institute
P.O. Box 28210
Raleigh, NC 27611-8210 USA

Phone: (919) 876-8400

Fax: (919) 850-0171

Fees: \$245 (Course fees and materials)

EMERGENCY RESPONSE TRAINING: ON-SCENE INCIDENT COMMANDER

Technical Environmental Service Training Institute

Participants: Individuals who will assume control of the incident scene beyond the first responder awareness level, and who have a minimum of twenty-four hours of emergency response training.

Course objectives: To receive training to be a site coordinator or supervisor of an incident.

Course overview: This lecture course covers Incident Command System, emergency response plans, personal protective equipment, decontamination procedures, and safety. It may also be combined with the Hazardous Materials Technician course by same provider.

Scholarship funds: None available through the course provider.

Hazardous Waste Management

HW 179

Dates: Monthly

Duration: 4 days

Location: Negotiable

Contact:

Mr. Tony Egitto
TEST Institute
P.O. Box 28210
Raleigh, NC 27611-8210 USA

Phone: (919) 876-8400

Fax: (919) 850-0171

Fees: \$595 (Course fees and materials)

EMERGENCY RESPONSE TRAINING: HAZARDOUS MATERIALS TECHNICIAN

Technical Environmental Service Training Institute

Participants: Individuals who respond to a release of hazardous substances for the purpose of stopping the release. Participants should have some operations level training.

Course objectives: To more effectively respond to a hazardous materials incident by plugging, patching, or other means of stopping a release.

Course overview: Lecture topics include an overview of U.S. regulations, hazards and risk assessments, personal protective equipment, decontamination procedures, spill control methods, monitoring and sampling methods, emergency response procedures, chemical and toxicological behavior and terminology, and safety and incident command system. Participants take part in a site simulation of an emergency.

Scholarship funds: None available through the course provider.

HW 180

Dates: November 23-27, 1993

Duration: 5 days

Location: Pittsburgh, Pennsylvania

Contact:

Ms. Maureen McFalls
Center for Hazardous Materials
Research
University of Pittsburgh
320 William Pitt Way
Pittsburgh, PA 15238 USA

Phone: (412) 826-5320

Fax: (412) 826-5552

Fees: \$475

ENVIRONMENTAL REMEDIATION PRACTICES

University of Pittsburgh Applied Research Center

Participants: Engineers, technicians, and policy makers.

Course objectives: To develop plans for the containerization and removal of material contaminated with hazardous waste.

Course overview: This course introduces the techniques used for implementing a remedial action plan on a hazardous waste site. Course activities include a major field exercise, data collection, record keeping, and report preparation.

Scholarship funds: Discounts for government and groups from the same organization are available through the course provider.

HW 181

Dates: March 28-April 1, 1994

Duration: 5 days

Location: Houston, Texas

Contact:

Registrar
Oil & Gas Consultants Int'l., Inc.
P.O. Box 35448
Tulsa, OK 74135-0448 USA

Phone: (918) 742-2334

Fax: (918) 742-2272

Fees: \$1,125 (Course fees and materials)

ENVIRONMENTAL CONTROL TECHNOLOGY IN DRILLING OPERATIONS

Oil & Gas Consultants International, Inc.

Participants: Oilfield personnel involved in drilling operations, engineers and managers responsible for the environmental performance of oil companies and contractors.

Course objectives:

-To understand the environmental regulatory process and the concept of environmental control technology (ECT);

-To learn various forms of analyses, such as system analysis of the drilling process, break-even analysis of disposal methods, analysis of closed-loop systems, calculations related to behavior of mud systems, and cost of compliance.

Course overview: Course lectures present a complete scope of ECT in drilling operations, from drilling fluid usage and processing, to discharge generation, temporary storage, and permanent disposal on site. Practical exercises involve calculating the concentration of contaminants in drill cuttings, and relating these calculations to determining the most cost-effective means of cleanup.

Scholarship funds: None available through the course provider.

HW 182

Dates: 1) Spring 1994
2) Offered on demand

Duration: 1 week

Location:

1) Cambridge, Massachusetts
2) Negotiable

Contact:

Mr. Tom A. Pederson
Camp, Dresser & McKee
10 Cambridge Center
Cambridge, MA 02142 USA

Phone: (617) 252-8159

Fax: (617) 621-2565

Fees: \$1,200

ENVIRONMENTAL SITE RESTORATION ENGINEERING

Camp, Dresser, & McKee

Participants: Environmental managers, field technicians, and graduate students. A minimum of fifteen participants is required.

Course objectives: To review in detail the multi-disciplinary approach undertaken during site investigation/remediation projects.

Course overview: Course lectures use actual site histories and data, and cover topics including current and emerging remedial technologies; analytical methods; data compilation and interpretation techniques; evaluation; fate and migration of contaminants; chemical estimation techniques; and human health and ecological risk assessment methodologies. Matrices identifying limitations and considerations for each technology as well as for implementation are provided. Data sets from actual projects serve as the basis for course assignments and readings.

Scholarship funds: None available through the course provider.

Hazardous Waste Management

HW 183

U.S. ENVIRONMENTAL PROTECTION AGENCY LEAD PROGRAM

Con-Test, Inc.

Dates: Offered on demand

Participants: Contractors/inspectors/supervisors and workers involved with lead abatement (lead-based paint removal).

Duration: 4 days

Location: Albany, New York;
East Longmeadow, Massachusetts;
New York, New York; other U.S.
sites negotiable

Course objectives: To receive state-of-the-art information on environmental, safety and health issues about lead-based paint removal.

Contact:
Ms. Diane Belisle
Marketing Director
Con-Test, Inc.
39 Spruce Street
East Longmeadow, MA 01028 USA

Course overview: This course provides instruction on abatement techniques, environmental health and safety issues and "hands-on" exercises including simulated paint cleanup, washing, disposal and air sampling. Participants gain a working knowledge of U.S. regulations, design and use of protective equipment, toxicity issues, and emerging technologies. Certification after the course is possible.

Phone: (413) 525-1198

Fax: (413) 525-8227

Scholarship funds: None available through the course provider.

Fees: \$500

HW 184

HAZARDOUS WASTE SITE OPERATIONS AND EMERGENCY RESPONSE TRAINING

Peak Environmental Management, Inc.

Dates: Offered on demand

Participants: Employees of chemical manufacturers, wrecker services, mining and oil field companies, government regulators, and

Duration: 1 to 5 days

others who respond to hazardous material releases.

Location: Negotiable

Contact:
Ms. Myra L. Peak
Peak Environmental Mgmt. Inc.
P.O. Box 404
Green River, WY 82935 USA

Course objectives: To learn emergency response to hazardous materials releases, containment, remediation, and hazardous waste site operations.

Phone: (307) 875-2893

Fax: Not yet available

Course overview: This workshop consists of lectures and audio/visual presentations addressing topics such as medical surveillance, personal protective equipment, air and water monitoring, and waste-handling procedures.

Fees: \$100 per day approximately
(course fees).

Scholarship funds: None available through the course provider.

FW 185

**HAZARDOUS WASTE MANAGEMENT AND
HAZARDOUS MATERIALS TECHNOLOGY**

D.R. Stone and Associates, Inc.

Dates: December 1993; June,
November/December 1994

Participants: Technical personnel involved with chemical or
radioactive materials.

Duration: 1 week

Course objectives: To learn technologies for managing hazardous
materials.

Location: Atlanta, Georgia

Contact:

Mr. D.R. Stone, President
D.R. Stone and Associates, Inc.
5407 Sky Valley Drive
Chattanooga, TN 37343 USA

Course overview: The course covers operational methods of
dealing with hazardous waste including transportation, disposal,
recycling, identification, analysis, and assessment of levels of
hazardous materials, and federal regulatory requirements. The
course provides technical skills for assessing hazards (chemical and
radiological), developing site safety plans to properly work in
environments containing these materials. A large component of
each course is devoted to applying information to real situations.

Phone: (615) 875-4601

Fax: (615) 697-2426

Scholarship funds: Possibly available through the course provider.

Fees: \$995

HW 186

**HAZARDOUS WASTE OPERATIONS/SUPERVISORS
COURSE**

Environmental Assessments Services & Training

Dates: To be determined

Participants: Owners, operators, or managers responsible for
hazardous materials storage or hazardous waste generating
locations.

Duration: 1 day

Course objectives: To review workplace safety and industrial
hygiene to improve management and planning skills.

Location: To be determined

Contact:

Mr. Tony Wood
EAST
5703 Cates Drive
Greensboro, NC 27410 USA

Course overview: Courses are customized for the audience,
especially those from specific companies or industry groups in order
to concentrate on their particular hazards, materials, and
environmental concerns. Possible topics include: hypothetical site
safety plans, site equipment, and heat, chemical, biological, and
mechanical hazards, and decontamination procedures.

Phone: (919) 852-1910

Fax: (919) 299-6382

Scholarship funds: None available through the course provider.

Fees: \$600-\$800 per instructor per
day

Hazardous Waste Management

HW 187

HAZARDOUS WASTE OPERATION AND EMERGENCY RESPONSE PROGRAM

Con-Test, Inc.

Dates: Offered on demand

Participants: Emergency response personnel, environmental engineers, and hazardous waste handlers.

Duration: 5 days

Location: Albany, New York; East Longmeadow, Massachusetts; New York, New York; other U.S. sites negotiable

Course objectives: To receive state-of-the-art information on environmental safety and health issues in hazardous waste management.

Contact:

Mr. Ed Rigney
Marketing Representative
Con-Test, Inc.
39 Spruce Street
East Longmeadow, MA 01028 USA

Course overview: This course includes a significant amount of hands-on experience and is tailored to suit participants' needs. Lectures cover safety hazards and evaluation; site characterization; air monitoring; personal protective equipment; soil, ground water and drum sampling techniques, handling, and preparation; hazardous materials shipping; hazard control; and mock incident field exercises in which an emergency situation is simulated and videotaped for review.

Phone: (413) 525-1198

Fax: (413) 525-8227

Fees: \$675

Scholarship funds: None available through the course provider.

HW 188

HAZARDOUS WASTE OPERATORS AND EMERGENCY RESPONSE (HAZWOPER) TRAINING

Halliburton NUS Corporation

Dates: Offered on demand

Participants: All HAZWOPER responders and managers. A minimum of twelve participants is required.

Duration: 5 days

Location: At participants' site

Course objectives: To meet HAZWOPER regulations 29 CFR 1910.120.

Contact:

Ms. Sandra Baker
Business Development
Halliburton NUS Corporation
910 Clopper Road
P.O. Box 6032
Gaithersburg, MD 20877-0692 USA

Course overview: This course primarily uses lecture and discussion to address required aspects of hazardous waste operators and emergency response to hazardous materials incidents.

Phone: (301) 258-2459

Fax: (301) 258-5808

Scholarship funds: None available through the course provider.

Fees: \$1000 per person

HW 189

HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

Tustin Technical Institute, Inc.

Dates: Offered on demand

Duration: 3 to 5 days

Location: Negotiable

Contact:

Mr. Brian Slattern

Vice President

22 East Los Olivos Street

Santa Barbara, CA 93105 USA

Phone: (805) 682-7171

Fax: (805) 687-6949

Fees: Depend on duration and number of participants

Participants: Emergency response personnel, waste site workers and supervisors, managers, hazardous materials technicians and supervisors.

Course objectives: To receive training for CERCLA sites, RCRA sites, emergency response sites, and others.

Course overview: This course addresses the definition of terms, planning for survival, hazard properties, general safety response, fires, exposure limits, chemical personnel protective equipment, spill containment, and cleanup.

Scholarship funds: None available through the course provider.

HW 190

HAZARDOUS MATERIALS SAFETY TRAINING

Tustin Technical Institute, Inc.

Dates: Offered on demand

Duration: 3 to 5 days

Location: Negotiable

Contact:

Mr. Brian Slattern

Vice President

22 East Los Olivos Street

Santa Barbara, CA 93105 USA

Phone: (805) 682-7171

Fax: (805) 687-6949

Fees: Depend on duration and number of participants

Participants: Emergency response personnel, waste site workers and supervisors, managers, hazardous materials technicians and supervisors.

Course objectives: To improve planning to prevent accidents and to deal with emergencies.

Course overview: This course includes lectures and slide/video presentations on topics such as identifying hazardous materials, safety priorities, and preventing contamination; characteristics and adverse properties of hazardous materials; chemical exposure; and emergency treatment. Participants apply this information in hands-on exercises to reinforce safety priorities while working with hazardous materials.

Scholarship funds: None available through the course provider.

Hazardous Waste Management

HW 191

HAZARDOUS WASTE HANDLING AND STORAGE

University of Pittsburgh Applied Research Center

Dates: To be determined

Participants: Engineers, technicians, and policy makers.

Duration: 5 days

Location: Pittsburgh, Pennsylvania

Course objectives: To understand regulatory procedures for facilities which generate, handle, store, and transport hazardous waste.

Contact:

Ms. Maureen McFalls
Center for Hazardous Materials
Research
University of Pittsburgh
320 William Pitt Way
Pittsburgh, PA 15238 USA

Course overview: This course introduces the principles and practices of hazardous waste handling, storage, and transportation. Course materials include requirements for manifesting, record keeping, and reporting on hazardous waste operations.

Phone: (412) 826-5320

Fax: (412) 826-5552

Scholarship funds: Discounts for government and groups from the same organization are available through the course provider.

Fees: \$475

HW 192

HAZARDOUS MATERIALS MANAGER PROGRAM

Indiana University School of Public & Environmental Affairs

Dates: February 22-24, 1994; July 19-21, 1994; September 27-29, 1994

Participants: Environmental coordinators, specialists, regulatory affairs personnel, plant engineers and managers, purchasing agents.

Duration: 3 days.

Location: Indianapolis, Indiana

Course objectives: To gain a thorough understanding of the legal and technical implications of hazardous materials management.

Contact:

Ms. Carol Emerson
School of Public & Environmental
Affairs, Executive Education, IUPUI
801 West Michigan Street, BS 4088
Indianapolis, IN 46202-5125 USA

Course overview: Course lectures cover federal environmental laws that regulate hazardous materials management; worker health and safety; chemical hazard communication; waste minimization; spills and emergency response; chemistry for hazardous materials managers; and management principles. An additional half-day session covering basic chemistry for hazardous materials managers may be added.

Phone: (317) 274-3418

Fax: (317) 274-3753

Fees: \$475 (Course fees) An extra half day may be added for \$50.

Scholarship funds: None available through the course provider.

HW 193

Dates: To be determined

Duration: 3 days (flexible)

Location: Negotiable

Contact:

Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA

Phone: (303) 491-7425

Fax: (303) 491-7727

Fees: \$350 (Course fees-may be negotiable)

HAZARDOUS MATERIALS/WASTE MANAGER TRAINING

Colorado State University

Participants: Environmental managers in industry, state regulators or consulting engineers.

Course objectives: To increase ability to adequately manage hazardous substances, materials, and waste.

Course overview: Course lectures provide an overview of basic information on hazardous substances, materials, and waste sections of the applicable federal regulations. Lectures cover knowledge to help minimize liability from hazardous materials handling. This course is a preview to waste manager certification; the option to become certified may be arranged through the course provider.

Scholarship funds: None available through the course provider.

HW 194

Dates: Offered on demand

Duration: 2 days

Location: Negotiable

Contact:

Dr. Daniel Hoglund
Science Applications Int'l. Corp.
PO Box 2501
Oak Ridge, TN 31831-7501 USA

Phone: (615) 482-9031

Fax: (615) 482-6828

Fees: \$695 (course fees and materials)

HAZARDOUS WASTE TRANSPORTATION

Science Applications International Corporation

Participants: Hazardous materials employees, drivers, and training and traffic managers.

Course objectives:

-To become familiar with hazardous materials regulations;
-To be able to transport hazardous waste materials using a uniform Hazardous Waste Manifest providing important details relevant to regulations, safety, and emergency preparedness of the shipment.

Course overview: Course lectures address topics including hazardous waste legislation, and their impacts on hazardous waste shipping, details of preparing a Hazardous Waste Manifest, and requirements related to transportation of waste to a disposal site. Participants gain experience in properly filling out a Hazardous Waste Manifest.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

Hazardous Waste Management

HW 195

Dates: Offered on demand

Duration: 3 days

Location: U.S. and Asia sites negotiable

Contact:

Mr. Thomas Dekay
USEPA-Office of Solid Waste and
Emergency Response
401 M Street, SW, OS-110W
Washington, DC 20460 USA

Phone: (703) 308-8798

Fax: (703) 308-8528

Fees: No tuition

HAZARDOUS WASTE SITE RANKING

U.S. Environmental Protection Agency

Participants: Government officials, personnel from non-governmental organizations, and scientists.

Course objectives: To survey elements of national hazardous waste site ranking.

Course overview: Course lectures address programs at individual sites, pollution impact, and short- and long-term remediation needs. Participants also review general case studies for ranking decisions.

Scholarship funds: None available through the course provider.

HW 196

Dates: To be determined

Duration: To be determined

Location: Asia sites negotiable

Contact:

Mr. Robert D. Norris
Bioremediation Services
227 French Landing Drive
Nashville, TN 37228 USA

Phone: (615) 255-2288

Fax: (615) 256-8332

Fees: \$960

HAZARDOUS WASTE SITE REMEDIATION

Eckenfelder, Inc.

Participants: Environmental professionals from industry, government, military, and academia, especially chemists, biologists, and engineers.

Course objectives: To be able to evaluate potential for contaminant migration, contaminated site conditions, and to understand data requirements, remedial technologies, and risk assessment.

Course overview: This course addresses migration of chemicals from hazardous waste sites, site investigation methods, risk assessment, aquifer restoration, and conventional and innovative technologies including bioremediation, soil vapor extraction, soil flushing and washing, and in situ vitrification.

Scholarship funds: None available through the course provider.

HW 197

Dates: Offered on demand

Duration: 2 weeks

Location: U.S. and Asia sites negotiable

Contact:
Mr. Avijit Dasgupta, Ph.D.
ABB Environmental Services, Inc.
110 Free Street
Portland, ME 04101 USA

Phone: (207) 828-3462

Fax: (207) 772-4762

Fees: \$2,500

HAZARDOUS WASTE MANAGEMENT

ABB Environmental Services, Inc.

Participants: Environmental staff in industry, consultants, regulators, high school/college students. A minimum of twenty participants is required.

Course objectives: To survey hazardous waste management as developed and practiced in the U.S.

Course overview: This course covers the identification and classification of hazardous waste, storage, transportation methods, and treatment of contaminated soil and ground water. Health and safety considerations in handling hazardous wastes are discussed. Case histories demonstrate how to conduct investigations to characterize hazardous waste sites and develop alternatives to remediate contamination.

Scholarship funds: The course provider offers discounts of \$300 per person for groups of twenty-five or larger.

HW 198

Dates: August-December 1995

Duration: 14 weeks (estimated)

Location: Chicago, Illinois;
Wheaton, Illinois

Contact:
Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887

Fax: (312) 567-7517

Fees: \$1,425 (Tuition)

HAZARDOUS WASTE ENGINEERING (ENVE 580)

Illinois Institute of Technology

Participants: Professionals currently working in the field.

Course objectives: To further professional development.

Course overview: Course lectures cover sources and characteristics of hazardous wastes, legal aspects of hazardous wastes management, significance of hazardous wastes as air, water and soil pollutants, and principles and applications of conventional and specialized hazardous waste control technologies.

Scholarship funds: None available through the course provider.

Hazardous Waste Management

HW 199

Dates: To be determined

Duration: 2 days

Location: Connecticut

Contact:

Ms. Constance L. Boehm
Program Specialist
Extended and Continuing Education
Center for Professional
Development U-56D
University of Connecticut
One Bishop Circle
Storrs, CT 06269-4056 USA

Phone: (203) 486-3231

Fax: (203) 486-5221

Fees: \$395 (approximately)

HEAVY METALS: SITE ASSESSMENT AND REMEDIATION

University of Connecticut

Participants: Engineers and scientists working in the areas of environmental assessment, ecological modeling and remediation for heavy metal pollution; state and federal agency scientists who deal with regulation issues of heavy metal pollution; environmental attorneys; town planners; and environmental managers.

Course objectives: To learn the basic principles of transformation, reaction, and transport processes that alter the fate of heavy metals in the environment, and methods for conducting site assessments.

Course overview: This course consists of lectures, case studies, discussions of laboratory procedures, and mathematical modeling. Topics include risk assessment and exposure; precipitation, dissolution and volatilization reactions; cycling of chromium, cadmium, and lead in the environment; field screening techniques for heavy metal contamination, laboratory and field studies for evaluating environmental pollution, sample handling techniques and laboratory testing procedures, remediation well design, and testing.

Scholarship funds: To be determined.

HW 200

Dates: 1) November 22-23, 1993
2) June 1994
3) August 1994

Duration: 2 days

Location: 1) Scottsdale, Arizona
2) Myrtle Beach, South Carolina
3) Orlando, Florida

Contact:

Mr. Walter Eggers
Government Institutes, Inc.
4 Research Place, Suite 200
Rockville, MD 20850 USA

Phone: (301) 921-2345

Fax: (301) 921-0373

Fees: \$899

HOW TO MANAGE YOUR HAZARDOUS WASTE

Government Institutes, Inc.

Participants: Business owners, engineers, environmental managers, attorneys, association members, and other professionals with environmental concerns.

Course objectives: To be better informed about the classification of hazardous wastes, the management and disposal of these wastes, necessary permits, training, and response programs.

Course overview: The extensive agenda for this course features expert speakers from the field of hazardous waste management. Participants work through several waste identification exercises, determine reportable quantities, prepare a hazardous waste manifest, and examine land disposal restriction notifications and certification forms.

Scholarship funds: None available through the course provider.

HW 201

Dates: November 10-11, 1993

Duration: 2 days

Location: Saint Louis, Missouri

Contact:

Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$875

INDUSTRIAL HAZARDOUS WASTE INCINERATION
American Institute of Chemical Engineers

Participants: Environmental engineers currently responsible for the design of incineration systems.

Course objectives: To understand incineration as a viable alternative when other disposal methods have legal or technical restrictions.

Course overview: This course reviews factors affecting the design of hazardous liquid, solid, and sludge waste incinerators to meet current environmental standards. Procedures include calculating the size of combustion chambers and scrubbers; fuel, scrubber water and caustic consumption rates; and stack gas and scrubber spurge water quality. Emphasis is on designing for reducing operating and maintenance costs.

Scholarship funds: None available through the course provider.

HW 202

Dates: July 1994

Duration: 6 weeks (approximately)

Location: To be determined

Contact:

Ms. Rita Smith-Simms
Engineering Programs
University Extension-UC
Davis, CA 95616-8727 USA

Phone: (916) 757-8878

Fax: (916) 757-8634

Fees: \$3,295 (Course fees and materials)

**INTENSIVE CERTIFICATE PROGRAM IN
HAZARDOUS MATERIALS MANAGEMENT**
University of California-Davis (Extension)

Participants: Health and safety officers, industrial hygienists, chemists, regulatory/compliance officers, sanitarians, environmental specialists, foresters, hazardous materials managers, emergency response personnel, engineers, educators, and technical editors.

Course objectives:

-To receive certification in hazardous materials management;
-To develop background necessary for career advancement or entry into the field.

Course overview: The course provides an introduction to science, policy and technologies of hazardous materials management. Lectures address current techniques for safe handling, storage, use, and disposal of toxic and hazardous substances; principles of ground water hydrology; industrial hygiene; environmental auditing; air quality; incident response; and practical approaches for complying with government regulations and industry environmental standards.

Scholarship funds: None available through the course provider.

Hazardous Waste Management

HW 203

Dates: December 8-10, 1993

Duration: 3 days

Location: Madison, Wisconsin

Contact:

Mr. Jack Quigly
Department of Engineering
Professionals Development
University of Wisconsin-Madison
431 North Lake Street
Madison WI 53706 USA

Phone: (608) 265-2083

Fax: (608) 262-2061

Fees: \$1075 (Course fees)

LEAK DETECTION AND CLEANUP

University of Wisconsin-Madison

Participants: Degreed professionals, consultants, technicians, plant engineers, environmentalists and operating personnel.

Course objectives: To be better able to choose equipment for leak detection systems, and specify cleanup tasks.

Course overview: This course consists of illustrative lectures covering principal methods of leak detection. Participants work with mock-ups of tanks with leak detection devices, and also inspect equipment.

Scholarship funds: None available through the course provider.

HW 204

Dates: November 1-4, 1993

Duration: 4 days

Location: Madison, Wisconsin

Contact:

Mr. Jack Quigly
Department of Engineering
Professionals Development
University of Wisconsin-Madison
431 North Lake Drive
Madison, WI 53706 USA

Phone: (608) 265-2083

Fax: (608) 263-3160

Fees: \$925 (Course fees)

LIQUID STORAGE TANK TECHNOLOGY

University of Wisconsin-Madison

Participants: Degreed professionals, installers, and designing engineers, technicians, and environmentalists.

Course objectives: To be able to identify regulations and industry standards in order to build and inspect liquid storage tanks.

Course overview: Participants have the opportunity to view displayed materials and many illustrations and technical sketches. Course lecture deals extensively with issues related to testing and liquid storage tank technology.

Scholarship funds: None available through the course provider.

HW 205

MANAGEMENT AND DISPOSAL OF RADIOACTIVE WASTES

Harvard School of Public Health

Dates: Late Spring/Early Summer 1994

Duration: 5 days

Location: Boston, Massachusetts

Contact:

Ms. Kathryn Lord
Office of Continuing Education
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115 USA

Phone: (617) 432-1171

Fax: (617) 432-1969

Fees: \$1,050-\$1,200 (approximately)

Participants: Industrial hygienists, health physicists, medical and educational researchers, occupational health professionals, nuclear safety specialists, federal and state regulators, and industrial managers.

Course objectives: To understand the practical aspects of managing low-level radioactive wastes.

Course overview: This course covers technological and regulatory developments in the field of radioactive waste management, with emphasis on the management and disposal of low-level wastes. Course topics include: sources and classification of radioactive wastes; radiation fundamentals and environmental standards; status of state programs; problems of radioactive scrap; NORM and NARM wastes; assay of low-level waste packages; and current U.S. and foreign waste disposal options.

Scholarship funds: Discounts are offered by the course provider on a case-by-case basis on request.

HW 206

MANAGEMENT OF UNDERGROUND STORAGE TANKS

Eckenfelder Inc./Center for Professional Advancement

Dates: Annually

Duration: 3 days

Location:

East Brunswick, New Jersey; other U.S. sites negotiable

Contact:

Registrar, The Center for Professional Advancement
P.O. Box 964
East Brunswick, NJ 08816 USA

Phone: (908) 613-4500

Fax: (908) 238-9113

Fees: \$990

Participants: Plant managers, environmental directors, regulators, and consultants.

Course objectives: To understand regulations and management of upgrading underground storage tanks, installation methods, and methods of remediating soils and ground water.

Course overview: The course provides background on legal and regulatory considerations relevant to underground storage tanks, fundamentals of contaminant migration, installation requirements and methods, tank testing and monitoring, remedial technologies for soils and water including ground water capture and treatment, bioremediation, soil vapor extraction, and air sparging. Case histories and costs are discussed.

Scholarship funds: None available through the course provider.

Hazardous Waste Management

HW 207

Dates: November 2-5, 1993;
May 30-June 2, 1994;
November 29-December 2, 1994

Duration: 4 days

Location: Dallas, Texas

Contact:
Registrar
Oil & Gas Consultants Int'l, Inc.
P.O. Box 35448
Tulsa, OK 74153-0448 USA

Phone: (918) 742-2334
Fax: (918) 742-2272

Fees: \$1015 (Course fees and materials)

NORM CONTAMINATION IN THE PETROLEUM INDUSTRY

Oil & Gas Consultants International, Inc.

Participants: Petroleum, drilling, production, well site, and pipeline engineers and technicians; technical or plant managers and supervisors; safety, compliance, and environmental engineers; process/operations engineers; attorneys and service company staff.

Course objectives:

-To gain an overall view of Naturally Occurring Radioactive Materials (NORM) contamination in the petroleum industry;
-To be able to determine if radiation intensity measurements are within regulations.

Course overview: This course consists of lectures and discussions of procedures for the protection of employees, facilities, and the environment; the nature of NORM and its distribution within the petroleum industry; recommended safety and maintenance practices; disposal options for radioactive contaminated wastes; and applicable federal and state regulations. Participants use data to gain experience determining if intensity levels are within regulations.

Scholarship funds: None available through the course provider.

HW 208

Dates: To be determined

Duration: 3 or 5 days

Location: To be determined

Contact:
Mr. Tony Wood
EAST
5703 Cates Drive
Greensboro, NC 27410 USA

Phone: (919) 852-1910
Fax: (919) 299-6382

Fees: \$600-\$800 per instructor per day

OIL SPILL RESPONSE

Environmental Assessments Services & Training

Participants: Owner, operators, or managers responsible for hazardous materials storage or hazardous waste generating locations.

Course objectives: To gain basic knowledge of the subject and to learn workplace safety and industrial hygiene.

Course overview: Courses are customized for the audience, especially for those from specific companies or industry groups in order to concentrate on their specific hazards, materials, and environmental concerns. Content may include demonstrations of product types, different sorbent types used for cleaning oil spills in soil, and economic considerations of each sorbent type.

Scholarship funds: None available from the course provider.

HW 209

Dates: November 10-12, 1993

Duration: 3 days

Location: Saint Louis, Missouri

Contact:

Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$1095

**PREVENTION, MANAGEMENT, AND COMPLIANCE
FOR HAZARDOUS WASTES**

American Institute for Chemical Engineers

Participants: Plant engineers, environmental personnel, and corporate staff responsible for hazardous waste.

Course objectives: To learn an integrated approach to the final disposition of waste materials.

Course overview: This course focuses on a total system evaluation. Current approaches to pollution prevention, upgrading facilities, closure, and corrective actions are given from a series of case studies. The course begins with an orientation to engineering solutions and regulations. Detailed case studies are used to demonstrate practical solutions with an emphasis on techniques for minimizing hazardous waste production. Design and compliance approaches in the evolving regulatory environment are presented with examples of corrective action and closure for past practices.

Scholarship funds: None available through the course provider.

HW 210

Dates: December 1993; June,
November-December 1994

Duration: 1 week

Location: Atlanta, Georgia

Contact:

Mr. D.R. Stone, President
D.R. Stone and Associates, Inc.
5407 Sky Valley Drive
Chattanooga, TN 37343 USA

Phone: (615) 875-4601

Fax: (615) 697-2426

Fees: \$995

**RADIATION PROTECTION AND RADIOLOGICAL
ASSESSMENT**

D.R. Stone and Associates, Inc.

Participants: Technical personnel involved with hazardous chemical or radioactive materials.

Course objectives: To be prepared to work with hazardous materials for site assessment, remediation, and on-going safety operations.

Course overview: The course is designed to provide the technical skills required to develop site safety plans and to properly work in environments containing these materials. Content includes regulatory requirements pertinent to real situations, properties and hazards of radiation, detection methods, proper instrumentation, application, assessment methods, and packaging material for transport and disposal.

Scholarship funds: Possibly available through the course provider.

Hazardous Waste Management

HW 211

Dates: Offered on demand

Duration: 2 days

Location: Negotiable

Contact:

Dr. Daniel Hoglund
Science Applications Int'l Corp.
PO Box 2501
Oak Ridge, TN 31831-7501 USA

Phone: (615) 482-9031

Fax: (615) 482-6828

Fees: \$695 (Course fees and materials)

RADIOACTIVE MATERIALS TRANSPORTATION

Science Applications International Corporation

Participants: Hazardous materials employees, drivers, training and traffic managers working with hazardous materials transportation.

Course objectives: To review existing radioactive materials transport regulations and contrast present regulations with future regulations.

Course overview: Course lecture topics include highway route controlled quantities, shipping paper requirements, required markings, labels, and placards, and radiation limits. Group exercises involve working through shipping determinations, and the categorizing of radioactive materials. This course focuses on compliance with the International Atomic Energy Agency regulations.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

HW 212

Dates: Monthly in 1994; also offered on demand

Duration: 2 days

Location: Niceville, Florida; other U.S. sites negotiable

Contact:

Mr. Scott R. Henson
Delta Research Corporation
1501 Merchants Way
Niceville, FL 32578 USA

Phone: (904) 897-5380

Fax: (904) 897-5388

Fees: \$1300

REMEDIAL ACTION COST ENGINEERING AND REQUIREMENTS

Delta Research Corporation

Participants: Individuals interested in determining applicability, effectiveness and cost of Remedial Action Alternatives at chemical contamination sites.

Course objectives: To learn the applications of the Remedial Action Cost Engineering and Requirements System (RACER) to site specific conditions, and its advantages/disadvantages.

Course overview: This course provides support in applying RACER, an IBM PC-based system used in environmental assessment and restoration efforts. Parametric Modeling (primarily a top-down approach to project site remediation costs) allows flexibility in application regardless of location. Participants gain application insight, and receive hands-on experience as well as software, documentation, and help support.

Scholarship funds: None available through the course provider.

HW 213

Dates: November 1993;
June, September, October 1994

Duration: 1 day

Location: Varies

Contact:

Mr. Tony Wood
EAST
5703 Cates Drive
Greensboro, NC 27410 USA

Phone: (919) 852-1910

Fax: (919) 299-6382

Fees: \$600-\$800 per instructor per
day

**SAFE SAMPLING FOR HAZARDOUS MATERIALS
AND HAZARDOUS WASTE**

Environmental Assessments Services & Training

Participants: Owners, operators, or responsible managers of hazardous materials storage or hazardous waste generating locations.

Course objectives: To learn sampling methods, workplace safety and industrial hygiene for the protection of human health and the environment.

Course overview: Courses are customized for the audience, especially those from specific companies or industry groups in order to concentrate on their specific hazards, materials, and environmental concerns. Possible topics include sampling, protocol, instruments, containers, and issues with opening drums.

Scholarship funds: None available from the course provider.

HW 214

Dates: To be determined

Duration: 2 days

Location: Connecticut

Contact:

Ms. Constance L. Boehm
Program Specialist
Extended and Continuing Education
Center for Professional
Development U-56D
University of Connecticut
One Bishop Circle
Storrs, CT 06269-4056 USA

Phone: (203) 486-3231

Fax: (203) 486-5221

Fees: \$500 (approximately)

SITE REMEDIATION: SOURCE CONTROL

University of Connecticut

Participants: Environmental scientists, environmental engineers, environmental geologists, other professionals actively engaged in the practice of environmental science and engineering.

Course objectives: To know the basic hazardous waste regulatory requirements; understand the principles underlying source control technologies; be aware of specific technology evaluation and design protocols; and understand risk assessment fundamentals.

Course overview: Course lectures and case studies focus on hazardous waste site remediation, or more specifically, source control. The course outline includes regulatory framework, critical issues in technology selection, basic engineering principles, ground water issues, conventional technologies applicable to hazardous wastes, and source control processes such as soil vapor extraction, soil washing, solidification/stabilization, and bioremediation.

Scholarship funds: To be determined.

Hazardous Waste Management

HW 215

Dates: Offered on demand

Duration: 3 days

Location: Negotiable

Contact:

Mr. Richard Crume
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513-2412 USA

Phone: (919) 677-0249 ext. 5223

Fax: (919) 677-0065

Fees: Negotiable

SOIL VAPOR EXTRACTION WORKSHOP

Midwest Research Institute

Participants: Geologists, hydrologists, engineers, field chemists, environmental scientists/analysts.

Course objectives: To comprehensively examination the concepts, field conditions, operating parameters, and equipment involved in successful cleanup efforts using soil vapor extraction technology.

Course overview: The course covers important concepts, components, tools and practical rules of thumb in applying soil vapor extraction technology. Instruction focuses on key information needs and decisions involved in feasibility analysis, design, and operation of systems. Evaluation of case studies using computer software provides "hands-on" experience and a simulation of field applications and decision making.

Scholarship funds: None available through the course sponsor.

HW 216

Dates: Offered on demand

Duration: 2 days

Location: Negotiable

Contact:

Mr. Mark Turner
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513 USA

Phone: (919) 677-0249, ext. 5255

Fax: (919) 677-0065

Fees: Negotiable

STORAGE TANK EMISSIONS ESTIMATION SOFTWARE

Midwest Research Institute

Participants: Air agency personnel, plant operators.

Course objectives: To understand volatile organic liquid storage tank emission and estimation software for estimating emissions.

Course overview: Course lectures describe how to use the TANKS computer software program to estimate VOC emissions from volatile organic liquid storage tanks. Participants apply information from lectures by gaining hands-on experience using the software.

Scholarship funds: None available through the course provider.

HW 217

Dates: Annually

Duration: 3 days

Location:

East Brunswick, New Jersey; other U.S. sites negotiable

Contact:

Registrar, The Center for Professional Advancement
P.O. Box 964
East Brunswick, NJ 08816 USA

Phone: (908) 613-4500

Fax: (908) 238-9113

Fees: \$1,060

TOXICOLOGICAL AND ECOLOGICAL ASSESSMENTS OF ENVIRONMENTAL QUALITY

Eckenfelder Inc./Center for Professional Advancement

Participants: Scientists, engineers, and managers involved in wastewater discharge or hazardous waste site activities, and responsible for compliance with discharge limits or remediation.

Course objectives: To understand regulatory and technical aspects of ecological and technical assessments as they relate to non-human receptors.

Course overview: This course covers regulatory aspects, overview of toxicological and ecological procedures, toxicity testing methods, biological assessments, field surveys, toxicity identification and reduction evaluations, discharge criteria negotiations, environmental assessments and impact statements, and ecological risk assessments.

Scholarship funds: None available through the course provider.

HW 218

Dates: November 5-7, 1993

Duration: 3 days

Location: Saint Louis, Missouri

Contact:

Mr. Harold Abramson
American Institute of Chemical Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$1095

TRANSPORT AND FATE OF CHEMICALS IN THE ENVIRONMENT: CHEMODYNAMICS

American Institute of Chemical Engineers

Participants: Geologists, engineers, managers, and other environmental professionals responsible for evaluation and management of contaminated sites.

Course objectives:

-To learn quantitative techniques for predicting transport behavior of artificial chemicals in the natural environment.

-To develop simple quantitative models for predicting pathways, concentration, life-time and movement rates.

Course overview: On the first and second day, the course addresses the interphase transport of chemicals and energy between the air, soil, and water phases of the environment. The focus is mechanisms and rates of movement of chemicals across the three interfaces; air-soil, soil-water, and water-air. The third day covers extensions and applications of chemodynamic principles to in situ remediation of contaminated sites and in situ waste containment techniques.

Scholarship funds: None available through the course provider.

Hazardous Waste Management

HW 219

Dates: November 4-5, 1993

Duration: 2 days

Location: St. Louis, Missouri

Contact:

Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$875

UNDERGROUND & ABOVEGROUND STORAGE TANKS: A TECHNICAL AND REGULATORY OVERVIEW

American Institute of Chemical Engineers

Participants: Engineers or other professionals faced with compliance regulations, selection of equipment, or methods of release detection.

Course objectives: To become familiar with laws, technologies of corrosion, chemical compatibility, and preparedness for corrective action.

Course overview: This course includes a thorough review of the UST regulations, and approaches to communication with implementing agencies. Discussions address the effect of electrolytic corrosion on piping and tank systems, analysis of other failure mechanisms, and an examination of instrumentation currently available for detection of releases, monitoring inventory, and testing tank integrity. The group discusses corrosion protection methods for aboveground tanks, and engages in hands-on exercises with control equipment, and analysis of cleanup strategies.

Scholarship funds: None available through the course provider.

HW 220

Dates: December 6-7, 1993;
Also offered annually

Duration: 2 days

Location: Madison, Wisconsin

Contact:

Mr. Jack Quigly
Department of Engineering
Professionals Development
University of Wisconsin-Madison
431 North Lake Drive
Madison, WI 53706 USA

Phone: (608) 265-2083

Fax: (608) 263-3160

Fees: \$1075 (Course fees)

UNDERGROUND STORAGE TANK MANAGEMENT

University of Wisconsin-Madison

Participants: Degreed professionals, owners and their representatives.

Course objectives: To become more familiar with solid and hazardous waste management issues associated with UST management.

Course overview: The course consists of illustrative lectures addressing erosion, the selection of proper materials, gauging systems, and all options for purchasing tanks.

Scholarship funds: None available through the course provider.

HW 221

Dates: Offered on demand

Duration: 1 day

Location: Negotiable

Contact:

Mr. Richard Crume
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513-2412 USA

Phone: (919) 677-0249 ext. 5223

Fax: (919) 677-0065

Fees: Negotiable

UNDERGROUND STORAGE TANK LEAK DETECTION

Midwest Research Institute

Participants: Tank facility owners/operators, engineers, contractors, environmental constituents, and regulatory personnel.

Course objectives: To gain a comprehensive overview of U.S. Federal leak detection requirements and commercially available leak detection equipment.

Course overview: This course introduces U.S. Federal UST leak detection and monitoring requirements; accepted equipment and methods for tank and piping leak detection; technical advantages/disadvantages of each method; operational and maintenance considerations; and practical field application information, procedures, and inspection protocol.

Scholarship funds: None available through the course provider.

HW 222

Dates: To be determined

Duration: 3 days

Location: Connecticut

Contact:

Ms. Constance L. Boehm
Program Specialist
Extended and Continuing Education
Center for Professional
Development U-56D
University of Connecticut
One Bishop Circle
Storrs, CT 06269-4056 USA

Phone: (203) 486-3231

Fax: (203) 486-5221

Fees: \$725 (approximately)

USE OF PORTABLE GAS CHROMATOGRAPHY AT HAZARDOUS WASTE SITES

University of Connecticut

Participants: Environmental chemists, consultants, geologists, testing laboratory staff, ground water laboratory directors, and others seeking to become more proficient in using portable gas chromatographs.

Course objectives: To better understand the proper use and maintenance of field-portable gas chromatographs, the advantages and limitations of several models, and the static headspace method to rapidly survey for volatile organic compounds.

Course overview: In this course, participants gain on-site hands-on experience by testing equipment such as the Photovac 10S-series, the HNU Model 311 and Century OVA 128 portable gas chromatographs. Lectures cover advantages and disadvantages, instrument maintenance, pre-column backflash technique, total analysis mode, static headspace method, and a comparison of static and purge-and-trap headspace methods.

Scholarship funds: To be determined.

Hazardous Waste Management

HW 223

Dates: November 15-17, 1993

Duration: 3 days

Location: Madison, Wisconsin

Contact:

Mr. Michael Waxman
Department of Engineering
Professionals Development
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706 USA

Phone: (608) 262-0493

Fax: (608) 263-3160

Fees: \$850

WORKSHOP FOR EMERGENCY RESPONSE TEAMS- TECHNICIANS LEVEL

University of Wisconsin-Madison

Participants: Factory or chemical facility workers.

Course objectives: To recognize hazards, respond effectively, and remediate emergencies.

Course overview: Course lectures focus on hazard recognition, how to respond, equipment selection for response and cleanup associated with emergencies. Hands-on experience covers respiratory equipment, site simulations, and other site activities.

Scholarship funds: None available through the course provider.

HW 224

Dates: November 1-4, 1993; 1994

Duration: 4 days

Location: Madison, Wisconsin

Contact:

Mr. Michael Waxman
Department of Engineering
Professionals Development
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706 USA

Phone: (608) 262-0493

Fax: (608) 263-3160

Fees: \$1075 (Course fees, materials,
and some meals)

WORKSHOP OF SUPERFUND AND RCRA REMEDIATION SITE PERSONNEL

University of Wisconsin-Madison

Participants: Professionals, engineers, technicians, and environmentalists.

Course objectives: To receive initial training in solid and hazardous waste management.

Course overview: Course lectures and case studies cover chemical compatibility, industrial hygiene, hazard recognition, respiratory equipment and protective clothing. In hands-on site simulations, participants perform activities related to spill containment, decontamination, hazard recognition, and drum field exercises. Participants prepare a site plan to submit at the end of the course.

Scholarship funds: None available through the course provider.

IA 225

Dates: July 11-15, 1994;
July 10-14, 1995

Duration: 5 days

Location: Cambridge, Massachusetts

Contact:

Professor Phil M. Gschwend
48-415
Massachusetts Institute of
Technology
Cambridge, MA 02139 USA

Phone: (617) 253-1638

Fax: (617) 253-7395

Fees: \$1600

ASSESSING ORGANIC POLLUTANTS IN THE ENVIRONMENT

Massachusetts Institute of Technology

Participants: Professionals challenged with predicting the fates of organic chemicals in various settings and engineering corrective systems.

Course objectives: To learn how chemical structures cause the molecular interactions that govern the various transfer and reaction processes which organic compounds undergo in the environment.

Course overview: Course lectures and case studies cover physical chain properties, exchange of chemicals between air and water, predicting the fate of solvents, solid-water exchange, biota-water exchange, and light-mediated reactions. Participants gain hands-on experience using computer models to assemble data from case studies, and are encouraged to bring up issues of importance to them.

Scholarship funds: Course provider offers a limited number of \$600 scholarships.

IA 226

Dates: Offered on demand

Duration: 4 weeks

Location: Wilberforce, Ohio USA

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$4,000

ENVIRONMENTAL IMPACT ASSESSMENTS

Central State University

Participants: Public works professionals, engineers, geologists, environmental professionals, and graduate students.

Course objectives: To learn to conduct environmental impact assessments of public works and industrial projects in order to apply for funding from agencies.

Course overview: Course participants are taught the essential elements involved in developing environmental impact assessments of public works projects (dams, reservoirs, highways, landfills, etc.) using examples of general applicability. The course also includes an in-depth consideration of the human effects of environmental contaminants and risk assessments. Field trips may be included.

Scholarship funds: None available through the course provider.

Environmental Impact Assessment

IA 227

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin, Director

Human Resources Development

EPAT/Winrock International

Environmental Alliance

1611 North Kent Street, Suite 600

Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

ENVIRONMENTAL IMPACT ASSESSMENT

Winrock International Environmental Alliance

Participants: Government policy analysts and planners with responsibility for the review of development-related projects.

Course objectives: To examine how environmental impact assessments can contribute to development options that are sustainable, and enhance the capacity of institutions to manage resources effectively.

Course overview: This course emphasizes analysis and identification of pressing local environmental and development issues, interpretation of statistical data, and natural resource management. Examples from the U.S. are discussed, but a major focus is on implementation, design, and use of environmental assessments in developing countries.

Scholarship funds: May be available through the local USAID mission.

IA 228

Dates: Offered on demand

Duration: 5 days

Location: Negotiable

Contact:

Mr. James Roberts

Global Environmental

2862 Arden Way, Suite 215

Sacramento, CA 95825 USA

Phone: (916) 483-1564

Fax: (916) 483-1567

Fees: Negotiable

ENVIRONMENTAL IMPACT ASSESSMENT

Global Environmental

Participants: Environmental planning and resource management professionals from government, non-governmental organizations, private sector businesses and other institutions.

Course objectives:

-To understand the Environmental Impact Assessment (EIA) process and products for application to actual projects;

-To develop skills for scheduling and managing EIA projects.

Course overview: This comprehensive course trains in the EIA process for implementing laws and producing related products to meet the requirements established by EIA laws. It examines methods for citizen involvement in planning and impact assessment; mitigation implementation and monitoring; the application of opportunities, constraints, and sensitivities (OCS) to EIA; significant criteria; and cumulative analysis. Participants apply EIA to case studies, or to their own actual projects. Field trips may include montane, riverine and coastal habitats to demonstrate the successes and shortcomings of EIA. Course content can be tailored to client needs.

Scholarship funds: None available through the course provider.

IA 229

Dates: July 10-August 1994

Duration: 6 weeks

Location: Corvallis, Oregon

Contact:

Mr. Jim Peters
International Training Coordinator
Office of International Research &
Development, Snell Hall 400
Oregon State University
Corvallis, OR 97221-1641 USA

Phone: (503) 737-6408

Fax: (503) 737-3447

Fees: \$4,000 (course materials,
tuition, and field trips)

**ENVIRONMENTAL IMPACT ASSESSMENT SKILLS
FOR NATURAL RESOURCE MANAGERS**

Oregon State University

Participants: Mid-level managers of private and government environmental agencies responsible for managing natural resources, and assessing the environmental impact of potential development projects. A minimum of six participants is required.

Course objectives: To develop leadership and management techniques for natural resource management.

Course overview: This course is action- and experience-oriented. It focuses on international and U.S. aspects of environmental impact assessments such as the origin of the National Environmental Policy Act and International Environmental Policy, risk assessment, cost-benefit analysis, multi-objective decision making, and leadership and management skills. Participants gain practical experience through an internship in a leading natural resource management agency, and design a natural resource management plan relevant to their home country context.

Scholarship funds: None available through the course provider.

IA 230

Dates: Bi-monthly beginning in
November 1993

Duration: 2 weeks

Location: Washington, D.C.;
Orlando, Florida; or Asia sites
negotiable

Contact:

Mr. David A. Burack
Director of International Affairs
CH2M Hill International, Ltd.
1250 H Street NW, Suite 575
Washington, DC 20005 USA

Phone: (202) 393-2426

Fax: (202) 783-8410

Fees: \$2,500

ENVIRONMENTAL IMPACT ASSESSMENT

CH2M Hill International, Ltd.

Participants: Senior and middle level government managers responsible for preparation or review of Environmental Impact Assessment (EIA) documents. A minimum of seven participants is required.

Course objectives: To obtain a practical understanding of the conduct and management of multi-sector EIA projects.

Course overview: In this course, a case study approach is utilized so that participants have first-hand practical experience with the start-to-finish procedure in putting together an environmental impact assessment.

Scholarship funds: None available through the course provider.

Environmental Impact Assessment

IA 231

Dates: Offered on demand

Duration: 3 days

Location: U.S. and Asia sites negotiable

Contact:

Ms. Mary Ann Bailey
USEPA
401 M Street, SW A106
Washington, DC 20460 USA

Phone: (202) 260-5237

Fax: (202) 260-8512

Fees: No tuition

ENVIRONMENTAL IMPACT ASSESSMENT

U.S. Environmental Protection Agency

Participants: Government officials, scientists, and personnel from non-governmental organizations.

Course objectives: To understand key principles involved in the impact assessment process.

Course overview: This course provides facilitated group discussion covering basic principles for creating courses that could be duplicated. Topics addressed include: the usefulness of public participation, conflicts of interest, appropriate content for an impact assessment, and making decisions about impact and the environment.

Scholarship funds: None available through the course provider.

IA 232

Dates: March 1994

Duration: 2 days

Location: Orlando, Florida

Contact:

Mr. Walter Eggers
Government Institutes, Inc.
4 Research Place, Suite 200
Rockville, MD 20850 USA

Phone: (301) 921-2345

Fax: (301) 921-0373

Fees: \$499

ENVIRONMENTAL RISK ASSESSMENT

Government Institutes, Inc.

Participants: Business owners, engineers, environmental managers, attorneys, association members, and other professionals with environmental concerns.

Course objectives: To learn various risk assessment methodologies and their applications to compliance programs.

Course overview: The course covers the effects of contaminants at specific waste sites and the extent of the cleanup; how to set permit limitations so as to protect the receiving environmental media and decide on the appropriate cleanup level in corrective actions under RCRA; the magnitude of risks to human health and the environment when a hazardous chemical is accidentally released; and how to verify plaintiff claims to exposure to hazardous materials. Participants use real-world case studies to apply risk assessments to a variety of environmental problems.

Scholarship funds: None available through the course provider.

IA 233

ENVIRONMENTAL MONITORING AND ASSESSMENT (ENVE 520)

Illinois Institute of Technology

Dates: January 14-May 14, 1995

Participants: Professionals currently working in the field.

Duration: 14 weeks (estimated)

Course objectives: To further professional development.

Location: Chicago, Illinois;
Wheaton, Illinois

Course overview: Course lectures cover modeling and monitoring methods for the prediction and assessment of environmental impacts due to changes in the physical/chemical/biological environment, and comparative studies of methodologies to assess immediate and extended effects, including trends in anthropogenic systems. Also included are dynamics of environmental changes, inventory methods, and priority impact criteria.

Contact:
Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887

Fax: (312) 567-7517

Scholarship funds: None available through the course provider.

Fees: \$1,425 (Tuition)

IA 234

ENVIRONMENTAL AUDITS

ABB Environmental Services, Inc.

Dates: Offered on demand

Participants: Environmental staff in industry, consultants, regulators, and high school/college students. A minimum of twenty participants is required.

Duration: 2 weeks

Course objectives: To learn approaches for conducting environmental audits and gain specific information on methodologies to conduct audits.

Location: U.S. and Asia sites negotiable

Course overview: This course covers how to conduct audits using standard checklists. Case histories demonstrate the use of methodologies and the benefits obtained by conducting environmental audits. Participants have the opportunity to apply methodology to practice sites in course exercises.

Contact:
Mr. Avijit Dasgupta, Ph.D.
ABB Environmental Services, Inc.
110 Free Street
Portland, ME 04101 USA

Phone: (207) 828-3462

Fax: (207) 772-4762

Scholarship funds: The course provider offers discounts of \$300 per person for groups of twenty-five or larger.

Fees: \$2,500

Environmental Impact Assessment

IA 235

Dates: January 1994

Duration: 3 days

Location: Orlando, Florida

Contact:

Mr. Walter Eggers
Government Institutes, Inc.
4 Research Place, Suite 200
Rockville, MD 20850 USA

Phone: (301) 921-2345

Fax: (301) 921-0373

Fees: \$999

ENVIRONMENTAL AUDITS

Government Institutes, Inc.

Participants: Business owners, engineers, environmental managers, attorneys, association members, and other professionals with environmental concerns.

Course objectives: To learn a step-by-step approach to an audit and to acquire field-tested checklists and practical guidelines.

Course overview: This course covers the legal requirements for doing audits, establishing a new audit program, or making an existing one more cost-effective; what to look for during an audit; how to train your auditors; the tools needed for an audit; additional benefits of audits; and case studies of successful and unsuccessful audit programs. Instructors include some of the top environmental auditors in the U.S.

Scholarship funds: None available through the course provider.

IA 236

Dates: February 1994

Duration: 2 days

Location: Orlando, Florida

Contact:

Mr. Walter Eggers
Government Institutes, Inc.
4 Research Place, Suite 200
Rockville, MD 20850 USA

Phone: (301) 921-2345

Fax: (301) 921-0373

Fees: \$899

HEALTH AND SAFETY AUDITS

Government Institutes, Inc.

Participants: Business owners, engineers, environmental managers, attorneys, association members, and other professionals with environmental concerns.

Course objectives: To learn how to ensure compliance with Occupational Safety and Health Agency standards and how to establish or improve audit programs.

Course overview: This course covers the definition of occupational safety and health; strategies for implementing an auditing program; what to consider in designing an audit, case studies of successful health and safety audit programs; and legal issues to address before and after the audit.

Scholarship funds: None available through the course provider.

IA 237

Dates: To be determined

Duration: 2 days

Location: Orlando, Florida

Contact:

Mr. Walter Eggers
Government Institutes, Inc.
4 Research Place, Suite 200
Rockville, MD 20850 USA

Phone: (301) 921-2345

Fax: (301) 921-0373

Fees: \$899

INTERNATIONAL ENVIRONMENTAL AUDITS

Government Institutes, Inc.

Participants: International attorneys, business leaders, engineers, environmental managers, association leaders, and other professionals involved with international audits.

Course objectives:

-To learn about information resources and tools available to international auditors;

-To learn the special considerations involved in auditing the environmental compliance of facilities in different countries.

Course overview: Course discussions cover methods for establishing audit scope, procedures for consistent evaluation guidelines among different facilities in different countries, the European Community's proposed Eco-Audit rules, and their impact on the auditing process. Participants learn to assemble audit teams, develop effective protocols, compile useful checklists, and write understandable reports.

Scholarship funds: None available through the course provider.

IA 238

Dates: Offered on demand

Duration: 1-3 days (flexible)

Location: Negotiable

Contact:

Mr. James Roberts
Global Environmental
2862 Arden Way, Suite 215
Sacramento, CA 95825 USA

Phone: (916) 483-1564

Fax: (916) 483-1567

Fees: Negotiable

INTRODUCTION TO ENVIRONMENTAL IMPACT ASSESSMENT

Global Environmental

Participants: Planning and resource management professionals.

Course objectives: To gain a general understanding of the environmental impact assessment process for implementing Environmental Impact Assessment (EIA) laws of the home country, and for producing related products to meet the requirements established by these laws.

Course overview: This general course introduces the participants to the EIA process and products, and teaches them how to apply EIA to their own projects. Course content can be tailored to fit client needs.

Scholarship funds: None available through the course provider.

IA 239

OPPORTUNITIES, CONSTRAINTS, AND SENSITIVITIES FOR PLANNING

Global Environmental

Dates: Negotiable

Duration: 1-3 days (flexible)

Location: Negotiable

Contact:

Mr. James Roberts
Global Environmental
2862 Arden Way, Suite 215
Sacramento, CA 95825 USA

Phone: (916) 483-1564

Fax: (916) 483-1567

Fees: Negotiable

Participants: Environmental professionals, resource managers, professionals from non-governmental agencies, planners, developers, architects, and resource specialists.

Course objectives: To acquire practical tools for evaluating environmental data to determine potential effects of development.

Course overview: Participants learn to determine the areas or resources (either natural or social) most likely to be impacted by development through Environmental Constraints and Sensitivities Analysis (OCS). It also provides a tool for identifying areas of opportunity for various types of land use for incorporating specific resource information into the formulation of planning options. The course includes data collection; categorization, weighting, and mapping of constraints and sensitivities; and analysis and mapping of opportunities. Course content can be tailored to client needs.

Scholarship funds: None available through the course provider.

IA 240

PRACTICAL ENVIRONMENTAL IMPACT ASSESSMENT II (Practicum)

CH2M Hill International, Ltd.

Dates: Bi-monthly beginning in November 1993

Duration: 4 weeks

Location: Washington, D.C.; Orlando, Florida; Asia sites negotiable

Contact:

Mr. David A. Burack
Director of International Affairs
CH2M Hill International, Ltd.
1250 H Street NW, Suite 575
Washington, DC 20005 USA

Phone: (202) 393-2426

Fax: (202) 783-8410

Fees: \$4,500 (Tuition only)

Participants: Senior and middle level government agency managers or consulting firms who are responsible for preparation of Environmental Impact Assessment (EIA) documents. A minimum of seven participants is required.

Course objectives: To develop the practical skills and management expertise needed to prepare an EIA for multi-sectoral projects.

Course overview: In this course, case study and team approaches are used. The first week is an introduction to EIA. Weeks two and three are devoted to "hands-on" experience in the planning and conducting of an EIA using a hypothetical project and real data. The fourth week is a critique of the resultant EIA and a review of lessons learned.

Scholarship funds: None available through the course provider.

IA 241

Dates: July 11-13, 1994

Duration: 3 days

Location: Madison, Wisconsin

Contact:

Ms. Connie Safreed
NGWA Registration Department
6375 Riverside Drive
Dublin, OH 43017 USA

Phone: (614) 761-1711

Fax: (614) 751-3446

Fees: \$720 (tuition and materials)
\$125 per day (daily expenses)

RISK ASSESSMENT FOR THE ENVIRONMENTAL PROFESSION

National Ground Water Association

Participants: Ground water/environmental scientists and engineers from public and private sectors, attorneys, and facility managers.

Course objectives: To learn how to conduct proper quantitative risk assessments for evaluating future health effects of chemicals discovered in water, soil, and air, and the risk associated with remediating a contaminated site, or development of a site with industrial or residential value.

Course overview: This course is designed as an introductory level overview of how to perform a risk assessment. Participants attend lectures and review real-world case studies to prepare for risk calculation sessions. After these sessions, participants join in a group discussion to share the methods and results of their calculations.

Scholarship funds: None available through the course provider.

IA 242

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

Ms. Jane Metcalfe
USEPA-Office of Research and Development
401 M Street, SW H8105
Washington, DC 20460 USA

Phone: (202) 260-7669

Fax: (202) 260-0106

Fees: No tuition

RISK ASSESSMENT

U.S. Environmental Protection Agency

Participants: Government officials, personnel from non-governmental organizations, researchers, scientists, and policy/decision makers.

Course objectives: To learn about concepts of risk assessment and comparative risk.

Course overview: Course lectures establish a common base of knowledge, methodologies, and terminologies. Discussions cover cancer risk assessment/exposure and IRIS, a risk assessment database developed by USEPA.

Scholarship funds: None available through the course provider.

Land Management

LM 243

Dates: Offered on demand

Duration: 3-4 weeks

Location: Laramie, Wyoming

Contact:

Mr. Ed Bradley
International Programs
University of Wyoming
401 Old Main
Laramie, WY 82701 USA

Phone: (307) 766-2872

Fax: (307) 766-2971

Fees: \$2,600 (Course fees and materials)

AGRICULTURAL AND NATURAL RESOURCE INVENTORY AND PLANNING

University of Wyoming

Participants: Wildlife and natural resource professionals and land use managers or specialists with planning and management responsibilities of rangelands.

Course objectives: To learn methods to inventory natural and cultural aspects of a ranch or rangeland manager unit, analyze unit management operations and problems, and develop a detailed unit management plan to achieve unit objectives.

Course overview: This course emphasizes techniques for determining and achieving rational goals, and methods necessary to efficiently inventory and access natural resources. Theories, case studies, lectures, field trips, and laboratory exercises are used to develop land use plans for local or regional areas of interest to each participant. Principles of planning, range ecology, production and grazing management of domestic and wild animals, agricultural and natural resources economics, range improvements, wildlife habitat and watershed management are emphasized.

Scholarship funds: None available through the course provider.

LM 244

Dates: To be determined

Duration: 4 days or negotiable

Location: Varies

Contact:

Mr. Robert E. Crowder
Colog, Inc.
17301 West Colfax, Suite 265
Golden, CO 80401 USA

Phone: (303) 279-0171

Fax: (303) 279-2730

Fees: \$600

BOREHOLE GEOPHYSICAL FUNDAMENTALS AND APPLICATIONS

Colog, Inc.

Participants: Individuals with little logging experience or those seeking a refresher course.

Course objectives: To review common measurements and practical demonstrations of completion evaluations and verification.

Course overview: The first and second days of this class review fundamentals of borehole technology and common logging measurements. The third and fourth days are application oriented and give practical equipment demonstrations of fundamental logging concepts. Discussions are informal with emphasis on insuring a sound understanding of various methods and current techniques. A demonstration of "how to log" is provided with MGX portable digital loggers and PC software. Participants are welcome to bring data and ask about problems they are experiencing.

Scholarship funds: Discounts for groups from the same organization may be available through the course provider.

LM 245

Dates: Fall 1994

Duration: 2 days

Location: Madison, Wisconsin

Contact:

Mr. Páil O'Leary
Department of Engineering
Professionals Development
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706 USA

Phone: (608) 262-2101

Fax: (608) 262-2061

Fees: \$650

CONDUCTING A COMPREHENSIVE ENVIRONMENTAL PROPERTY ASSESSMENT

University of Wisconsin-Madison

Participants: Degreed professionals, site coordinators/assessors currently involved in real estate transactions.

Course objectives: To be better able to perform comprehensive environmental property assessments.

Course overview: The course covers aerial photography, developing site histories, preparation of proposals, site simulations, geological profiles of sites and neighboring sites, and designing the scope of action. Participants apply material presented in the course to write and submit a proposal on an actual site to develop skills for full assessments.

Scholarship funds: None available through the course provider.

LM 246

Dates:

August 14-September 24, 1994;
August 13-September 23, 1995

Duration: 6 weeks

Location: Logan, Utah

Contact:

Dr. Ken Stutler
International Irrigation Center
Utah State University
Logan, UT 84322-4150 USA

Phone: (801) 750-2800

Fax: (801) 750-1248

Fees: \$4,500-1994
\$4,650-1995

ENVIRONMENTAL MANAGEMENT OF AGRICULTURAL LANDS

Utah State University-International Irrigation Center

Participants: Agriculturalists, engineers, and resource managers. A minimum of five participants is required.

Course objectives: To gain skills for analyzing the environmental situation, field measurement techniques, appropriate field practices, and field assessments of changes being implemented for environmental management and sustainable agricultural productivity.

Course overview: This course covers management of soil erosion, soil moisture conservation, waterlogging and salinity, nitrogen, eutrophication, toxic chemicals, and ground water contamination. The fifth and sixth weeks consist of an Environmental Management Study Tour which gives the participants an opportunity of observe and analyze current research and implementation programs.

Scholarship funds: None available through the course provider.

Land Management

LM 247

Dates: 1) September 7-24, 1994
2) September 6-23, 1995

Duration: Two-and-a-half weeks

Location: Logan, Utah

Contact:

Dr. Ken Stutler
International Irrigation Center
Utah State University
Logan, UT 84322-4150 USA

Phone: (801) 750-2800

Fax: (801) 750-1248

Fees: 1) \$2,300-1994
2) \$2,350-1995

ENVIRONMENTAL MANAGEMENT STUDY TOUR OF U.S. MID-WESTERN STATES

Utah State University-International Irrigation Center

Participants: Agriculturalists, engineers, and resource managers. A minimum of five participants is required.

Course objectives: To gain skills for analyzing the environmental situation, field measurement techniques, appropriate field practices, and field assessments of changes being implemented for environmental management and sustainable agricultural productivity.

Course overview: During this tour, visits are made to cooperative federal and state research and demonstration centers working on conservation of natural resources; large watershed projects; private farms; and irrigation and drainage districts, particularly in the Colorado River Basin. Topics covered include: salinity problems and soil and water conservation measures; and agronomic, cultural, and structural practices to maintain a viable, sustainable rainfed or irrigated agriculture. Emphasis is on applied field practices.

Scholarship funds: None available through the course provider.

LM 248

Dates: January 5-March 11, 1994

Duration: 2 months

Location: Corvallis, Oregon

Contact:

Forestry Conference Assistant
Oregon State University
College of Forestry
Peavey Hall 202
Corvallis, Oregon 97331-5710

Phone: (503) 737-2329

Fax: (503) 737-2668

Fees: \$2,800 (Tuition);
\$1,200 (Room and Board)

ENVIRONMENTALLY SOUND, ECONOMICAL TIMBER HARVESTING

Oregon State University

Participants: Silviculturists who have 5 years experience in silviculture and a B.S. in Forestry of Natural Resources.

Course objectives:

- To receive continuing education in silviculture;
- To study cost-effective forest management based on fundamentals biology, statistic and economics.

Course overview: Course modules include Forest Autoecology; Integrated Forest Ecosystems; Statistics and Forest Mensuration; Economics and Problem Solving; Regeneration and Stand Management; and a Case Study of Silvicultural Problem Solving. Course work is about 25 percent practice, including 6 field trips for on site data collection and exercises.

Scholarship funds: May be available through the course provider.

LM 249

Dates: Mid-September 1994;
Mid-September 1995

Duration: 4 weeks

Location: Ann Arbor, Michigan,
Washington, D.C., and
other sites

Contact:

Mr. John Witherspoon, Director
International Forestry Seminars
School of Natural Resources
University of Michigan
Ann Arbor, MI 48109 USA

Phone: (313) 747-4337

Fax: (313) 936-2195

Fees: \$4,800 (covers tuition and
daily expenses)

LM 250

Dates: Winter 1994

Duration: 2 days

Location: Corvallis, Oregon

Contact:

Forestry Conference Assistant
Oregon State University
College of Forestry
Peavey Hall 202
Corvallis, Oregon 97331-5710

Phone: (503) 737-2329

Fax: (503) 737-2668

Fees: \$250 (Course fees and
materials)

FOREST ADMINISTRATION AND MANAGEMENT

*U.S. Department of Agriculture-Forest Service/University of
Michigan*

Participants: Senior natural resource managers who desire to
improve their managerial and administrative skills.

Course objectives:

- To identify biological, social, economic, and organizational factors
which influence forest management decisions;
- To understand principles of integrated resources management;
- To generate an international dialogue on key issues.

Course overview: This study tour presents a variety of forest and
park management techniques and issues, such as multiple use, visitor
protection, resource interpretation, and women in development.
From lectures, site visits and a review of the administrative
operations of forestry management institutions, participants may
formulate ideas for managing forest lands in their own countries.
Participants also conduct a Practical Environmental Analysis of an
issue relevant to national forest ranger districts.

Scholarship funds: Course provider occasionally offers full
scholarships.

FOREST VEGETATION MANAGEMENT

Oregon State University

Participants: Those who plan and implement treatments for
managing competing forest vegetation, both newcomers to the field
and seasoned professionals.

Course objectives: To learn the latest scientific and applied
information on non-herbicidal techniques for managing vegetation
that competes with conifer seedlings.

Course overview: The course is oriented towards the
fundamentals of vegetation management, targeting various issues
surrounding the use of chemicals in forest vegetation management.
Individual sessions include mechanical site preparation, mulching,
grass seeding, animal grazing, and manual cutting.

Scholarship funds: May be available through the course provider.

Land Management

LM 251

Dates: Offered on demand

Duration: 3 weeks (flexible)

Location: Negotiable

Contact:

Mr. John A. Snyder, President
Bio-Pak
3842 Heater Drive
Eagan, MN 55222 USA

Phone: (612) 452-6207

Fax: (612) 452-8264

Fees: \$150 per day plus sharing
instructors costs

HIGH DENSITY AGRICULTURE

Bio-Pak

Participants: University agriculture instructors, personnel from USAID or from non-governmental organizations.

Course objectives: To understand the uses of superabsorbent technology for commercial and ecological purposes.

Course overview: The course content is tailored to meet the needs of each client group and each country, especially areas with insufficient and irregular rainfall. The course may include working with soil erosion to reestablish native plants; video demonstrations of soil and water analysis; and tree planting with possible test planting.

Scholarship funds: None available through the course provider.

LM 252

Dates: Offered on demand

Duration: 8 weeks

Location: Moscow, Idaho

Contact:

Director
International Programs Office
216 Morrill Hall
University of Idaho
Moscow, ID 83844-3013 USA

Phone: (208) 885-8984

Fax: (208) 885-6198

Fees: To be determined

INTERNATIONAL FORESTRY TRAINING PROGRAM

University of Idaho

Participants: Foresters, biologists, and agricultural engineers working in different capacities on environmental protection issues, from the public and private sector.

Course objectives:

-To develop skills in managing national parks; to increase technical and administrative knowledge of methods of protecting and managing natural resources to conserve and promote the national forests as an important part of patrimony of the participants' country; to develop and expand knowledge to promote efficiently managed national parks and forests.

Course overview: The course lectures, case studies, and field work address topics including environmentally sound means of road layout and design, and planning for harvesting. Participants take part in group projects, practical problem solving, and the examination of survey and cruising equipment.

Scholarship funds: None available through the course provider.

LM 253

Dates: June-July 1994

Duration: 6 weeks

Location: U.S. or Asia sites negotiable

Contact:

Mr. Howard Opper
USDA/OICD/DRD
Room 3116 South Building
Washington, DC 20250-4300 USA

Phone: (202) 690-0839

Fax: (202) 690-1960

Fees: To be determined

**INTERNATIONAL LAND PLANNING FOR
COMMUNITY FORESTRY AND NATURAL
RESOURCE DEVELOPMENT**

University of Idaho

Participants: Land use and regional planners; administrators of planning programs at the state or national level; natural resource specialists working on land use; planning teams; community or social foresters; and rangeland, park and wildlife managers.

Course objectives: To improve the ability to develop and implement land use plans that meet the resource management and social goals and objectives for the land and its people.

Course overview: Most of this course consists of hands-on planning techniques, cost-benefit analysis, participatory transaction planning, and site visits to land use planners.

Scholarship funds: None available through the course provider.

LM 254

Dates: September 11-23, 1994

Duration: 2 weeks

Location: Clemson, South Carolina

Contact:

Ms. Shelly Witt
Continuing Education Program
Wildlife and Fisheries Staff
Logan, UT 84322-5210 USA

Phone: (801) 750-1090

Fax: (801) 750-3758

Fees: \$2,000 (all costs except travel)

MANAGING FORESTED ECOSYSTEMS

Clemson University

Participants: Silviculturists, biologists, and related forest level specialists.

Course objectives: To learn techniques for managing forest structure and composition to achieve compatible objectives for wildlife, fisheries, timber production and other uses.

Course overview: The course provides hands-on training in the use of opportunities and techniques for managing forest structure and composition. The course focuses on landscape and stand-level aspects for eastern forest types. Subjects include: forest sociology, hardwoods and pine hardwoods, disturbances, forest diversity, landscape classification, coastal plain ecology, ecosystem management, and uneven-aged management.

Scholarship funds: None available through the course provider.

Land Management

LM 255

Dates: March 14-31, 1994

Duration: 2 weeks

Location: Marana, Arizona

Contact:

Mr. Roger Corner
NARTC Building 20
Pinal Air Park
Marana, AZ 85653 USA

Phone: (602) 670-6414

Fax: (602) 670-6413

Fees: No tuition charge

NATIONAL PESTICIDE USE MANAGEMENT TRAINING

U.S. Department of Agriculture-Forest Service

Participants: Land managers, silviculturalists, hydrologists, entomologists, pathologists, and persons with current or future responsibilities for coordinating or managing pesticide use and training projects.

Course objectives: To be able to provide region and area pesticide-use training, and conduct quality pesticide projects using state-of-the-art technology.

Course overview: This course is divided into two parts: an insecticide module and a herbicide module. Students may attend either or both modules. Students are provided classroom instruction and take part in field exercises covering appropriate pesticides, pesticide application, and environmental monitoring.

Scholarship funds: None available through the course provider.

LM 256

Dates: March 20-April 29, 1994

Duration: 6 weeks

Location: Corvallis, Oregon

Contact:

Mr. Jim Peters
International Training Coordinator
Office of International Research &
Development, Snell Hall 400
Oregon State University
Corvallis, OR 97331-1641 USA

Phone: (503) 737-6408

Fax: (503) 737-3447

Fees: \$4000 (course materials, tuition and field trips)

REFORESTATION TRAINING

Oregon State University

Participants: Mid-level managers of private and government environmental agencies responsible for reforestation at the local, regional or national level.

Course objectives: To build a technical, leadership and management foundation for the participants' on-going or projected programs of reforestation extension, technology transfer and management.

Course overview: The course focuses on nursery culturing, site preparation, planting, monitoring and adjusting, leadership and management skills required for managing forests, and cover field conditions ranging from rainforest to semi-arid. Course components include site visits and short internships at national forests, completion of a land management plan in a watershed context, and a successful decision-making process for selecting nursery culturing.

Scholarship funds: None available through the course provider.

LM 257

Dates: Offered on demand

Duration: Depends on participant

Location: Independent home study

Contact:

Mr. Stephen Ridley, Associate Dean
College of Agriculture
University of Wisconsin-River Falls
River Falls, WI 54022 USA

Phone: (715) 425-3535

Fax: (715) 425-3785

Fees: \$700

RESOURCE MANAGEMENT 109-INTRODUCTION TO FORESTRY

University of Wisconsin-River Falls

Participants: Anyone interested in a basic introduction to the subject.

Course objectives: To become familiar with the forest science and technology in order to manage woodlots properly.

Course overview: This course is designed to acquaint the participant with the science and practice of forestry. It presents an overview of forestry's many facets, and thereby assists the participant in gaining an awareness and appreciation for this discipline. The course is offered on videotape with accompanying reading assignments. The participant writes reports, answers study questions, and is subject to three assessments during the course.

Scholarship funds: None available through the course provider.

LM 258

Dates: Offered on demand

Duration: 3 weeks (flexible)

Location: Negotiable

Contact:

Mr. John A. Snyder, President
Bio-Pack
3842 Heater Drive
Eagan, MN 55222 USA

Phone: (612) 452-6207

Fax: (612) 452-8264

Fees: \$150 per day plus sharing instructors costs

RESTORATION OF DEFORESTED LAND

Bio-Pak

Participants: Foresters, government officials, USAID personnel.

Course objectives: To learn methods to reforest vast acreage using superabsorbent technology at very low cost per acre and other commercial applications.

Course overview: Course lectures address superabsorbent soil media, superabsorbent use in intensive gardening and in establishing root systems for trees and cash crops. Participants gain hands-on experience growing seedlings in soil from the host country and with water testing for adjusting chemical formula in high salinity soil.

Scholarship funds: None available through the course provider.

Land Management

LM 259

Dates: June 27-August 5, 1994

Duration: 6 weeks

Location: Tucson, Arizona

Contact:

Course Director
USDA/OICD/DRD/MCD
Room 3110 South Building
Washington, DC 20250-4300 USA

Phone: (202) 690-1836

Fax: (202) 690-1960

Fees: \$4,630

SUSTAINABLE DEVELOPMENT OF DRYLAND REGIONS: PLANNING AND MANAGEMENT FOR MULTIPLE USE

University of Arizona

Participants: Mid-level planners, managers, implementers, and decision makers in sustainable development of dryland regions in developing countries.

Course objectives:

-To identify strategies for sustainable development;
-To be able to apply course concepts to problem solving and decision making in renewable resource development programs.

Course overview: This course focuses on the integration of bio-physical and socioeconomic components of sustainable development in dryland regions. Case studies and field trips address dryland crop and livestock production; watershed management; forestry, windbreak plantings and stabilization of soil erosion; involvement of local people ;and education and training.

Scholarship funds: None available through the course provider.

LM 260

Dates: Offered on demand

Duration: 8 weeks

Location: Northern Idaho

Contact:

Director
International Programs Office
216 Morrill Hall
University of Idaho
Moscow, ID 83844-3013 USA

Phone: (208) 885-8984

Fax: (208) 885-6198

Fees: \$8,000-approximately (course fees, room, and board)

U.S. FORESTRY FIELD TRAINING COURSE

University of Idaho

Participants: Individuals with the equivalent of an Associate, or Bachelor of Science Degree in forestry or in a closely related field with forestry training/experience.

Course objectives: To gain hands-on experience and develops practical skills for management, forest inventory and mensuration techniques, and applications of data.

Course overview: The course provides knowledge and "hands-on" skills in forest inventory, serial photo interpretation, forest road design and layout, timber harvesting techniques, silviculture, forest and environmental protection, reforestation, watershed management, range management, preparation of timber sales, and the preparation of forest management plans.

Scholarship funds: None available through the course provider.

LM 261

Dates: To be determined

Duration: 2 weeks

Location: U.S. sites negotiable

Contact:

Mr. Stephen Ridley, Associate Dean
College of Agriculture
University of Wisconsin-River Falls
River Falls, WI 54022 USA

Phone: (715) 425-3535

Fax: (715) 425-3785

Fees: \$3200 (excluding travel and expenses)

WOODLOT MANAGEMENT

University of Wisconsin-River Falls

Participants: Forest land owners and advisors who are interested in managing forests for products and other multiple use objectives.

Course objectives: To acquire a knowledge base for applied management of forested areas to meet land owner objectives.

Course overview: This course provides the student with the basic information necessary to manage a woodlot. The primary emphasis is on maximizing timber production. Other concerns, such as wildlife, aesthetics and recreation are also considered. Topics include: measuring a woodlot, treatments to improve woodlot productivity, grading and scaling logs, setting up a timber sale, and tax and management recommendations for multiple species.

Scholarship funds: None available through the course provider.

PA 262

Dates: Annually

Duration: 3 days

Location:

East Brunswick, New Jersey; other
U.S. sites negotiable

Contact:

Registrar, The Center for
Professional Advancement
P.O. Box 964
East Brunswick, NJ 08816 USA

Phone: (908) 613-4500

Fax: (908) 238-9113

Fees: \$990

ACQUISITION AND ASSESSMENT OF ENVIRONMENTAL DATA

Eckenfelder Inc./Center for Professional Advancement

Participants: Industry, government employees, and consultants responsible for obtaining and/or evaluating sampling and analysis data.

Course objectives: To be able to identify deficiencies and consistencies in sampling and analysis plans and proper quality assurance/quality control on a scientific basis.

Course overview: This course covers the definition of analytical terms, laboratory selection, sampling programs, specific matrices, quality assurance/ quality control, detection limits, data interpretation, quality parameters, heavy metal analysis, organics analysis, and data evaluation.

Scholarship funds: None available through the course provider.

Environmental Policy, Planning, and Administration

PA 263

ANALYSIS OF ENVIRONMENTAL SYSTEMS (ENVE 450)

Illinois Institute of Technology

Dates: May-August 1994;
May-August 1995

Participants: Professionals currently working in the field.

Duration: 12 weeks (estimated)

Course objectives: To further professional development.

Location: Chicago, Illinois;
Wheaton, Illinois

Course overview: Course lectures cover principles and procedures required for analysis of data from experimental, pilot, and full-scale environmental systems. Included are applications of statistical and other mathematical techniques in the design and evaluation of complex systems, and in the interpretation of environmental phenomena.

Contact:
Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887

Fax: (312) 567-7517

Scholarship funds: None available through the course provider.

Fees: \$1,425 (Tuition)

PA 264

BENEFIT-COST ANALYSIS FOR ENVIRONMENTAL POLICY MAKING

Abt Associates, Inc.

Dates: Offered on demand

Participants: Government decision makers and senior staff.

Duration: 1 day

Course objectives: To understand the potential for using benefit-cost analysis to support or improve sound environmental policy decisions.

Location: Negotiable

Contact:
Mr. R. Gregory Michaels, Ph.D.
Senior Economist
Abt Associates, Inc.
Hampden Square, Suite 600
4800 Montgomery Lane
Bethesda, MD 20814-5341 USA

Course overview: This course uses lectures, question-and-answer sessions, and case studies provided by the participants to introduce cost-benefit analysis for making decisions. The level of skills taught depends on the level of ability of the participant group. The course focuses heavily on participatory exercises.

Phone: (301) 913-0500

Fax: (301) 652-3618

Scholarship funds: None available through the course provider.

Fees: Depend on location

PA 265

Dates: To be determined
Duration: To be determined
Location: Asia sites negotiable

Contact:
Mr. Robert D. Norris
Bioremediation Services
227 French Landing Drive
Nashville, TN 37228 USA

Phone: (615) 255-2288
Fax: (615) 256-8332

Fees: \$960

COLLECTION AND EVALUATION OF DATA FOR ENVIRONMENTAL PROJECTS

Eckenfelder, Inc.

Participants: Plant personnel, consultants, and other environmental personnel responsible for environmental audits, impact statements, laboratory programs, and other environmental control programs.

Course objectives: To understand auditing procedures, analytical methods, data evaluation, interpretation, and use.

Course overview: This course addresses analytical requirements, selection of laboratories, sampling programs, matrices effects, detection limits, sample storage, water quality parameters, analysis of metals and organics, specific analytical methods, statistical analysis, due diligence audits and the role of management.

Scholarship funds: None available through the course provider.

PA 266

Dates: June 1994, 1995, 1996
Duration: 2 weeks
Location: New Haven, Connecticut

Contact:
Ms. Jane Coppock
Yale University-School of Forestry
and Environmental Studies
205 Prospect Street
New Haven, CT 06513 USA

Phone: (203) 432-6197
Fax: (203) 432-5912

Fees: \$8500 (Course fees and materials, meals, and hotel)

CORPORATE ENVIRONMENTAL LEADERSHIP SEMINAR

Yale University-School of Forestry and Environmental Studies

Participants: Senior managers from industry and government.

Course objectives: To receive intensive, integrated training in environmental science and policy.

Course overview: The course brings together senior managers from the private and public sectors to work intensively for two weeks to develop an integrated understanding of environmental science and policy. Participants develop an "idea portfolio" of specific manager ideas for their respective companies during the course.

Scholarship funds: The course provider offers a limited number of scholarships covering half of the course fees.

PA 267

Dates: Offered on demand

Duration: 4 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin, Director

Human Resources Development

EPAT/Winrock International

Environmental Alliance

1611 North Kent Street, Suite 600

Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

DEBT-FOR-NATURE SWAPS

Winrock International Environmental Alliance

Participants: Financial officers, members of non-governmental organizations, and government officials with responsibility for environmental management.

Course objectives: To understand concepts of debt-for-nature swaps and ways in which such swaps can address environmental and debt-related problems.

Course overview: The course analyzes completed debt-for-nature agreements and suggests desirable modifications for implementation. Specific themes include: policy instruments, roles of international lending agencies and non-governmental institutions, and links between ecosystem conservation and development planning.

Scholarship funds: May be available through the local USAID mission.

PA 268

Dates: May-November (annually); also offered on demand

Duration: 2 days

Location: Washington, D.C.; and New York, New York

Contact:

Mr. Ken Olson

Solar Energy International

PO Box 715

Carbondale, IL 81623 USA

Phone: (303) 963-8855

Fax: (303) 963-8866

Fees: To be determined

DECISION MAKERS WORKSHOP

Solar Energy International

Participants: Development professionals involved in implementing or funding international development projects.

Course objectives: To learn enough information about renewable energy to make confident choices.

Course overview: This workshop covers renewable technologies and applications; specific technologies from solar cooking/food drying to micro-hydroelectricity; case studies in renewable energy applications; culture and indigenous perspectives; technology transfer; economics of renewables; project funding; project development and sustaining renewable energy capabilities; and the channels and barriers to formulating partnerships between NGOs, funders, and U.N. organizations. Slide and video presentations, full-scale exhibits and demonstrations supplement discussions.

Scholarship funds: None available through the course provider.

PA 269

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin

EPAT/Winrock International
Environmental Alliance

1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

**DEVELOPMENT AND IMPLEMENTATION OF
NATIONAL ENVIRONMENTAL STRATEGIES OR
ENVIRONMENTAL ACTION PLANS**

Winrock International Environmental Alliance

Participants: Governmental planners and environmentalists.

Course objectives: To develop and implement national environmental action plans to provide a comprehensive approach to resolve or prevent problems with sustainable resource utilization and economic development.

Course overview: This course focuses on national environmental strategies and action plans. Specific themes include the collection and analysis of data, public participation, rational decision making, issue prioritization, and policy dialogue.

Scholarship funds: May be available through the local USAID mission.

PA 270

Dates: July 4-August 1994

Duration: 6 weeks

Location: Corvallis, Oregon

Contact:

Mr. Jim Peters

International Training Coordinator
Office of International Research &
Development, Snell Hall 400
Oregon State University
Corvallis, OR 97221-1641 USA

Phone: (503) 737-6408

Fax: (503) 737-3447

Fees: \$4,000 (course materials,
tuition, and field trips)

**ENVIRONMENTAL LEADERSHIP & MANAGEMENT
SKILLS FOR NATURAL RESOURCE MANAGERS**

Oregon State University

Participants: Mid-level managers of private and government agencies responsible for stewardship of natural resources at local, regional, or national levels. A minimum of six participants is required.

Course objectives: To develop leadership and management skills needed to lead an environmental organization.

Course overview: The course covers management of natural resources for clean air and water, biodiversity, reforestation, soil conservation, and safe disposal of toxic and solid waste. It focuses on development planning, environmental education, fund raising and grant writing, and volunteer drives. Participants gain practical experience through an internship in a leading natural resource management agency and design a natural resource management plan relevant to their home country.

Scholarship funds: None available through the course provider.

PA 271

ENVIRONMENTAL PROJECT MANAGEMENT
PRC Environmental Training Center

Dates: Offered on demand

Participants: Professionals preparing to assume general project management responsibilities.

Duration: 2 weeks

Location: Worldwide on demand

Course objectives: To gain further experience and expertise in comprehensive project management for a variety of environmental projects.

Contact:

Dr. Kurt O. Thomsen, Director
PRC Environmental Training Center
233 N. Michigan Avenue, Suite 1621
Chicago, IL 60601 USA

Course overview: This course focuses on hands-on experience and a high ratio of teachers to participants to teach general principles of project management. Participants learn schedule management, cost estimation and construction management from lectures and site visits, and through practical field work.

Phone: (312) 856-8700

Fax: (312) 938-0118

Fees: \$1800 (tuition)
(additional charge for materials)

Scholarship funds: None available through the course provider.

PA 272

ENVIRONMENTAL MANAGEMENT AND POLICY DEVELOPMENT: EXPERIENCE IN LOCAL, NATIONAL, AND MULTI-NATIONAL ARENAS
Booz-Allen & Hamilton, Inc./Management Training and Development Institute

Dates: June 27-July 8, 1994;
Summer 1995; Summer 1996

Participants: Professionals in health, industry, agriculture, environmental conservation, and other fields.

Duration: 2 weeks

Course objectives:

-To develop skills to enable a sound approach to policy formation.
-To enhance policy selection, development, implementation and evaluation skills; and build management and leadership capabilities.

Location: Washington, D.C.

Contact:

Mr. Robert C. Morris, Ph.D.
MTDI; P.O. Box 23975
Washington, DC 20026 USA

Course overview: The course provides an overview of environmental management lessons from key issue areas. Regulatory specialists explain how environmental policies are developed relative to waste site, current waste management, and pollution minimization/prevention. Challenges faced by local, regional and national government, and the private sector in implementing policies are covered by presentations, group discussions, exercises, case analysis and field visits. Participants develop action plans using information learned in the course.

Phone: (202) 646-7910

Fax: (202) 646-7911

Fees: \$1850 (Course fees and materials)

Scholarship funds: None available through the course sponsor.

PA 273

ENVIRONMENTAL LABORATORY DATA QUALITY ASSURANCE/QUALITY CONTROL

American Chemical Society

Dates: 1) November 16-17, 1993
2) February 19-20, 1994
3) March 11-12, 1994
4) August 19-20, 1994

Participants: Chemists, lab managers, environmental managers, engineers, regulators, and legal personnel.

Duration: 2 days

Course objectives: To learn the principles of quality assurance to develop strategies for producing quality laboratory data.

Location: Somerset, New Jersey

Course overview: This lecture course provides a broad overview and strategy for producing quality laboratory data and meeting client needs. It teaches how to design, implement, and monitor laboratory data production and validation. Topics covered include: philosophies of quality assurance, measurement as a process, and standard operating procedures.

Contact:

Ms. Pamela McNally
American Chemical Society
1155 16th Street, NW
Washington, DC 20036 USA

Phone: (202) 872-4508

Fax: (202) 872-6336

Scholarship funds: None available through the course provider.

Fees: \$825

PA 274

ENVIRONMENTAL POLICY DEVELOPMENT

U.S. Department of Agriculture-International Institute

Dates: May 31-June 24, 1994

Participants: Managers and environmentalists.

Duration: 4 weeks

Course objectives: To develop policies that prioritize environmental problems and provide guidelines and strategies for subsequent actions to maintain sustainable, stable environmental protection.

Location: Washington, D.C.

Contact:

Mr. Prentiss de Jesus
The International Institute
USDA Graduate School
600 Maryland Avenue, SW
Room 140
Washington, DC 20024-2520 USA

Course overview: This course focuses on establishing governmental frameworks for environmental policies and guidelines and systematically examines global and national environmental issues. Discussion topics include urbanization, water management, hazardous wastes, resource conservation, and health issues. Group and individual field trips to federal, state, and non-governmental organizations are an integral part of the course.

Phone: (202) 447-2187

Fax: (202) 382-8403

Scholarship funds: None available through the course provider.

Fees: \$3,500

Environmental Policy, Planning, and Administration

PA 275

Dates: To be determined

Duration: 3 days

Location: To be determined

Contact:

Ms. Nancy Farquhar
The Gauntlett Group, Inc.
5939 Doyle Street, Suite V
Emeryville, CA 94608 USA

Phone: (510) 658-9013

Fax: (510) 658-3834

Fees: \$895

ENVIRONMENTAL MANAGEMENT SYSTEMS: A QUALITY APPROACH

Gauntlett Group, Inc.

Participants: Personnel from companies interested in improving environmental performance.

Course objectives: To learn practical approaches to improving compliance, minimizing waste and designing environmentally safe products and processes.

Course overview: This workshop demonstrates the application of Total Quality principles and tools specific to waste minimization and environmental management. The workshop is highly experiential and allows hands-on applications of the tools to situations participants are currently facing in their business. Participants identify the major waste streams in their organizations, describe strategies for waste minimization, and illustrate systems, structures and management practices required for sustained environmental performance. Throughout the course, steps are developed for the continued application of the principles and tools.

Scholarship funds: None available through the course provider.

PA 276

Dates: Fall 1995

Duration: 2 weeks

Location: New York, New York

Contact:

Mr. Vincent Seglior
Manager, International Training
The World Trade Institute
One World Trade Center, 55W
New York, NY 10048 USA

Phone: (212) 435-3175

Fax: (212) 321-3305

Fees: \$2,500 (Tuition)

ENVIRONMENTAL PLANNING AND MANAGEMENT

World Trade Institute

Participants: Government officials and administrators responsible for environmental assessments, cleanup project planning and obtaining funding and cooperation; professionals from manufacturing companies, utilities, and waste management companies.

Course objectives: To be better able to make a situation analysis for planning further action to meet health and safety needs.

Course overview: Presentations cover principle air, soil, and water pollutants and a range of scientific, political, and operational solution options. The course curriculum addresses the problems outlined by the participants. In group and panel discussions and field trips, participants examine pertinent aspects of facilities and their current practices. Examples include wastewater treatment, landfill maintenance, recycling, and strategies of pollution control. Case studies are also used to consider the subject.

Scholarship funds: None available through the course provider.

PA 277

Dates: Offered on demand

Duration: 3 to 4 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin, Director

Human Resources Development

EPAT/Winrock International

Environmental Alliance

1611 North Kent Street, Suite 600

Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

ENVIRONMENTAL PROJECT MANAGEMENT

Winrock International Environmental Alliance

Participants: Government planners and project managers.

Course objectives: To increase the efficient use of time, materials, and human resources for effective project management.

Course overview: This course addresses several fundamental components of effective environmental management: project mechanics and managing people to maximize productivity and performance. Specific themes include: problem definition, project planning, cost/budget estimation, diagramming, implementation, and directing multi-disciplinary teams. Emphasis is placed on standard operating procedures, communication skills, and supervision techniques.

Scholarship funds: May be available through the local USAID mission.

PA 278

Dates: July (offered annually)

Duration: 3 days

Location: Washington, D.C. and Monterey, California

Contact:

Mr. Walter Eggers

Government Institutes, Inc.

4 Research Place, Suite 200

Rockville, MD 20850 USA

Phone: (301) 921-2345

Fax: (301) 921-0373

Fees: \$999

ENVIRONMENTAL MANAGEMENT EXCELLENCE

Government Institutes, Inc.

Participants: Business owners, engineers, environmental managers, attorneys, association members, and other professionals with environmental concerns.

Course objectives: To learn successful strategies for facing the challenges of environmental management from some of the world's leading authorities and corporate peers.

Course overview: This comprehensive course explores the common concerns and special challenges facing those charged with environmental management responsibilities. Sessions encourage participants to comment and discuss their ideas and concerns after every presentation.

Scholarship funds: None available through the course provider.

Environmental Policy, Planning, and Administration

PA 279

Dates: To be determined

Duration: 8 weeks

Location: To be determined

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

ENVIRONMENTAL DATA MANAGEMENT

U.S. Agency for International Development/Institute of International Education

Participants: Technical personnel responsible for managing, processing and analyzing environmental data.

Course objectives: To develop and refine quantitative skills relating to the management of empirical data, models, and simulations for environmental analysis and regulation.

Course overview: This course addresses the weak links in the "data cycle", beginning with the specification of data requirements and leading towards data utilization. Topics include: basic statistics; use of computers; a review of data sources, data storage, analysis, and utilization; management aspects such as costs, physical and manpower requirements; and institutional issues. This course is applicable to single and multi-media pollution control.

Scholarship funds: May be available through the local USAID mission.

PA 280

Dates: Offered on demand

Duration: 3 days

Location: Negotiable

Contact:

Mr. Ken Munis
USEPA-Office of Policy, Planning,
and Evaluation
401 M Street, SW, PM-221
Washington, DC 20460 USA

Phone: (202) 260-9560

Fax: (202) 260-0780

Fees: No tuition

ENVIRONMENTAL POLICY

U.S. Environmental Protection Agency

Participants: Government officials, scientists, personnel from non-governmental organizations.

Course objectives: To gain a comprehensive overview of principles of environmental policy and decision making.

Course overview: This course serves as a foundation for training in economic analysis and risk assessment. Topics covered include fundamentals of risk assessment, basic economics, and the combination of the two for making environmental decisions. The course provides a risk management framework for solving environmental problems with small group problem-solving sessions to apply lectures and case studies.

Scholarship funds: None available through the course provider.

PA 281

Dates: Offered on demand

Duration: Negotiable

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:

Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

PA 282

Dates: To be determined

Duration: 13 weeks

Location: To be determined

Contact:

Dr. Ahmad Ghamarian
Energy Training Program
Institute of International Education
1400 K Street, NW, Suite 650
Washington, DC 20005-2403 USA

Phone: (202) 682-6560

Fax: (202) 682-6576

Fees: To be determined

**ENVIRONMENTAL POLICY, REGULATION, AND
MANAGEMENT**

Winrock International Environmental Alliance

Participants: Mid- to upper-level administrators and policy analysts responsible for analysis and management of environmental and natural resource issues; governmental officials seeking to create or strengthen environmental/natural resource policies and programs.

Course objectives: To improve the capacity to design and implement programs and policies that improve environmental quality and promote the wise use of natural resources.

Course overview: The course emphasizes: the development and practical application of analytic and managerial skills necessary to improve enforcement, program and policy development, and the institutional management of existing pollution problems; approaches to pollution prevention and waste reduction; and strategies to increase the effective implementation of existing or planned policies that affect the environment and the use of natural resources. Course topics are tailored to participants' interests and backgrounds.

Scholarship funds: May be available through the local USAID mission.

**ENVIRONMENTAL POLICY DEVELOPMENT AND
IMPLEMENTATION**

*U.S. Agency for International Development/Institute of
International Education*

Participants: Administrators, policy makers, regulators, legislators, judicial personnel, non-governmental organization environmental policy specialists, and others involved with environmental policy development.

Course objectives: To gain the understanding and tools required to establish an environmental protection program.

Course overview: This course focuses on identifying and quantifying environmental quality, and developing a methodology for incorporating environmental values into decision making. Coursework invokes a technical framework for establishing standards for pollution control, examining alternative legislative initiatives for establishing an environmental protection program, and for creating a protocol for environmental impact assessments.

Scholarship funds: May be available through the local USAID mission.

Environmental Policy, Planning, and Administration

PA 283

Dates: To be determined

Duration: 2 weeks

Location: Washington, D.C.

Contact:

Ms. Rebecca Merrell
International Law Institute
1615 New Hampshire Avenue, NW
Washington, DC 20009 USA

Phone: (202) 483-3036

Fax: (202) 483-3029

Fees: \$2,950 (Tuition)

ENVIRONMENTAL POLICY AND REGULATION

International Law Institute

Participants: Professionals with a law degree, ministry officials, government representatives, and other professionals with relevant interests.

Course objectives: To acquire greater knowledge in current environmental issues including ways of improving environmental laws and regulations.

Course overview: This course introduces international environmental laws, environmental impact assessments, environmental economics, and topical issues in the environmental field. The course offers training in improving existing environmental laws and regulations in participants' countries. Other topics include the roles of non-governmental organizations and private businesses in the decision-making process; and natural resource management.

Scholarship funds: May be available through the local USAID mission, the U.N., or the World Bank.

PA 284

ENVIRONMENTAL DISPUTE RESOLUTION: SKILLS AND STRATEGIES

Winrock International Environmental Alliance

Dates: Offered on demand

Duration: 3 to 4 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

Participants: Individuals responsible for forming or implementing policy for environmental and natural resources.

Course objectives: To be better able to negotiate or use other forms of dispute resolution to unite conflicting parties to reach agreement.

Course overview: This course examines the need for and benefits of dispute resolution. The roles, techniques, and responsibilities of negotiators and mediators are explored, as well as the institutions and procedures that facilitate resolution of disputes. Special attention is given to the peculiar characteristics of environmental problems: multiple parties, complex scientific issues, uncertain effects, and inadequate information.

Scholarship funds: May be available through the local USAID mission.

PA 285

Dates: Offered on demand

Duration: 2 to 3 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin, Director

Human Resources Development

EPAT/Winrock International

Environmental Alliance

1611 North Kent Street, Suite 600

Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: To be determined

ENVIRONMENTAL AWARENESS SEMINARS

Winrock International Environmental Alliance/Midwest Universities Consortium for International Activities

Participants: Country or regional high-level policy makers.

Course objectives: To increase awareness of crucial linkages between economic policy, development, and environmental quality.

Course overview: This course draws on material from EPAT's two core courses, "Environmental Policy, Regulation, and Management" and "Environmental Economics for Sustainable Development." The intended focus of these environmental awareness seminars is the broad linkages between economic policies and the management of natural and environmental resources. Topics might include the identification and analysis of economic and regulatory options for sustainable development, government fiscal losses resulting from failures to price natural resources adequately, and the potential role of non-governmental organizations in environmental management.

Scholarship funds: May be available through the local USAID mission.

PA 286

Dates: November 3-4, 1993

Duration: 2 days

Location: Pittsburgh, Pennsylvania

Contact:

Ms. Maureen McFalls

Center for Hazardous Materials Research

University of Pittsburgh

320 William Pitt Way

Pittsburgh, PA 15238 USA

Phone: (412) 826-5320

Fax: (412) 826-5552

Fees: \$325

FIELD SAMPLING AND QUALITY CONTROL/QUALITY ASSURANCE

University of Pittsburgh Applied Research Center

Participants: Engineers, technicians, and policy makers.

Course objectives: To learn techniques and skills needed for success in environmental field sampling.

Course overview: This course introduces the principles and practices of planning and conducting environmental field sampling which include basic statistical considerations, laboratory planning, coordination, and analysis.

Scholarship funds: Discounts for government and groups from the same organization are available through the course provider.

PA 287

INPUT-OUTPUT MODELING: DEVELOPMENT AND THE ENVIRONMENT

Winrock International Environmental Alliance

Dates: Offered on demand

Duration: 4 weeks

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:

Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

Participants: Government officials with responsibility for national planning; previous training in economics is essential.

Course objectives: To understand the use and application of input-output models to examine interactions among technological choices, economic objectives, and environmental pollution.

Course overview: This course addresses building from the simplest version to dynamic fiscal/price/income models. Specific themes include: natural resource use, generation of waste, and technological change. Course materials encompass hypothetical and real-world situations in developing countries and utilize both mathematical computer language and a ten-sector model of the home economy.

Scholarship funds: May be available through the local USAID mission.

PA 288

INTERNATIONAL POST-GRADUATE COURSE IN ENVIRONMENTAL MANAGEMENT

United Nations Environment Programme/Tufts University

Dates: Early September-mid-December (annually)

Duration: 14 weeks

Location: Boston, Massachusetts

Contact:

Professor Richard Wetzler
Director, UNEP/Tufts program
Center for Environmental Mgmt.
Curtis Hall
Tufts University
Medford, MA 02155 USA

Phone: (617) 627-3531

Fax: (617) 627-3084

Fees: \$8000 (Tuition)

Participants: Environmental leaders from developing countries, university faculty, and industrial, governmental, and non-governmental representatives. Participants should be nominated by their governments.

Course objectives: To develop capabilities in environmental management of developing countries for environmental sustainability.

Course overview: This program consists of specially designed environmental management courses, field trips, modeling labs, symposia and skills modules. A UN certificate is awarded following completion of these efforts along with graduate coursework, a case study preparation and presentation, and a team project.

Scholarship funds: 18-20 fellowships covering all costs (including travel) are offered annually by the course provider.

PA 289

Dates: April 1994

Duration: 2 days

Location: Washington, D.C.

Contact:

Mr. Walter Eggers
Government Institutes, Inc.
4 Research Place, Suite 200
Rockville, MD 20850 USA

Phone: (301) 921-2345

Fax: (301) 921-0373

Fees: \$899

INTERNATIONAL ENVIRONMENTAL LAWS AND REGULATIONS CONFERENCE

Government Institutes, Inc.

Participants: Business owners, engineers, environmental managers, attorneys, association members, and other professionals with environmental concerns.

Course objectives: To learn about the development and enforcement of environmental laws and regulations of Asia, the EEC and Mexico.

Course overview: Course topics including international environmental risk assessments are introduced by international authorities. Interaction between participants and instructors is greatly encouraged.

Scholarship funds: None available through the course provider.

PA 290

Dates: 1) April 4-8, 1994

2) October 10-14, 1994

Duration: 5 days

Location: 1) Houston, Texas
2) Colorado Springs, Colorado

Contact:

Registrar
Oil & Gas Consultants Int'l., Inc.
P.O. Box 35448
Tulsa, OK 74135-0448 USA

Phone: (918) 742-2334

Fax: (918) 742-2272

Fees: \$1,125 (course fees and materials)

INTRODUCTION TO ENVIRONMENTAL TECHNOLOGY

Oil & Gas Consultants International, Inc.

Participants: Geologists, engineers, production managers, pipeline engineers, refiners, lawyers, environmental compliance personnel, corporate officers, health and safety personnel, technicians and others with limited exposure to environmental issues.

Course objectives: To survey the environmental elements that are now being addressed worldwide in various sectors of the industry.

Course overview: Course lectures address environmental technology and the driving regulatory mechanisms. They define environmental terms and describe various phases of environmental assessments related to exploration, production, transportation, refining, and storage. The elements for a full-scale oil and gas field environmental audit are described. Environmental site assessment practices for oil and property transactions, containment, cleanup, and remediation techniques are also considered.

Scholarship funds: None available through the course provider.

PA 291

MANAGEMENT INFORMATION SYSTEMS FOR ENVIRONMENTAL MANAGEMENT

Winrock International Environmental Alliance

Dates: Offered on demand

Duration: 3 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin, Director

Human Resources Development

EPAT/Winrock International

Environmental Alliance

1611 North Kent Street, Suite 600

Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

Participants: Executive level administrators responsible for organizing and implementing national or subnational environmental programs.

Course objectives: To gain an overall appreciation for effective systems of managing environmental information.

Course overview: This course describes the general domain of relevant environmental information and how to access, organize, process, and use it. Laboratory work is included.

Scholarship funds: May be available through the local USAID mission.

PA 292

MICROCOMPUTER APPLICATIONS FOR NATURAL RESOURCES

Washington State University

Dates: Offered on demand

Duration: 15 days

Location: Pullman, Washington

Contact:

International Program Development
Cooperation

Washington State University

Pullman, WA 99164-6226 USA

Phone: (509) 335-2980

Fax: (509) 335-2982

Fees: \$3,850 (Course fees excluding per diem and health insurance)

Participants: Natural resource management personnel, wildlife, fisheries and pest managers.

Course objectives: To learn basic principles of pest dynamics, modeling, forecasting, and management through the use of micro-computer programs.

Course overview: This course provides participants with experience in using microcomputers to analyze and interpret data from regular surveys, and to build simple models that can be used to forecast population trends and evaluate management alternatives.

Scholarship funds: None available through the course provider.

PA 293

Dates: August 1-26, 1994

Duration: 4 weeks

Location: Washington, D.C.

Contact:

Course Director
USDA/OICD/DRD/MCD
Room 3110 South Building
Washington, DC 20250-4300 USA

Phone: (202) 690-1836

Fax: (202) 690-1960

Fees: \$4,736 (Training fee)

NATURAL RESOURCE POLICY

U.S. Department of Agriculture, Soil Conservation Service

Participants: Senior-level natural resource policy makers and those responsible for the implementation of national goals, objectives and policies necessary for efficient and appropriate use of resources.

Course objectives:

- To be able to formulate and evaluate policy strategies and methods for implementing these strategies;
- To devise an action plan for back-home application of course concepts.

Course overview: Participants focus on policy issues in the areas of soil, water, forests, and natural range management in order to discuss competing demands on a natural resource base and legislation that protects natural resources. Site visits and guest lectures are used to help participants understand the principles of resource management and observe the impact of related policies.

Scholarship funds: None available through the course provider.

PA 294

Dates: March 28-April 8, 1994

Duration: 2 weeks

Location: Corvallis, Oregon

Contact:

Dr. George Stankey
College of Forestry
Oregon State University
Corvallis, OR 97331 USA

Phone: (503) 737-1496

Fax: (503) 737-2668

Fees: \$1,750 (Tuition)

NATURAL RESOURCE POLICY, VALUES, AND ECONOMICS

Oregon State University

Participants: Fish, wildlife, and related natural resource trained professionals in the U.S. Forestry Service and other public agencies.

Course objectives: To develop the basic background in the nature and role of values in decision-making, and policy-making processes, and the role of economics as a decision-making tool.

Course overview: Course workshops, lectures, and extensive outside readings explain complex factors involved in policy making, strengthen knowledge of the role of economics in management of natural resources, and increase comprehension and appreciation of human value systems that underlie policy making and economics.

Scholarship funds: None available through the course provider.

Environmental Policy, Planning, and Administration

PA 295

NATURAL RESOURCE POLICY, VALUES, AND ECONOMICS

Yale University

Dates: June 6-16, 1994

Duration: 10 days

Location: New Haven, Connecticut

Contact:

Dr. Robert Mendelsohn
School of Forestry and
Environmental Studies
Yale University
369 Prospect Street
New Haven, CT 06511 USA

Phone: (203) 432-5128

Fax: (203) 432-3809

Fees: \$2,250 (Tuition)

Participants: Fish, wildlife, and related natural resource trained professionals in the U.S. Forestry Service and other public agencies.

Course objectives: To develop the basic background in the nature and role of values in decision-making, and policy-making processes, and the role of economics as a decision-making tool.

Course overview: Course workshops, lectures, and extensive outside readings explain complex factors involved in policy making, strengthen knowledge of the role of economics in management of natural resources, and increase comprehension and appreciation of human value systems that underlie policy making and economics.

Scholarship funds: None available through the course provider.

PA 296

ORIENTATION TO QUALITY ASSURANCE MANAGEMENT/DATA QUALITY OBJECTIVES WORKSHOP

U.S. Environmental Protection Agency

Dates: Scheduled 3 times annually;
also offered on demand

Duration: 2 days

Location: Washington, D.C.

Contact:

Mr. Thomas Dixon
USEPA
401 M Street, SW RD 680
Washington, DC 20460 USA

Phone: (202) 260-5780

Fax: (202) 260-4346

Fees: No tuition

Participants: Quality assurance managers.

Course objectives: To understand EPA's approach to quality assurance in environmental management.

Course overview: This course is a series of lectures, small group discussion, and class exercises to familiarize students with USEPA's Quality Assurance Program. Topics covered include quality management plans, quality assurance plans, management systems reviews, and data quality assessment. The course lays out elements of EPA's approach, proper planning, establishing timelines, and management aspects.

Scholarship funds: None available through the course provider.

PA 297

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin

EPAT/Winrock International
Environmental Alliance

1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

**POLICY ANALYSIS SKILLS FOR ENVIRONMENTAL
MANAGEMENT**

Winrock International Environmental Alliance

Participants: Policy analysts in agencies with responsibility for the analysis and management of natural and environmental resource issues.

Course objectives: To strengthen analytical skills for designing and implementing public policies for improved environmental management.

Course overview: This course focuses on interactions between public policy, management of natural and environmental resources, and policy evaluation. The course utilizes case studies from both industrialized and developing countries to emphasize strategies to increase the feasibility of implementing environmental policies. This course also covers decision-making processes, the environmental implications of policy implementation, benefit-cost analysis, and relevant evaluation strategies.

Scholarship funds: May be available through the local USAID mission.

PA 298

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin

EPAT/Winrock International
Environmental Alliance

1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

**POLICY REFORM AND ECONOMIC POLICY
INTERVENTIONS**

Winrock International Environmental Alliance

Participants: Government planners and environmentalists.

Course objectives: To consider potential intervention strategies aimed at enhancing environmental protection and resource utilization.

Course overview: This course addresses the use of subsidies, tax policies, and policies for land and resource tenure; data collection techniques; technology transfers; environmental impact assessments; economic analyses; and private sector contributions. Discussions cover mechanisms for improving technical, managerial, and analytical skills as well as public participation and empowerment.

Scholarship funds: May be available through the local USAID mission.

Environmental Policy, Planning, and Administration

PA 299

Dates: Offered on demand

Duration: 3 days

Location: Varies

Contact:

Ms. Sandra Baker
Business Development
Halliburton NUS Corporation
910 Clopper Road
P.O. Box 6032
Gaithersburg, MD 20877-0962 USA

Phone: (301) 258-2459

Fax: (301) 258-5808

Fees: \$725 per person

PROCEDURE WRITERS WORKSHOP

Halliburton NUS Corporation

Participants: All operations, maintenance, environmental, and safety personnel. A minimum of eight participants is required.

Course objectives: To build procedure writing skills.

Course overview: This course covers aspects of procedure program development, specific procedure formatting and content requirements to ensure ease of use. Topics are relevant to chemical/refining industries and power facilities, and include maintenance procedures for all crafts (electrical, instrumentation, mechanical) plus administrative procedures to address policies and guidelines.

Scholarship funds: None available through the course provider.

PA 300

Dates: Offered on demand

Duration: 2-3 weeks (flexible)

Location: Moscow, Idaho

Contact:

Mr. James T. Toomey
Business Development and Research
Center
University of Idaho
Moscow, ID 83844-3227 USA

Phone: (208) 885-6611

Fax: (208) 885-5580

Fees: Negotiable

PROJECT MANAGEMENT FOR NATURAL RESOURCE PROFESSIONALS

University of Idaho

Participants: Junior and mid-level managers of natural resources.

Course objectives: To improve the ability to apply management skills to managerial problems for greater efficiency in human resources management.

Course overview: The course trains participants in computer applications, human resource management, fiscal analysis, economic and financial techniques, project design, monitoring and evaluation. Participants also examine Total Quality Management (TQM) philosophies.

Scholarship funds: None available through the course provider.

PA 301

Dates: Offered on demand

Duration: Depends on participant

Location: Independent home study

Contact:

Mr. Stephen Ridley, Associate Dean
College of Agriculture
University of Wisconsin-River Falls
River Falls, WI 54022 USA

Phone: (715) 425-3535

Fax: (715) 425-3785

Fees: \$900

**RESOURCE MANAGEMENT 105-INTRODUCTION
TO NATURAL RESOURCES**

University of Wisconsin-River Falls

Participants: Anyone interested in a basic introduction to the subject.

Course objectives: To become familiar with natural resource problems and issues of the environment.

Course overview: This course consists of a series of readings, assignments, and videotapes presenting problems and ways for local communities to manage general resources. Current natural resource problems and issues as they affect humans and their environment are examined. Topics include basic ecological problems and the environmental impacts of pollution, energy, toxic materials and population growth as well as management techniques.

Scholarship funds: None available through the course provider.

PA 302

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

RESOURCE QUALITY MONITORING

Winrock International Environmental Alliance

Participants: Government planners, economists, and environmentalists.

Course objectives: To learn to establish and adhere to certain biophysical limits in order to maintain high levels of environmental quality.

Course overview: This course addresses resource quality monitoring. It utilizes analytical models to illustrate necessary conditions for environmental maintenance over time. Specific themes include: quantification techniques, intertemporal models, and long-term environmental planning. Emphasis is also placed on site-monitoring and local training programs.

Scholarship funds: May be available through the local USAID mission.

PA 303

RISK COMMUNICATION AND ENVIRONMENTAL MANAGEMENT

Winrock International Environmental Alliance

Dates: Offered on demand

Duration: 3 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin, Director

Human Resources Development

EPAT/Winrock International

Environmental Alliance

1611 North Kent Street, Suite 600

Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

Participants: Environmental planners, government, and private sector officials with responsibility for risk communication.

Course objectives: To incorporate risk communication into strategies for environmental management in view of the current state of environmental regulation, and increased public demand for information.

Course overview: This course focuses on techniques for providing risk-related information as well as on the strengths and weaknesses of various approaches to the topic. Emphasis is also placed on the development of programs on risk communication for organizations in both the public and private sectors.

Scholarship funds: May be available through the local USAID mission.

PA 304

SETTING ENVIRONMENTAL PRIORITIES USING COMPARATIVE RISK ASSESSMENT

Tellus Institute, Inc.

Dates: Offered on demand

Duration: 3 to 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Mr. Allen White

Tellus Institute

11 Arlington Street

Boston, MA 02116-3411 USA

Phone: (617) 266-5400

Fax: (617) 266-8303

Fees: Vary

Participants: Environmental policy makers from government, risk assessment experts from academic institutions, and representatives of non-governmental organizations.

Course objectives: To learn to use a sound scientific basis to systematically prioritize scarce resources and to direct decision makers towards solutions with desirable benefit-cost ratios.

Course overview: Borrowing from experiences of the USEPA and USAID assessment of environmental risks in Bangkok, Thailand, this course introduces concepts and methods of comparative risk analysis. Specific themes include approaches to problem definition, data collection, scoring and weighting techniques, mechanisms to ensure maximum effectiveness, and country-specific modifications.

Scholarship funds: May be available through the local USAID mission.

PA 305

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission

For information:

Dr. Rich Tobin

EPAT/Winrock International
Environmental Alliance

1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

SKILLS AND STRATEGIES FOR PRIVATE ENVIRONMENTAL ORGANIZATIONS

Winrock International Environmental Alliance

Participants: Leaders of non-governmental organizations with an interest in the management of environmental and natural resources.

Course objectives: To gain skills and experience necessary to operate more effectively, to contribute to sustainable development, and to assist in training and the delivery of services.

Course overview: This course seeks to transfer relevant experiences from successful environmental organizations in the United States to their counterparts in developing countries. Topics include: communications, training, research, fund raising, public participation, and innovative financing for environmental projects (e.g. debt-for-nature swaps). Collaboration with environmental and development agencies is also discussed.

Scholarship funds: May be available through the local USAID mission.

PA 306

Dates: To be determined

Duration: 1 day

Location: Connecticut

Contact:

Ms. Constance L. Boehm
Extended and Continuing Education
Center for Professional
Development U-56D
University of Connecticut
One Bishop Circle
Storrs, CT 06269-4056 USA

Phone: (203) 486-3231

Fax: (203) 486-5221

Fees: \$395 (approximately)

TECHNICAL AND LEGAL ASPECTS OF ENVIRONMENTAL PROPERTY ASSESSMENT

University of Connecticut

Participants: Appraisal, foreclosure and lending bankers; corporate environmental staff; environmental engineers and attorneys; government health/environmental regulatory agencies; investors; insurance professionals; realtors, other professionals engaged in the purchase, sale or lease of commercial property.

Course objectives: To understand the evolution and necessity of environmental property assessments; be aware of significant federal and state environmental regulations pertinent to environmental due diligence reviews; understand how to properly structure the scope and conduct an environmental property assessment; and be familiar with potentially significant environmental liabilities routinely associated with real property transactions.

Course overview: Through a variety of presentations, this course focuses on technical and legal aspects of environmental property assessments, such as potential areas of concern, sources of information, report preparation, investigations, and avoiding liability.

Scholarship funds: To be determined.

Environmental Policy, Planning, and Administration

PA 307

TOTAL QUALITY ENVIRONMENTAL MANAGEMENT

Environmental Assessments Services & Training

Dates: To be determined

Duration: 3 days

Location: To be determined

Contact:

Mr. Jack Weed
EAST
5703 Cates Drive
Greensboro, NC 27410 USA

Phone: (919) 852-1910

Fax: (919) 299-6382

Fees: To be determined

Participants: Owners, operators, or responsible managers of hazardous materials storage or hazardous waste generating locations.

Course objectives: To learn workplace safety and industrial hygiene for the protection of human health and the environment.

Course overview: Courses are tailored to meet the needs of participants, and are aimed at specific companies or industry groups and concentrate on their specific hazards, materials, and environmental concerns. This course addresses the practice of Total Quality Management as it is applied in the environmental field.

Scholarship funds: None available from the course provider.

PA 308

TOTAL QUALITY MANAGEMENT FOR ENVIRONMENTAL PROFESSIONALS

Midwest Research Institute

Dates: Offered on demand

Duration: 3 days

Location: Negotiable

Contact:

Mr. Richard Crume
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513-2412 USA

Phone: (919) 677-0249 ext. 5223

Fax: (919) 677-0065

Fees: Negotiable

Participants: Environmental scientists, engineers, and managers in industry, commerce and government.

Course objectives: To learn the concepts, and methods of Total Quality Management with applications to environmental problem solving, and to understand fundamentals of TQM philosophy and gain a practical sense of its application and use in environmental problem solving and organizational management.

Course overview: This course introduces TQM concepts and terminology, provides a historical and contemporary perspective, and discusses key components of a continuous program along with numerous examples, case principles and methods. Emphasis is placed on the importance of the team approach, process definition, and statistical measurement.

Scholarship funds: None available through the course provider.

PA 309

Dates: 1) January 1994
2) To be determined

Duration: 2 weeks

Location: 1) Indonesia
2) Philippines

Contact:

Ms. Tammy Newmark
Environmental Enterprises
Assistance Fund
1611 North Kent Street, Suite 202
Arlington, VA 22209 USA

Phone: (703) 522-5928
Fax: (703) 522-6450

Fees: 1) \$250
2) To be determined

WORKSHOP FOR STARTING AN ENVIRONMENTAL VENTURE

Environmental Enterprises Assistance Fund

Participants: Business people and entrepreneurs (preferably from rural areas) who would like to expand present business activities.

Course objectives: To gain assistance, information, and encouragement to prepare a business plan for starting an environmental business.

Course overview: This course exposes participants to selected commercially viable environmental technologies and business opportunities, including hydropower, recycling, wood waste for cogeneration, energy efficiency and environmental consumerism. Experts on environmental technologies present case studies and personal experience on the technical, marketing, financial, and management aspects of environmental entrepreneurship. Participants are trained in preparing practical business plans which will be evaluated at the end of the workshop.

Scholarship funds: None available through the course provider.

PP 310

Dates: November 8-9, 1993

Duration: 2 days

Location: Saint Louis, Missouri

Contact:

Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372
Fax: (212) 752-3297

Fees: \$825

APPLICATION OF AQUEOUS ELECTROLYTE THERMODYNAMICS TO POLLUTION CONTROL PROBLEMS

American Institute of Chemical Engineers

Participants: Practicing chemical or environmental engineers, or chemists who have specific interests or responsibilities for applying technology to problems involving pollution control.

Course objectives: To be able to develop deterministic models which consider and provide detailed speciation for all phases (vapor, liquid, solid).

Course overview: The course emphasizes the modeling of industrial problems with twelve examples to be worked out in detail. The course addresses thermodynamics of solutions, equilibrium constants, activity coefficients, and deals with building simulation models including gypsum solubility, selective scrubbing of SO₂ and CO₂ rich gas stream, and the effect of pH and hardness on aquatic copper toxicity.

Scholarship funds: None available through the course provider.

Pollution Prevention/Control

PP 311

Dates: Offered on demand

Duration: 2 weeks

Location: U.S. and Asia sites negotiable

Contact:

Mr. Avijit Dasgupta, Ph.D.
ABB Environmental Services, Inc.
110 Free Street
Portland, ME 04101 USA

Phone: (207) 828-3462

Fax: (207) 772-4762

Fees: \$2,500

BIOREMEDIATION

ABB Environmental Services, Inc.

Participants: Environmental staff in industry, consultants, regulators, and high school/college students. A minimum of twenty participants is required.

Course objectives: To learn the basic principles of bioremediation and its application to different types of hazardous contaminants in soil, sludges, and ground water.

Course overview: This course covers microbiology and chemistry of bioremediation, and findings of laboratory and pilot-scale treatability studies conducted with different types of contaminants. Case histories demonstrate how bioremediation has been used to remediate soil and ground water at hazardous waste sites.

Scholarship funds: The course provider offers discounts of \$300 per person for groups of twenty-five or larger.

PP 312

Dates: January 14-May 14, 1994;
Spring 1995; Spring 1996

Duration: 14 weeks (estimated)

Location: Chicago, Illinois;
Wheaton, Illinois

Contact:

Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887

Fax: (312) 567-7517

Fees: \$1,425 (Tuition)

CHEMODYNAMICS (ENVE 506)

Illinois Institute of Technology

Participants: Professionals currently working in the field.

Course objectives: To further professional development.

Course overview: Course lectures cover the dynamics of pollutant transfer in biogeochemical systems of the earth, quantitative functional relationships of pollutant transfer between reservoirs, and system equilibrium and kinetics of component removal.

Scholarship funds: None available through the course provider.

PP 313

Dates: Offered on demand

Duration: 1 week

Location: Pittsburgh, Pennsylvania

Contact:

Mr. Harilal L. Patel

Unipack, Inc.

3253A Old Frankstown Road
Pittsburgh, PA 15239 USA

Phone: (412) 733-7381

Fax: (412) 327-6265

Fees: \$500

CONSERVATION OF RESOURCES

Unipack, Ltd.

Participants: Government air pollution control officials, industry officials, health and environmental educators, university professors, and graduate students.

Course objectives: To learn methods of pollution prevention, and minimizing use of resources (including recycling) while maximizing outputs.

Course overview: This course covers the selection of monitoring locations and equipment; its installation, operation, maintenance and repair; data acquisition, reduction, validation, and quality assurance; and report preparation.

Scholarship funds: May be available through USEPA or USAID.

PP 314

Dates: August-December 1994;
August-December 1995

Duration: 14 weeks (estimated)

Location: Chicago, Illinois;
Wheaton, Illinois

Contact:

Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887

Fax: (312) 567-7517

Fees: \$1,425 (Tuition)

ENVIRONMENTAL CHEMISTRY (ENVE 501)

Illinois Institute of Technology

Participants: Professionals currently working in the field.

Course objectives: To further professional development.

Course overview: Course lectures cover the fundamentals and advanced principles of environmental chemistry, including reaction thermodynamics, ionic and oxidation reduction equilibria, and reaction kinetics as related to natural aquatic and pollution control processes. Also included are advanced computational techniques for defining and predicting chemical systems behavior.

Scholarship funds: None available through the course provider.

PP 315

Dates: Quarterly

Duration: 4 days to 1 month
(depending on client needs)

Location: Houston, Texas

Contact:

Mr. James Olsta
Environmental Planning Group, Inc.
205 Park Avenue
Barrington, IL 60010 USA

Phone: (708) 382-0020

Fax: (708) 382-0154

Fees: \$150 per day (estimated)

GROUND WATER AND SOIL REMEDIATION

International Environmental & Energy Action Training Center

Participants: Environmental managers, regulatory officials, engineers, and hydrologists.

Course objectives: To provide hands-on training with state-of-the-art technology for use in environmental soil and ground water site cleanups.

Course overview: Course lecture and laboratory experience are followed by equipment demonstrations and hands-on training in equipment use related to various areas of environmental management. The course is technology oriented, but can be tailored to include project management. Course demonstrations present catalytic oxidation units, biological units, air stripping equipment, and pump and wastewater treatment equipment demonstrations.

Scholarship funds: None available through the course provider.

PP 316

Dates: Offered on demand

Duration: 3 days

Location: Negotiable

Contact:

Mr. Joseph Pezzullo
Vice President International
Terra Vac
806 Silvia Street
West Trenton, NJ 08628 USA

Phone: (609) 530-0003

Fax: (609) 530-1084

Fees: \$790

IN SITU RESTORATION OF SOIL AND GROUND WATER

Terra Vac

Participants: Environmental managers and professionals wishing to better understand subsurface contamination problems and their mitigation.

Course objectives:

- To learn technical aspects of identifying, quantifying, and eliminating subsurface contamination in soil and ground water;
- To be able to evaluate subsurface forms and in-situ remedies.

Course overview: This course consists of lecture, computer demonstrations, video and slide presentations, and field trips to sites using different kinds of in-situ remedies such as vacuum extraction, dual extraction, stabilization, fixation, and attenuation. The course may also be tailored to fit client needs.

Scholarship funds: None available through the course provider.

PP 317

**INDUSTRIAL POLLUTION PREVENTION/CONTROL
AUDITING**

*CH2M Hill International, Ltd./U.S. Environmental
Training Institute*

Dates: To be determined

Participants: Industrial plant managers and environmental engineers as well as environmental consultants and government officials.

Duration: 2-3 weeks

Course objectives: To receive hands-on training on how to conduct pollution prevention/control audits.

Location: Washington, D.C.,
Minneapolis/St. Paul, Minnesota;
other U.S. sites

Course overview: USETI provides a one week orientation to U.S. environmental regulations and management/technologies. CH2M Hill then spends one week providing hands-on industrial pollution prevention/control auditing using classroom lectures, case studies, and simulated industrial plant pollution prevention/control audits.

Contact:
Mr. Timothy D. Van Epp
Industrial/Hazardous Waste
CH2M Hill International, Ltd.
625 Herndon Parkway
Herndon, VA 22070 USA

Phone: (703) 471-6405

Scholarship funds: USETI may offer scholarships covering administrative fees, travel and per diem expenses.

Fax: (703) 471-7352

Fees: \$200 (Administrative fees)

PP 318

**LAND TREATMENT FOR INDUSTRIAL WASTES,
WASTEWATERS, AND SLUDGES**

American Institute of Chemical Engineers

Dates: November 10-11, 1993

Participants: Professionals from micro-electronic firms, food-related industries, petroleum refineries, pulp and paper mills, and textile plants or other industries concerned about industrial waste.

Duration: 2 days

Course objectives: To learn the latest information, techniques, and regulatory constraints regarding a rapidly growing approach to managing industrial wastewaters and sludge.

Location: Saint Louis, Missouri

Contact:
Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Course overview: Lectures focus on design criteria for numerous categories of chemicals and hazardous wastes. Discussions give attention to reclaiming or correcting older systems designed or operated without the current state-of-the-art technology. A series of detailed case studies and economic evaluations are used along with information on soil assimilation, monitoring, and engineering.

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$875

Scholarship funds: None available through the course provider.

PP 319

Dates: Offered on demand

Duration: 5 to 7 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:

Dr. Ricā Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

MARKET-BASED INCENTIVES FOR POLLUTION CONTROL

Winrock International Environmental Alliance

Participants: Environmental planners and economists from government and private sector.

Course objectives: To be better able to apply market-based incentives to a developing country context.

Course overview: This course focuses on the design and assessment of market-based incentives as mechanisms for pollution control. Although the course utilizes modeling techniques and examples drawn from programs in the U.S. and Europe, the emphasis is on the applicability of investments in conservation, rather than in the construction of new plants, mills, factories or other facilities. Market-based incentives, including the use of rebates, financial rewards, and tax holidays, stimulate conservation strategies and reduce environmental degradation through market forces.

Scholarship funds: May be available through the local USAID mission.

PP 320

Dates: Mid-May/Mid-June 1994
(offered yearly-flexible on demand)

Duration: 4 weeks

Location: Lenox, Massachusetts

Contact:

Dr. Nazih KH Shammās
Dean & Professor
Lenox Institute of Water Technology
101 Yokun Avenue
Lenox, MA 01240 USA

Phone: (413) 637-3025

Fax: (413) 637-3362

Fees: \$3000 (tuition and materials)

MUNICIPAL AND INDUSTRIAL WASTE/WASTE-WATER TREATMENT AND POLLUTION CONTROL WITH EMPHASIS ON FLOTATION TECHNOLOGY

Lenox Institute of Water Technology

Participants: Engineers, chemists and water specialists from government and consulting firms, instructors, and water/wastewater treatment plant operators. A minimum of eight participants is required.

Course objectives: To learn to apply flotation technology to waste/wastewater treatment and pollution control.

Course overview: This course provides engineers and chemists with the knowledge to determine if dissolved air flotation is a solution to the problems they face. It covers the scientific principle of flotation, and the practical information on cost and performance necessary to evaluate its feasibility. Participants receive experience working with both laboratory and pilot scale flotation equipment. They visit and review full scale flotation units in operation.

Scholarship funds: Two full scholarships (based on a minimum of twelve participants) are available through the course provider.

PP 321

Dates: Offered on demand

Duration: 2-3 days

Location: Negotiable

Contact:

Mr. James Roberts
Global Environmental
2862 Arden Way, Suite 215
Sacramento, CA 95825 USA

Phone: (916) 483-1564

Fax: (916) 483-1567

Fees: Negotiable

NO-WASTE TECHNOLOGY

Global Environmental

Participants: Environmental and industrial production managers, and managers from permitting agencies.

Course objectives:

-To become familiar with concepts and practices of pollution prevention by application of technologies for eliminating waste in resource extraction, manufacturing, and product utilization;
-To examine the Life-cycle approach to resource utilization.

Course overview: This course focuses on no-waste technology as a waste management strategy for petrochemical, pulp and paper milling, geothermal energy development, and other industries. The course can be fashioned to include both analytical and field evaluation of production facilities and staff training in no-waste management. Course content can be tailored to client need.

Scholarship funds: None available through the course provider.

PP 322

Dates: To be determined

Duration: 3 days

Location: Southern California

Contact:

Ms. Azita Yazdani, Principal
Pollution Prevention, Inc.
471 West Lambert Road, Suite 105
Brea, CA 92621 USA

Phone: (714) 255-1650

Fax: (714) 255-9702

Fees: \$395

POLLUTION PREVENTION: A MULTIMEDIA APPROACH

Pollution Prevention International, Inc./University of California, Los Angeles

Participants: Environmental managers, and governmental policy makers.

Course objectives: To learn how to secure top management support for source reduction plans, to monitor challenges faced by large and small companies, and to finance projects through economic evaluations and cost/benefit analysis.

Course overview: The course explores two industrial sectors: the industrial cleaning and the paints and coatings industries, for pollution prevention discussions. The course takes participants through steps of waste reductions, formulation of a source reduction plan, and ways to measure progress.

Scholarship funds: None available through the course provider.

PP 323

Dates: November 8-9, 1993

Duration: 2 days

Location: Saint Louis, Missouri

Contact:

Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$825

POLLUTION PREVENTION TECHNOLOGY

American Institute for Chemical Engineers

Participants: Individuals in public or private sector organizations that have an interest in pollution prevention programs.

Course objectives: To obtain information for initiating or for further developing existing pollution prevention programs.

Course overview: Lectures cover various assessments that are conducted and provide an in-depth review of broadly used pollution prevention solutions. The systems by which wastes to air, water, or solid/hazardous materials are identified, characterized, and considered for minimization are covered. Participants review organizational management needs for pollution prevention programs. Case studies and techniques for measuring progress are presented.

Scholarship funds: None available through the course provider.

PP 324

Dates: Offered on demand

Duration: 2 weeks

Location: U.S. and Asia sites negotiable

Contact:

Mr. Avijit Dasgupta, Ph.D.
ABB Environmental Services, Inc.
110 Free Street
Portland, ME 04101 USA

Phone: (207) 828-3462

Fax: (207) 772-4762

Fees: \$2,500

POLLUTION PREVENTION

ABB Environmental Services, Inc.

Participants: Environmental staff in industry, consultants, regulators, high school/college students. A minimum of twenty participants is required.

Course objectives: To survey pollution prevention methods used in industry.

Course overview: This course covers specific methods of waste minimization and pollution prevention for different types of industries. Case histories demonstrate the applicability of pollution prevention methods to actual industry situations.

Scholarship funds: The course provider offers discounts of \$300 per person for groups of twenty-five or larger.

PP 325

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin, Director
Human Resources Development
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

PRINCIPLES OF POLLUTION PREVENTION

Winrock International Environmental Alliance

Participants: Government and industrial planners with responsibility for pollution prevention and waste minimization.

Course objectives: To learn a systematic method for minimizing waste, so as to diminish the environmental costs associated with growth sectors.

Course overview: This course addresses major themes including: recycling/reuse strategies, materials substitution, and process modification schemes. It also demonstrates how the attractiveness of the prevention paradigm rests in its applicability to urban, industrial, and agricultural pollution problems.

Scholarship funds: May be available through the local USAID mission.

PP 326

Dates: To be determined

Duration: 2 days

Location: To be determined

Contact:

Ms. Janet Sterling
Seminar Coordinator
Geraghty & Miller
125 East Bethpage Road
Plainview, NY 11803 USA

Phone: (516) 249-7600

Fax: (516) 249-7610

Fees: To be determined

REMEDIAL STRATEGIES AND DECISION MAKING

Geraghty & Miller, Inc.

Participants: Environmental scientists and engineers (including geologists, hydrologists, chemists, and biologists), environmental managers, and lawyers with experience in environmental issues and facing remediation decisions.

Course objectives: To be able to develop cost-effective strategies for environmental restoration through insight into technical and regulatory factors.

Course overview: Course lectures and case studies provide an introduction to Remedial Strategy development; treatment technologies for soil, water, and waste; bioremediation; air pollution monitoring and control; RCRA corrective action and operational strategies; CERCLA strategies; and hydrocarbon release remediation.

Scholarship funds: None available through the course provider.

Pollution Prevention/Control

PP 327

Dates: 1) June 6-10, 1994
2) October 24-28, 1994

Duration: 5 days

Location: 1) Houston, Texas
2) Colorado Springs, Colorado

Contact:

Registrar
Oil & Gas Consultants Int'l, Inc.
P.O. Box 35448
Tulsa, OK 74135-0448 USA

Phone: (918) 742-2334
Fax: (918) 742-2272

Fees: \$1,125 (Course fees and materials)

REMEDIATION OF SOILS, GROUND WATER, AND MARINE AREAS

Oil & Gas Consultants International, Inc.

Participants: Engineers, managers, corporate support staff, economists, technicians, and personnel responsible for planning and performance of environmental remediation solutions for drilling, production, refining, petrochemical, and transport operations.

Course objectives: To gain insight and practical guidance to understanding pollution control strategies for planning and evaluating solutions for remediation of contamination.

Course overview: This course addresses pollution problems in soils, ground water, and marine environments. Alternative approaches for each pollution type, case, and area are covered, together with a determination of key factors which should be considered. The identification, applicability, and comparison of alternate remediation technologies, including bioremediation, as influenced by characteristics of waste, soil type, location, etc. are considered in order to facilitate and implement a full-scale system.

Scholarship funds: None available through the course provider.

PP 328

Dates: November 8-12, 1993; 1994

Duration: 5 days

Location: Los Angeles, California

Contact:

Dr. William Goodin
UCLA Extension
Short Course Program
10955 Le Conte Avenue, Suite 515
Los Angeles, CA 90024-2883 USA

Phone: (310) 825-1047
Fax: (310) 206-2815

Fees: \$1,395 (Course fees and materials)

SOIL AND GROUND WATER REMEDIATION

University of California-Los Angeles

Participants: Engineers, scientists, environmental managers, and public officials.

Course objectives: To be able to determine standards for cleanup and remediation, and to understand the risks, costs, and benefits of remediation.

Course overview: This course covers state-of-the-art techniques for assessing the true risks of environmental contamination, and methods of identifying physical, chemical, and biological technologies to remediate, restore, and preserve the environment at a safe level.

Scholarship funds: Discounts for groups from the same organization are available through the course provider.

PU 329

Dates: Offered on demand

Duration: 12-18 months

Location: Independent home study

Contact:

Mr. Stephen Ridley, Associate Dean
College of Agriculture
University of Wisconsin-River Falls
River Falls, WI 54022, USA

Phone: (715) 425-3535

Fax: (715) 425-3785

Fees: \$900

AGRICULTURAL ECONOMICS 250-WORLD FOOD AND POPULATION

University of Wisconsin-River Falls

Participants: Anyone interested in a general introduction to the subject.

Course objectives: To become familiar with population trends, their impact on societies, and the implications for food production.

Course overview: The course focuses on population growth trends, their determinants, and agricultural resource availability. Food production practices and their development and improvement are examined in terms of environmental and cultural factors. The course instructor provides a reading list for the different sections of the course. To proceed to each section, participants submit a report or pass an examination.

Scholarship funds: None available through the course provider.

PU 330

Dates: August 15-28, 1993, 1994, 1995

Duration: 2 weeks

Location: River Falls, Wisconsin

Contact:

Dr. Samuel F. Huffman
Professor of Geology
University of Wisconsin-River Falls
River Falls, WI 54022 USA

Phone: (715) 425-3851

Fax: (715) 425-3785

Fees: \$3,200

HUMAN ENVIRONMENTAL IMPACT

University of Wisconsin-River Falls

Participants: Individuals wishing to develop a basic knowledge of environmental management. There are no prerequisites.

Course objectives: To develop an understanding of the ways humans impact their environment for promoting ecosystem management and conservation through different management techniques.

Course overview: Course lecture utilizes the ecosystem approach emphasizing population, energy, water and agriculture, and their environmental consequences. Site visits to areas where plans have been implemented provide the chance to observe positive and negative impacts. Course content can be tailored to fit client needs.

Scholarship funds: None available through the course provider.

Resource Recovery/Recycling

RR 331

Dates: 1) September 24-27, 1994
2) September 12-15, 1995

Duration: Three-and-a-half days

Location: 1) Portland, Oregon
2) Kansas City, Missouri

Contact:

Ms. Jodi Lehner
National Recycling Coalition
1101 30th Street, NW, Suite 305
Washington, DC 20007 USA

Phone: (202) 625-6406
Fax: (202) 625-6409

Fees: \$300-\$400

ANNUAL CONGRESS AND EXPOSITION

National Recycling Coalition

Participants: Recycling coordinators, processors, and managers; end users; local, state, and federal employees; purchasing managers, and others interested in recycling.

Course objectives: To network while learning up-to-date information on recycling.

Course overview: Approximately sixty-three concurrent education sessions are conducted in this exposition. Areas addressed include: buying recycled materials, markets and economic development, emerging issues, public policy, collection and processing, source reduction, rural case studies, and new trends in urban collection. There is also a series of lectures followed by question-and-answer sessions.

Scholarship funds: Availability through course provider varies.

RR 332

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Mr. Michael Simpson
Tellus Institute
11 Arlington Street
Boston, MA 02116-3411 USA

Phone: (617) 266-5400
Fax: (617) 266-8303

Fees: Vary

ENTREPRENEURIAL ENTERPRISES FOR RECYCLING AND COMPOSTING

Tellus Institute, Inc.

Participants: Social economists, urban planners, governmental officials with responsibility for waste management, and representatives of non-governmental organizations.

Course objectives: To address frequently overlooked issues surrounding hazardous wastes from households and potential resources in organic fractions of materials destined for landfill use.

Course overview: This course provides an approach for supplementing recycling activities with methodologies that allow for the recovery of high quality compost from materials usually considered waste. Participants consider methods designed to identify and remove household hazardous waste from waste streams before disposal, to increase demand for compost, and to internalize appropriate institutional supports structures. The course is most appropriate for countries that are labor rich and capital poor.

Scholarship funds: May be available through the local USAID mission.

SP 333

Dates: To be determined

Duration: 2 days

Location: Connecticut

Contact:

Ms. Constance L. Boehm
Program Specialist
Extended and Continuing Education
Center for Professional
Development U-56D
University of Connecticut
One Bishop Circle
Storrs, CT 06269-4056 USA

Phone: (203) 486-3231

Fax: (203) 486-5221

Fees: \$500 (approximately)

SOIL VAPOR EXTRACTION

University of Connecticut

Participants: Environmental specialists from regulatory agencies, and consulting and industrial firms involved in site remediation, environmental managers/scientists/service engineers, environmental geologists, field technicians, and attorneys.

Course objectives:

-To learn basic scientific and engineering principles, and design techniques for soil vapor extraction, air sparging, and bioventing systems;

-To gain assessment tools to support system analysis and design;

-To learn feasibility analysis for soil vapor extraction systems.

Course overview: This lecture course includes topics such as principles of vapor movement in porous media; use of modeling to determine applicability, performance, and design; bases of design and installation; vapor phase controls and methods; monitoring systems; methods of obtaining closure and related issues; overview of new developments; and the identification of research needs. Time is allowed for questions or for discussion of topics covered.

Scholarship funds: To be determined.

SP 334

Dates: To be determined

Duration: 5 days

Location: Pittsburgh, Pennsylvania

Contact:

Ms. Maureen McFalls
Center for Hazardous Materials
Research
University of Pittsburgh
320 William Pitt Way
Pittsburgh, PA 15238 USA

Phone: (412) 826-5320

Fax: (412) 826-5552

Fees: \$475

SOIL AND GROUND WATER SAMPLING

University of Pittsburgh Applied Research Center

Participants: Engineers, technicians, and policy makers.

Course objectives: To learn the proper procedures for planning a sampling program, and techniques for collecting, preserving, and transporting soil and water samples.

Course overview: This course introduces the principles and practices for planning and conducting soil and ground water sampling at hazardous waste sites, including documentation and record keeping.

Scholarship funds: Discounts for government and groups from the same organization are available through the course provider.

Soil Protection/Rehabilitation

SP 335

Dates: Offered on demand

Duration: 3 weeks (flexible)

Location: Negotiable

Contact:

Mr. John A. Snyder, President
Bio-Pak
3842 Heater Drive
Eagan, MN, 55222 USA

Phone: (612) 452-6207

Fax: (612) 452-8264

Fees: \$150 per day plus sharing
instructors costs

SOIL MEDIA AMENDMENT USING SUPERABSORBENTS

Bio-Pak

Participants: NGOs, rural foresters, private sector (especially small farmers for cash crops), university students interested in state-of-the-art use of polyacrylamide superabsorbents.

Course objectives: To learn quick, inexpensive ways to maximize land use, to reforest areas of soil erosion, and to practice using water conservation methods of combining superabsorbents with tape irrigation.

Course overview: This course presents superabsorbents as a less-costly, more efficient alternative to drip irrigation. The origins, composition, and basic principles on which superabsorbents function, and their application to developing countries are addressed.

Scholarship funds: None available through the course provider.

SP 336

Dates: Offered on demand

Duration: 3 days

Location: Negotiable

Contact:

Mr. Richard Crume
Midwest Research Institute
401 Harrison Oaks Blvd., Suite 350
Cary, NC 27513-2412 USA

Phone: (919) 677-0249 ext. 5223

Fax: (919) 677-0065

Fees: Negotiable

SOIL VAPOR SURVEY BOOTCAMP

Midwest Research Institute

Participants: Geologists, hydrologists, engineers, field chemists, and environmental scientists/analysts.

Course objectives: To be able to knowledgeably and confidently employ soil vapor technology, oversee contractors conducting surveys, and appropriately use the data in decision making.

Course overview: The course is largely practical in nature, involving classroom instruction and experimentation as well as field applications. Discussion involves an overview of volatile containment properties, factors influencing vapor transport, instrumentation to detect vapors, survey layout, data collection, data interpretation, and report preparation.

Scholarship funds: None available through the course provider.

SP 337

SOILS 440-SOIL AND WATER CONSERVATION
University of Wisconsin-River Falls

Dates: Offered on demand

Participants: Professionals involved in the practice or teaching of soil and water management.

Duration: Up to 1 year (flexible)

Course objectives: To become familiar with soil conservation and management in order to predict erosion, design conservation structures, and evaluate conservation practices.

Location: Independent home study

Contact:

Mr. Stephen Ridley, Associate Dean
College of Agriculture
University of Wisconsin-River Falls
River Falls, WI 54022 USA

Course overview: This course presents the principles and practices of soil erosion control, water conservation, and land use management. Agronomic and engineering practices are emphasized in problem-solving and project activities. The course introduction and some sessions are on videotape. The course consists of ten units organized for self study which are submitted for grading, along with mid-term and final examinations.

Phone: (715) 425-3535

Fax: (715) 425-3785

Fees: \$1,200

Scholarship funds: None available through the course provider.

UNITED STATES ENVIRONMENTAL TRAINING INSTITUTE

USETI is a joint effort between the U.S. environmental industry and the U.S. government. USETI provides short-term training courses to private and public officials from developing countries around the world.

USETI offers participants the opportunity to gain first-hand exposure to appropriate environmental technology available from U.S. industry. Training takes place in Washington, DC, and in existing private sector facilities around the U.S., Asia and the Caribbean.

In 1994, USETI training courses will cover a wide range of topics including:

- Hazardous Waste Management
- Urban Finance/Cost Recovery
- Community Based Development
- Medical Waste Management
- Industrial/Municipal Wastewater Treatment Technology
- Bioremediation Technology
- Environmental Banking
- Clean Energy Technology
- Air Pollution Control Technology
- Industrial/Municipal Solid Waste Treatment Technology
- CFC Reduction Technology

For more information and a complete course catalogue, contact the nearest U.S. Embassy or Consulate, or write to USETI at 3000 K Street, NW, Suite 690, Washington, DC 20007. Fax: (202) 333-4782.

Solid Waste Management

SW 338

Dates: November 15-18, 1993

Duration: 4 days

Location: Madison, Wisconsin

Contact:

Mr. Phil O'Leary
Department of Engineering
Professionals Development
432 North Lake Street
University of Wisconsin-Madison
Madison, WI 53706 USA

Phone: (608) 262-0493

Fax: (608) 263-3160

Fees: \$790 (Course fees, materials,
and some meals)

ADVANCED LANDFILL DESIGN AND MANAGEMENT

University of Wisconsin-Madison

Participants: Degreed professionals, operators and managers of landfills, individuals responsible for regulation and compliance.

Course objectives: To address and evaluate complex issues that face landfill management such as leachate/gas control, landfill successes or failures.

Course overview: The course lectures and in-depth discussions cover landfill processes, predicting leachate quantities and characteristics, futuristic designs, and implementing and optimizing landfill risk assessments.

Scholarship funds: None available through the course provider.

SW 339

Dates: Offered on demand

Duration: Up to 1 year (flexible)

Location: Independent home study

Contact:

Mr. Stephen Ridley, Associate Dean
College of Agriculture
University of Wisconsin-River Falls
River Falls, WI 54022, USA

Phone: (715) 425-3535

Fax: (715) 425-3785

Fees: \$900 (Course fees)

AGRICULTURAL ENGINEERING 365-WASTE MANAGEMENT SYSTEMS

University of Wisconsin-River Falls

Participants: Persons concerned with the management and disposal of agricultural wastes.

Course objectives: To become familiar with properties and means of disposal and utilization of agricultural waste products.

Course overview: This course presents fundamentals of utilization and management of agricultural wastes. The physical, chemical and biological properties of animal wastes are used to select systems for waste treatment, storage, disposal and utilization. Participants work through problem-solving exercises, and submit a mid-term and final examination as well as written work.

Scholarship funds: None available through the course provider.

SW 340

BIOMEDICAL INCINERATOR OPERATOR CERTIFICATION

Biomedical Training & Consulting, Inc.

Dates: Offered on demand

Participants: Medical waste handlers and crematory operators.

Duration: 2 days

Course objectives:

- To learn applicable regulations and proper disposal of ash;
- To assure safety in handling and disposal of waste.

Location: Negotiable

Contact:

Mr. Gerald A. Dinardo
PO Box 4080
Plant City, FL 33564 USA

Course overview: The course addresses combustion principles, safety procedures, control system checks, air pollution equipment, and regulations. The first day consists of lecture, question-and-answer sessions, presentations and discussion of common problems. The second day covers cleanup, handling, pollution controls, and different types of incinerators.

Phone: (813) 759-1311

Fax: (813) 759-1411

Scholarship funds: None available through the course provider.

Fees: \$800 (facility fees)
\$150 (operator fees)

SW 341

ENVIRONMENTAL IMPACT ASSESSMENT IN SOLID WASTE MANAGEMENT PLANNING

Global Environmental

Dates: Negotiable

Participants: Solid waste managers, and environmental professionals from non-governmental organizations, permitting agencies and other institutions.

Duration: 1-2 days (flexible)

Course objectives:

- To gain a basic understanding and an integrated view of the various processes, major components, and stages of development and management of new landfills;
- To understand environmental control features and major issues in the Environmental Impact Assessment process.

Location: Negotiable

Contact:

Mr. Michael Melanson
Global Environmental
2862 Arden Way, Suite 215
Sacramento, CA 95825 USA

Course overview: This course focuses on the application of environmental principles and practices to siting and design of solid waste facilities. After introductory lectures, participants consider various case studies, possibly selecting certain cases related to participants' needs for in-depth examination. Course content can be tailored to fit the clients needs.

Phone: (916) 483-1564

Fax: (916) 483-1567

Scholarship funds: None available through the course provider.

Fees: Negotiable

SW 342

**INFECTIOUS SUBSTANCES AND MEDICAL WASTE
TRANSPORTATION**

Science Applications International Corporation

Dates: To be determined

Duration: 1 day

Location: Negotiable

Contact:

Dr. Daniel Hoglund
Science Applications Int'l.
Corporation
P.O. Box 2501
Oak Ridge, TN 31831-7501 USA

Phone: (615) 482-9031

Fax: (615) 482-6828

Fees: Negotiable

Participants: Hazardous materials employees, drivers, and training and traffic managers who deal with medical or infectious waste transportation.

Course objectives: To get an overview of federal regulations for compliance with hazardous materials transportation regulations.

Course overview: Course lectures focus on the specific needs of the medical community for transporting these materials when regulated by the Department of Transportation. Topics covered include conditions that qualify a material as a transportation hazard or waste, model requirements, packaging rules, communications rules, employee training requirements, and motor carrier operation rules. Participants receive manuals and take part in related work exercises.

Scholarship funds: None available through the course provider.

SW 343

**INTEGRATED SOLID WASTE MANAGEMENT
PLANNING FOR LARGE AND MEDIUM URBAN
AREAS**

Winrock International Environmental Alliance

Dates: Offered on demand

Duration: 5 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Dr. Rich Tobin
EPAT/Winrock International
Environmental Alliance
1611 North Kent Street, Suite 600
Arlington, VA 22209 USA

Phone: (703) 525-9430

Fax: (703) 516-0481

Fees: Vary

Participants: Environmental managers, regulators, and waste managers and haulers, responsible for managing solid waste.

Course objectives: To better address diminishing availability of disposal sites and increased emphasis on reuse and recycling, while preserving beneficial aspects of collection, recycling, and disposal practices (such as the creation of jobs through informal scavenging).

Course overview: The course introduces WASTEPLAN, a scenario-based computer program that evaluates alternatives for management of solid waste (e.g. recycling, and incineration.) The course includes hands-on training and follow-up assistance as needed. Participants need access to IBM-compatible 286 computers (386 preferred) with a minimum of 10 MB hard disk space and 1 MB memory. Ideally there will be at least one computer for each two participants.

Scholarship funds: May be available through the local USAID mission.

SW 344

Dates: Quarterly 1994, 1995, 1996

Duration: 4 days to 1 month
(depending on client needs)

Location: Houston, Texas

Contact:

Mr. James Olsta
Environmental Planning Group, Inc.
205 Park Avenue
Barrington, IL 60010 USA

Phone: (708) 437-8001

Fax: (708) 382-0154

Fees: \$150 per day-estimated
(Course fees and materials)

LANDFILL DESIGN AND CONSTRUCTION

International Environmental & Energy Action Training Center

Participants: Environmental managers, regulatory officials, engineers and hydrologists who have background in landfill design.

Course objectives: To better design landfills by becoming familiar with liner materials, state-of-the-art technology and design details for leachate collection.

Course overview: Course lectures review geosynthetics, design details, and construction quality assurance/quality control. Participants receive hands-on training in laboratory experiments with liner materials, and mock-ups of landfills with leachate collection.

Scholarship funds: None available through the course provider.

SW 345

Dates: Fall 1994

Duration: 2 days

Location: Madison, Wisconsin

Contact:

Mr. Phil O'Leary
Department of Engineering
Professionals Development
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706 USA

Phone: (608) 262-0493

Fax: (608) 263-3160

Fees: \$540 (Course fees, materials,
and some meals)

SANITARY LANDFILL OPERATION AND MANAGEMENT

University of Wisconsin-Madison

Participants: Degreed professionals, operators and managers of landfills, and individuals responsible for regulation and compliance.

Course objectives: To become familiar with the latest environmental controls, equipment and other developments to improve job performance.

Course overview: Course lectures and discussion address construction, the establishing of daily operational procedures, minimizing liability, landfill liners and systems, gas migration control, and operator certification.

Scholarship funds: None available through the course provider.

Solid Waste Management

SW 346

Dates: January 17-18, 1994

Duration: 2 days (flexible)

Location: Fort Collins, Colorado

Contact:

Ms. Janet Lee Montera
Department of Civil Engineering
Colorado State University
Fort Collins, CO 80523 USA

Phone: (303) 491-7425

Fax: (303) 491-7727

Fees: \$600 (Course fees may be negotiable) \$650-if paid after December 6, 1993

SOIL LINERS AND COVERS FOR LANDFILLS

Colorado State University

Participants: Projects managers; mining geotechnical, and environmental consulting engineers; regulatory agency personnel; environmental attorneys; and professionals associated with the design, permitting, and construction of landfills.

Course objectives: To gain a comprehensive understanding of technology available for designing, constructing, and permitting of soil liners and cover systems for landfills.

Course overview: Course lectures cover fundamental considerations in the design and construction of landfill liners and cover systems under four basic areas: design consideration, laboratory testing, construction, and field testing. The emphasis is on understanding basic principles and their practical application in each of the above areas.

Scholarship funds: None available through the course provider.

SW 347

SOLID WASTE DISPOSAL MANAGEMENT (LANDFILL DESIGN/MANAGEMENT)

Waste Management, Inc./U.S. Environmental Training Institute

Dates: November 1-13, 1993

Duration: 2 weeks

Location: Washington, D.C.; and Oak Brook, Illinois

Contact:

Ms. Heather Burci
Program Manager
USETI
3000 K Street, NW Suite 690
Washington, DC 20007 USA

Phone: (202) 338-3400

Fax: (202) 333-4782

Fees: \$200 (administrative fee)

Participants: Private and public sector decision makers charged with design, management, and policy issues related to solid waste disposal. Experience in environmental project management is desirable.

Course objectives: To learn effective management techniques and technology for operating an environmentally sound landfill.

Course overview: This course offers highly interactive sessions covering a comparison of landfill technologies, operations, finance and project management, community affairs, compliance/regulations, design and construction, health and safety issues, management/development, risk assessment, and decision making. Site visits accompany formal lecture sessions.

Scholarship funds: USETI offers a limited number of scholarships covering transportation, administrative fees and per diem expenses.

SW 348

Dates: November 1993; July 1994;
November 1994

Duration: 8 weeks

Location: Wilberforce, Ohio

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$4,500

SOLID AND HAZARDOUS WASTE MANAGEMENT
Central State University

Participants: Practicing engineers, mid-level managers, and graduate students.

Course objectives: To develop capability to manage solid and hazardous waste.

Course overview: Lectures cover the practical aspects of the generation, collection, and modes of disposal of solid and hazardous wastes in developing countries. Field experience includes visiting a hazardous waste facility to learn about collection and analysis of waste for compliance and cleanup.

Scholarship funds: None available through the course provider.

SW 349

Dates: January 18-May 14, 1994;
May-August 1995

Duration: 15 weeks (estimated)

Location: Chicago, Illinois;
Wheaton, Illinois

Contact:

Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6837

Fax: (312) 567-7517

Fees: \$1,425 (Tuition)

SOLID WASTE ENGINEERING (ENVE 480)
Illinois Institute of Technology

Participants: Professionals currently working in the field.

Course objectives: To further professional development.

Course overview: Course lectures cover quantities and characteristics of solid, hazardous, and municipal waste; collection methods, equipment, and cost; refuse disposal practices; and regional planning and management.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 350

Dates: To be determined

Duration: 5 days (flexible)

Location: Negotiable

Contact:

Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA

Phone: (303) 491-7425

Fax: (303) 491-7727

Fees: \$695 (Course fees may be negotiable)

ACTIVATED SLUDGE PROCESS CONTROL

Colorado State University

Participants: Experienced wastewater professionals who design, operate or manage activated sludge treatment processes.

Course objectives: To learn laboratory techniques, methodologies, interpretations and decision items to control an activated sludge process.

Course overview: Course lectures include process variations; design parameters; process control strategies; centrifuge, settleometer and DOB tests; sludge unit concepts; design considerations and hydraulics; sludge accountability and treatment plant evaluation. The course may possibly include a tour of a local sludge pond, and a laboratory tour to see the functioning of a prototype.

Scholarship funds: None available through the course provider.

WR 351

Dates: 1) November 6-7, 1993
2) December 7-8, 1993

Duration: 2 days

Location: 1) St. Louis, Missouri
2) New York, New York

Contact:

Mr. Harold Abramson
American Institute of Chemical Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372

Fax: (212) 752-3297

Fees: \$825

ADVANCED WASTEWATER TREATMENT

American Institute of Chemical Engineers

Participants: Engineers, biologists, and chemists with some previous background in wastewater treatment.

Course objectives: To be able to determine the applicability and feasibility of applying advanced wastewater treatment concepts to meet pre-determined water quality criteria.

Course overview: This course presents processes under development as well as those that have proven successful, along with design criteria. Engineering and economic considerations for physical and chemical wastewater treatment techniques are discussed with emphasis placed on the fundamentals of these processes and the technical feasibility of applying such techniques to advanced wastewater treatment practices. There is a brief review of the principles of biological waste treatment and appropriate flow sheets for biological units, chemical/physical/biological combinations, and chemical-physical processes.

Scholarship funds: None available through the course provider.

WR 352

**APPLIED HYDROGEOLOGY IN ENVIRONMENTAL
MANAGEMENT**

Eckenfelder Inc./Center for Professional Advancement

Dates: To be determined

Duration: 3 days

Location:
East Brunswick, New Jersey; other
U.S. and Asia sites negotiable

Contact:
Registrar, The Center for
Professional Advancement
P.O. Box 964
East Brunswick, NJ 08816 USA

Phone: (908) 613-4500

Fax: (908) 238-9113

Fees: \$990

Participants: Environmental managers, engineers and geologists who need to understand applied hydrogeology for managing projects.

Course objectives: To understand the principals of ground water flow in simple and complex media, and the behavior and transport of contaminants and methods relative to environmental investigations and remediation.

Course overview: This course covers fundamentals of hydrogeology, contaminant behavior and transport, hydrogeology investigations, well installation, geophysics, soil gas surveys, aquifer testing, design and testing of ground water recovery systems, and mathematical modeling of aquifers.

Scholarship funds: None available through the course provider

WR 353

**COMPLETE INDUSTRIAL AND MUNICIPAL
WASTEWATER TREATMENT-A PRACTICAL
APPROACH TO THE USE OF BACTERIA**

Polybac Corporation

Dates: March 14-21, 1994;
March 1995

Duration: 1 week

Location: Bethlehem, Pennsylvania

Contact:
Mr. Don DeClement
Polybac Corporation
3894 Courtney Street
Bethlehem, PA 18017 USA

Phone: (215) 867-7338

Fax: (215) 861-0991

Fees: \$850

Participants: Plant managers, wastewater plant operators, and consulting engineers.

Course objectives: To understanding wastewater treatment in order to apply biological aspects.

Course overview: The course includes short site visits, lectures and case studies addressing collection systems problem solving, sludge reduction, metal/solids removal, wastewater treatment problem solving, and issues of food production and industry. Laboratory work includes microscopic analysis of wastewater samples, determining health of sludge, BOD testing, and toxicity testing.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 354

Dates: To be determined

Duration: 5 days (flexible)

Location: Negotiable

Contact:

Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA

Phone: (303) 491-7425

Fax: (303) 491-7727

Fees: \$895 (Course fees-may be negotiable)

DECISION SUPPORT SYSTEMS FOR WATER RESOURCES

Colorado State University

Participants: Government personnel, researchers, and private consultants providing engineering support in water resources.

Course objectives: To be introduced to the concepts of developing computer-based decision support systems for supporting water resources management.

Course overview: Course lectures focus on using microcomputer-based commercial software to develop integrated computing frameworks around available water quantity and water quality engineering models.

Scholarship funds: None available through the course provider.

WR 355

Dates: To be determined

Duration: 5 days (flexible)

Location: Negotiable

Contact:

Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA

Phone: (303) 491-7425

Fax: (303) 491-7727

Fees: \$950 (Course fees-may be negotiable)

DESIGN OF WATER QUALITY MONITORING

Colorado State University

Participants: Persons actively involved with or who have an interest in design, operation, or management of a water quality monitoring network for surface and subsurface monitoring.

Course objectives:

-To learn detailed procedures for designing a water quality monitoring system.

-To be able to determine ambient conditions, trends, interventions, and excursions beyond a limit.

Course overview: Course lectures cover the redesign of monitoring systems regardless of the location of water in the hydrologic cycle; new information on redesign; uses of data bases and their interrelationship with water rights; and monitoring equipment. The course may possibly include a laboratory tour to observe monitoring and drawing of data.

Scholarship funds: None available through the course provider.

WR 356

Dates: To be determined

Duration: To be determined

Location: Asia sites negotiable

Contact:

Mr. Robert D. Norris
Technical Director
Bioremediation Services
227 French Landing Drive
Nashville, TN 37228 USA

Phone: (615) 255-2288

Fax: (615) 256-8332

Fees: \$1,225

DESIGN OF WASTEWATER TREATMENT PLANTS

Eckenfelder, Inc.

Participants: Individuals working directly or indirectly in the design or operation of municipal or industrial wastewater treatment plants.

Course objectives: To learn basic information about wastewater treatment plants in order to permit evaluation of design and select equipment.

Course overview: This course provides an overview of primary treatment, sedimentation, flotation, equalization, neutralization, activated sludge, oxidation ditches, stabilization ponds, wastewater audits, minimization, reuse, byproduct recovery, trickling filters, rotating biological contractors, anaerobic treatment, nutrient removal, sludge removal, aerobic digestion, and land disposal.

Scholarship funds: None available through the course provider.

WR 357

Dates: November 1993; June 1994;
June 1995

Duration: 6 weeks

Location: Wilberforce, Ohio

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$4,000

DROUGHT WATER MANAGEMENT

Central State University

Participants: Practicing engineers, mid-level managers, and graduate students.

Course objectives: To learn different aspects of drought water management for sharing the scarcity among all users rather than resorting to withholding.

Course overview: This course deals with the nature, causes and consequences of droughts. Lectures cover low flow hydrology, and the practical aspects of allocation and management of scarce water resources during droughts; trigger mechanisms; and other approaches to drought water management.

Scholarship funds: None available through the course provider.

WR 358

**EFFECTIVE TECHNIQUES FOR CONTAMINATED
GROUND WATER TREATMENT**

University of Wisconsin-Madison

Dates: November 8, 1993

Participants: Degreed professionals such as engineers and environmental professionals.

Duration: 3 days

Location: Madison, Wisconsin

Course objectives: To learn the latest techniques for removing and treating contaminated ground water.

Contact:

Mr. Robert Fey
Department of Engineering
Professionals Development
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706 USA

Course overview: Lectures and case histories address design systems and up-to-date, practical methods for dealing with contaminated ground water such as vacuum extraction and kinematics methods, and cost-effective design of methods and facilities for ground water treatment.

Phone: (608) 262-8592

Fax: (608) 263-3160

Scholarship funds: None available through the course provider.

Fees: \$745

WR 359

**ENVIRONMENTAL ASPECTS OF CANALS AND
STREAMS**

Central State University

Dates: June 1994, 1995, 1996

Participants: Practicing engineers, scientists, managers and graduate students.

Duration: 6 weeks

Location: Wilberforce, Ohio

Course objectives: To learn the environmental consequences of proposed or existing irrigation projects.

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Course overview: This course explains basic ecology of waterways to enable participants working in interdisciplinary teams to maintain an appropriate ecological balance. Topics include water quality, water chemistry, limnology of canals and streams, sampling, analysis and pollution parameters associated with flowing streams, and human health impacts, such as increased risk of malaria.

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$5,000

Scholarship funds: None available through the course provider.

WR 360

Dates: November 3-4 & 17-18, 1993; June 6-10, 1994

Duration: 5 days

Location: Sacramento, California

Contact:

Ms. Rita Smith-Simms
Engineering Programs
University Extension-UC
Davis, CA 95616-8727 USA

Phone: (916) 757-8899

Fax: (916) 757-8676

Fees: \$795 (course fees and materials, one meal, and program diskettes)

**FLOOD PLAIN HYDROLOGY: HEC-1
MICROCOMPUTER APPLICATIONS**

University of California-Davis (Extension)

Participants: Experienced engineers.

Course objectives: To be able to use the principles and techniques discussed for flood insurance studies and general flood studies.

Course overview: This course covers hydrologic techniques for flood plain and watershed hydrology studies. Lectures and workshops focus on analyses of ungaged basins and present material on evaluations of detention basins, channel modifications, and other flood control alternatives. The course uses HEC-1 on IBM PC-compatible microcomputers, but the material presented applies to the use of the program on any computer system. Participants in the November class receive a project to work on for two weeks between class meetings.

Scholarship funds: None available through the course provider.

WR 361

Dates: Offered on demand

Duration: 3-4 days

Location: Frederick, Maryland

Contact:

Ms. Amy Marsh
Training Coordinator
Marsh-McBirney, Inc.
4539 Metropolitan Court
Frederick, MD 21701 USA

Phone: (301) 874-5599

Fax: (301) 874-2172

Fees: \$525 (course fees and daily expenses)

FLOW INSTRUMENTATION

Marsh-McBirney, Inc.

Participants: Engineers, and field technicians involved in the monitoring of water, wastewater, sewage, and ocean flows.

Course objectives:

-To understand principles of Marsh-McBirney flow instrumentation;
-To learn to deploy and operate Marsh-McBirney instruments.

Course overview: The first day of the course focuses on theory and principles of flow instrument operation. Course participants spend the second day in a flow lab to practice using various flowmeters. The third day is devoted to training in software applications.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 362

FUNDAMENTALS OF GROUND WATER CONTAMINATION AND REMEDIATION TECHNOLOGY

Geraghty & Miller, Inc.

Dates: December 1993 (tentative)

Duration: 3 days

Location: Chicago, Illinois

Contact:

Ms. Janet Sterling
Seminar Coordinator
Geraghty & Miller, Inc.
125 East Bethpage Road
Plainview, NY 11803 USA

Phone: (516) 249-7600

Fax: (516) 249-7610

Fees: To be determined

Participants: Environmental scientists and engineers (including geologists, hydrologists, chemists and biologists), environmental managers, and lawyers new to the ground water business.

Course objectives: To be trained in the basics of ground water science.

Course overview: This lecture course provides an introduction to ground water geology; hydrology; environmental chemistry; vadose-zone monitoring; data interpretation; risk assessment; flow and transport modeling; hydrocarbon investigations; and case studies.

Scholarship funds: None available through the course sponsor.

WR 363

FUNDAMENTALS OF GROUND WATER

University of Connecticut

Dates: To be determined

Duration: 1 day

Location: Connecticut

Contact:

Ms. Constance L. Boehm
Program Specialist
Extended and Continuing Education
Center for Professional
Development U-56D
University of Connecticut
One Bishop Circle
Storrs, CT 06269-4056 USA

Phone: (203) 486-3231

Fax: (203) 486-5221

Fees: \$185 approximately

Participants: Town planners, real estate professionals, environmental managers, appraisers, and attorneys who have little or no familiarity with the basic concepts of ground water flow and contamination, or formal scientific or engineering training.

Course objectives: To communicate effectively with ground waste professionals on technical aspects of a ground water problem, identify the steps typically followed in the evaluation and assessment of a ground water problem, describe the sources of ground water, its movement, and how it can become contaminated.

Course overview: This course includes topics such as the occurrence of ground water, the movement of ground water in the subsurface, analyzing ground water flow, fate and transport of ground water contaminants, analyzing ground water contamination, and a case study of ground water analysis.

Scholarship funds: To be determined.

WR 364

Dates: 1) January 31-February 4,
August 1-5, 1994
2) February 14-18, July 11-15, 1994

Duration: 5 days

Location: 1) Orlando, Florida
2) San Francisco, California

Contact:
Mr. Bob Cleary
Princeton Groundwater
P.O. Box 263033
Tampa, FL 33685 USA

Phone: (813) 855-6898
Fax: (813) 855-6390

Fees: \$1095 (Course fees and
materials)

GROUND WATER POLLUTION AND HYDROLOGY
Princeton Groundwater

Participants: Groundwater hydrologists, geologists, state/federal regulators, engineers, chemists, project managers, technical experts, and compliance/regulatory program managers for industry.

Course objectives: To significantly enhance technical skills related to modeling, cleanup, field techniques, and safety.

Course overview: The course emphasizes acquiring an extensive working knowledge of the concepts, principles and professional practices underlying the groundwater field. Topics addressed include: soil gas sampling, regulations, and the application of mathematical models in litigation.

Scholarship funds: None available through the course provider.

WR 365

Dates: November 6-7, 1993

Duration: 2 days

Location: St. Louis, Missouri

Contact:
Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372
Fax: (212) 752-3297

Fees: \$825

**GROUND WATER AND SOIL REMEDIATION:
TECHNIQUES. SYSTEM DESIGN, AND COST
ESTIMATING FOR CLEANUP OF HYDROCARBON
AND CHLORINATED SOLVENT CONTAMINATION**
American Institute of Chemical Engineers

Participants: Engineers, technicians and other professionals who deal with ground water and soil remediation.

Course objectives: To be able to use the results of remedial investigations to organize feasibility studies, remediation systems design, and cost estimates for installing and operating remediation equipment.

Course overview: This course focuses on developing feasibility studies and selection of remediation options; designing remediation systems; and estimating capital investment and annual expenses.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 366

Dates: December 7, 1993

Duration: 3 days

Location: Madison, Wisconsin

Contact:

Mr. Roy Holub
Department of Engineering
Professionals Development
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706 USA

Phone: (608) 265-3108

Fax: (608) 263-3160

Fees: \$850

GROUND WATER FLOW AND WELL HYDRAULICS *University of Wisconsin-Madison*

Participants: Degreed professionals.

Course objectives: To learn methods to determine aquifer well flows, design ground water monitoring and dewatering systems, and identify well head protection areas.

Course overview: This technical course interrelates hydrology, hydraulics, and well design. It presents various issues and methods relevant to the subject, such as identifying well head protection areas.

Scholarship funds: None available through the course provider.

WR 367

Dates: November 1993, 1994, 1995;
July 1994, 1995

Duration: 8 weeks

Location: Wilberforce, Ohio

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$6000

GROUND WATER HYDROLOGY *Central State University*

Participants: Practicing engineers, geologists, governmental personnel, and graduate students.

Course objectives: To learn methods of ground water resource investigation and evaluation, well drilling and design, and computer applications.

Course overview: The course addresses the fundamentals of ground water hydrology, aquifer properties, water well hydraulics, methods of ground water resource investigation and evaluation, well drilling and design, and computer applications in ground water work. Participants also consider ground water recharge, contaminant transport, ground water mining and consequences of overdrawing. Field trips may be included.

Scholarship funds: None available through the course provider.

WR 368

Dates: April 11-13, 1994

Duration: 3 days

Location: Madison, Wisconsin

Contact:

Mr. Roy Holub
Department of Engineering
Professionals Development
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706 USA

Phone: (608) 265-3108

Fax: (608) 263-3160

Fees: \$750

GROUND WATER FLOW THROUGH FRACTURED MEDIA

University of Wisconsin-Madison

Participants: Engineers, geologists and hydrologists who deal with the prediction and use of ground water flow through fractured media.

Course objectives: To gain tools for solving fracture flow problems.

Course overview: The course presents concepts and theory of flow through fractured media, such as differences among classical porous, dual porosity, and discrete fracture systems. It examines methods for analyzing fracture flow and for characterizing fractured media. Participants consider case studies and data from actual fractured flow systems, and take part in sessions that focus on solving participants' problems.

Scholarship funds: None available through the course provider.

WR 369

Dates: Offered on demand

Duration: 5 weeks

Location: Wilberforce, Ohio

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$4,500

HYDRAULIC MONITORING OF IRRIGATION CANALS

Central State University

Participants: Civil and irrigation engineers with a background in the subject and responsibility for design and operation of canal systems.

Course objectives: To learn microcomputer applications for managing networks of irrigation canals for distribution of water.

Course overview: The course covers the fundamentals of hydraulic modeling through hands-on computer use. Participants are introduced to the use of some of the canal network programs currently in use, and hydraulic models in the optimal operation of canal systems for saving water. Environmental topics such as sedimentation, salt retention, and the growth of nuisance fauna are addressed.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 370

Dates: Annually

Duration: 3 days

Location:
East Brunswick, New Jersey; other
U.S. sites negotiable

Contact:
Registrar, The Center for
Professional Advancement
P.O. Box 964
East Brunswick, NJ 08816 USA

Phone: (908) 613-4500

Fax: (908) 238-9113

Fees: \$1,080

INDUSTRIAL BIOLOGICAL WASTEWATER TREATMENT SYSTEMS

Eckenfelder Inc./Center for Professional Advancement

Participants: Managers, operators, and engineers with
responsibility for operating biological treatment systems.

Course objectives: To understand biological processes and
biochemical engineering principals involved in secondary wastewater
treatment processes.

Course overview: This course provides an overview of biological
treatment, basic microbiology, treatability assessment, treatment
plant designs, plant performance, biokinetics modeling, microscopic
monitoring, floc and filaments, clarifier operation and control,
troubleshooting, and optimization of biological treatment.

Scholarship funds: None available through the course provider.

WR 371

Dates: To be determined

Duration: To be determined

Location: Asia sites negotiable

Contact:
Mr. Robert D. Norris
Technical Director
Bioremediation Services
227 French Landing Drive
Nashville, TN 37228 USA

Phone: (615) 255-2288

Fax: (615) 256-8332

Fees: \$690

INDUSTRIAL WASTEWATER MANAGEMENT

Eckenfelder, Inc.

Participants: Directors, managers, lawyers and regulators.

Course objectives: To understand regulator's issues, treatment
processes, systems evaluation, and system management.

Course overview: This course covers regulatory issues, wastewater
characterization, minimization and pollution prevention, treatment,
audits, biological treatment, physical/chemical treatment, hazardous
and toxic waste management, residuals management, and upgrading
of existing plants.

Scholarship funds: None available through the course provider.

WR 372

Dates: Offered on demand

Duration: 2 weeks

Location: U.S. and Asia sites negotiable

Contact:

Mr. Avijit Dasgupta, Ph.D.
ABB Environmental Services, Inc.
110 Free Street
Portland, ME 04101 USA

Phone: (207) 828-3462

Fax: (207) 772-4762

Fees: \$2,500

INDUSTRIAL WASTEWATER TREATMENT

ABB Environmental Services, Inc.

Participants: Environmental staff in industry, consultants, regulators, high school/college students. A minimum of twenty participants is required.

Course objectives: To learn the nature and types of industrial wastewater generated from major polluting types of industries, and the treatment methods currently utilized.

Course overview: Course discussions include methods for waste source reduction, recycle, reuse, and end-of-pipe treatment. Case histories demonstrate the cost-effectiveness of treatment methods.

Scholarship funds: The course provider offers discounts of \$300 per person for groups of twenty-five or larger.

WR 373

Dates: Offered on demand

Duration: 3 days

Location: Asia sites negotiable

Contact:

To apply: local USAID mission
For information:
Mr. Zhongping Zhu
Tellus Institute
11 Arlington Street
Boston, MA 02116 USA

Phone: (617) 266-5400

Fax: (617) 266-8303

Fees: Vary

INTEGRATED WATER RESOURCES POLICY AND PLANNING USING A COMPUTERIZED WATER EVALUATION AND PLANNING SYSTEM (WEAP)

Tellus Institute, Inc.

Participants: Local and regional water managers, planners, and regulators, professionals from universities and research institutes.

Course objectives: To learn a structured approach to integrated supply and demand issues that can be applied to a wide variety of planning situations for water resources.

Course overview: The course introduces the concept of integrated water planning using WEAP, a user-friendly microcomputer-based model, as a tool to organize data and to assess various scenarios and planning options at local, national, and regional levels. Participants need access to IBM-compatible 286 computers (386 preferred) with a minimum of 10 MB hard disk space and 1 MB memory. Ideally there will be at least one computer for each two participants.

Scholarship funds: May be available through the local USAID mission.

Water Resources Management

WR 374

Dates: Offered annually in August; also offered on demand

Duration: 12 days

Location: Denver, Colorado, Nevada, and Los Angeles, California

Contact:

Mr. David Schaack
Executive Director
1616 17th Street, Suite 376
Denver, CO 80202 USA

Phone: (303) 628-5516
Fax: (303) 628-5469

Fees: \$1,850 (course fee)
\$75-100 (daily expenses)

INTERNATIONAL ENVIRONMENTAL MANAGEMENT OF WATER RESOURCES PROJECTS *American Water Foundation*

Participants: Managers, engineers, or officials responsible for preparing environmental impact statements, making policy decisions, developing mitigation measures, or designing and managing environmentally responsible water projects.

Course objectives:

- To observe and understand successful environmental enhancement and mitigation features for new and existing water projects;
- To examine U.S. environmental protection regulations and discuss the role of federal and local agencies to ensure compliance.

Course overview: During the first week in Denver, Colorado, experts conduct lectures and discussions, and present case studies covering environmental impact statements, regulations and laws, multi-objective environmental planning, recreation, hazardous waste, industrial wastewater, public opinion/advocacy, and water quality. The second week covers management policies for the Colorado River in a study tour following the river from Nevada to California.

Scholarship funds: None available through the course provider.

WR 375

Dates: June 1-14, 1994;
June 1-14, 1995; June 1-14, 1996

Duration: 2 weeks

Location: River Falls, Wisconsin

Contact:

Dr. Samuel F. Huffman
Professor of Geology
University of Wisconsin-River Falls
River Falls, WI 54022 USA

Phone: (715) 425-3851
Fax: (715) 425-3785

Fees: \$1,000 (approximately)

IPC-114 GROUND WATER *University of Wisconsin-River Falls*

Participants: Individuals interested in a basic course in ground water. There are no prerequisites.

Course objectives: To develop a basic understanding of the origin, occurrence, subsurface flow, and withdrawal of ground water for ground water planning, subsurface mapping, and determining flows.

Course overview: Morning lectures provide basic ground water theory problem sets while hands-on laboratory exercises in the afternoon provide participants with the opportunity to solve practical hydrologic problems. Exercises include ground water flow modeling, laboratory chemical analysis, and water budgeting. Field trips enable the students to meet ground water scientists and to consider the current problems in the Minneapolis/St. Paul region.

Scholarship funds: None available through the course provider.

WR 376

Dates: To be determined

Duration: 2 weeks

Location: U.S. sites negotiable

Contact:

Mr. Stephen Ridley, Associate Dean
College of Agriculture
University of Wisconsin-River Falls
River Falls, WI 54022 USA

Phone: (715) 425-3535

Fax: (715) 425-3785

Fees: \$1,500 (Tuition only)

IRRIGATION AND DRAINAGE

University of Wisconsin-River Falls

Participants: Persons preparing to provide technical assistance in the design and management of drainage and irrigation enterprises.

Course objectives: To become familiar with technology needed to design and manage irrigation and drainage enterprises.

Course overview: Course lectures address irrigation and drainage practices and design, including materials selection, system layout, system operation and management, problem solving, and economic costs and returns. Participants gain hands-on experience with design projects dealing with different aspects of irrigation systems, such as sprinkler and surface irrigation, and drainage problems. Using information from the course, they design a system for a specific area and prepare an operator's guide.

Scholarship funds: None available through the course provider.

WR 377

Dates: Annually

Duration: 3 days

Location:

East Brunswick, New Jersey; other
U.S. sites negotiable

Contact:

Registrar, The Center for
Professional Advancement
P.O. Box 964
East Brunswick, NJ 08816 USA

Phone: (908) 613-4500

Fax: (908) 238-9113

Fees: \$990

**MANAGEMENT OF CONTAMINATED GROUND
WATER AND AQUIFER RESTORATION**

Eckenfelder Inc./Center for Professional Advancement

Participants: Plant managers, environmental directors, regulators, and consultants.

Course objectives: To understand the behavior and mechanisms of contaminant transport in soils and ground water, principal ground water extraction, aquifer properties, and aquifer remediation technologies.

Course overview: The course provides background on legal and regulatory considerations, fundamentals of ground water hydrogeology, contaminant migration, and the investigation of ground water systems. Other topics include methods of ground water recovery systems design, modeling, and ground water treatment including bioremediation. Case histories and approaches to integrated designs are presented.

Scholarship funds: None available through the course provider.

WR 378

**MICROCOMPUTER APPLICATIONS IN IRRIGATION
DATA AND PROJECT MANAGEMENT**

Colorado State University

Dates: July 26-August 20, 1993

Participants: Irrigation management specialists with little or no computer experience.

Duration: 4 weeks

Location: Fort Collins, Colorado

Course objectives: To develop the microcomputer skills of irrigation professionals for applying software packages to irrigation data and project management.

Contact:

Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA

Course overview: This course provides a series of presentations by professionals and guest speakers with extensive recent experience in developing countries. These lectures serve as a background to practical individual and group exercises with computers. Participants draw on case studies and can use their own data to select and implement a software appropriate to their needs.

Phone: (303) 491-7425

Fax: (303) 491-7727

Fees: \$3,625 (Tuition and materials)
\$85 per day (daily expenses)

Scholarship funds: None available through the course provider.

WR 379

**MONITORING WELL DESIGN, INSTALLATION AND
SAMPLING**

*International Environmental & Energy Action Training
Center*

Dates: Quarterly 1994, 1995, 1996

Participants: Environmental managers, regulatory officials, engineers, and hydrologists.

Duration: 4 days to 1 month
(depending on client needs)

Location: Houston, Texas

Course objectives: To receive hands-on training with state-of-the-art technology in order to design and supervise the installation of monitoring wells and sampling.

Contact:

Mr. James Olsta
Environmental Planning Group, Inc.
205 Park Lane
Barrington, IL 60010 USA

Course overview: This course provides lecture, laboratory demonstrations, and hands-on training in various areas of environmental management including monitoring well design, installation, and sampling. Technology examined includes casing and screen materials, pumps, sampling equipment as well as sealing techniques.

Phone: (708) 437-8001

Fax: (708) 382-0154

Fees: \$150 per day (estimated)

Scholarship funds: None available through the course provider.

WR 380

Dates: 3 summer workshops annually

Duration: 4 days

Location: Negotiable

Contact:

Ms. Frances A. Desselle
USEPA
401 M Street, SW, WH-585
Washington, DC 20460 USA

Phone: (202) 260-1320

Fax: (202) 260-9830

Fees: No tuition

MULTI-REGIONAL WORKSHOPS ON WATER QUALITY STANDARDS AND CRITERIA

U.S. Environmental Protection Agency

Participants: Those seeking in-depth technical information about water quality standards and criteria.

Course objectives: To receive technical assistance and information in order to establish water quality criteria.

Course overview: The program consists of updates on program priorities and hands-on technical training using case study materials. Workshop agendas reflect program priorities and participants' needs.

Scholarship funds: None available through the course provider.

WR 381

Dates: Quarterly 1994, 1995, 1996

Duration: 4 days to 1 month (depending on client needs)

Location: Houston, Texas

Contact:

Mr. James Olsta
Environmental Planning Group, Inc.
205 Park Avenue
Barrington, IL 60010 USA

Phone: (708) 437-8001

Fax: (708) 382-0154

Fees: \$150 per day-estimated (Course fees and materials)

MUNICIPAL AND INDUSTRIAL WASTEWATER TREATMENT

International Environmental & Energy Action Training Center

Participants: Environmental managers, engineers, regulatory officials, and hydrologists.

Course objectives: To improve capabilities for designing industrial wastewater treatment facilities.

Course overview: Course lectures focus on a review of physical, chemical and biological treatment processes, design details, and state-of-the-art technology. Laboratory work involves pilot scale activated sludge units, and sand filter columns. Participants receive hands-on training in areas of environmental management and wastewater treatment by taking readings of contaminant concentration, and the level of oxygen demand in activated sludge units.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 382

NATURAL BIOLOGICAL SYSTEMS FOR WASTE-WATER TREATMENT

Lemna Corporation

Dates: Offered on demand

Participants: Environmental engineers, civil engineers, professionals from environmental or regulatory agencies.

Duration: 2 days

Location: Richmond, Virginia; or Baton Rouge, Louisiana

Course objectives: To get an overview of natural biological wastewater treatment alternatives focusing on the Lemna system.

Contact:

Mr. Peter Kalaris
Lemna Corporation
Mid-Atlantic Division
7201 Glen Forest Drive, Suite 103
Richmond, VA 23226 USA

Course overview: The course provides one day of in-class participation and one day of field operations. In classroom lecture, participants compare natural treatment methods including rock reed filters, wetlands, water hyacinth, and Lemna systems, which are based on the use of floating aquatic plants. After understanding the biological process, participants visit a site to survey the installation of the project. Information is provided on how the technology and process may be purchased.

Phone: (804) 282-5046

Fax: (804) 282-5346

Fees: \$50 (course fees)

Scholarship funds: None available through course provider.

WR 383

PALEOFLOOD HYDROLOGY

Colorado State University

Dates: To be determined

Participants: Hydraulic engineers, water resources specialists, and hydrologists with little or no experience with paleoflood hydrology, particularly those interested in determining flood characteristics and flood frequency studies based on systematic, historical, and paleoflood data.

Duration: 3 days (flexible)

Location: Negotiable

Contact:

Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA

Course objectives: To receive training in the fundamentals of various types of historical and paleoflood information for the analysis and determination of flood events.

Phone: (303) 491-7425

Fax: (303) 491-7727

Course overview: This course emphasizes methods for reconstructing flood flows and corresponding frequency analysis. Field trips are planned to sites in the Rocky Mountain area to show, discuss, and interpret typical paleohydrological indicators in the field.

Fees: \$650 (Course fees-may be negotiable)

Scholarship funds: None available through the course provider.

WR 384

Dates: August-December, 1994

Duration: 14 weeks (estimated)

Location: Chicago, Illinois;
Wheaton, Illinois

Contact:
Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887

Fax: (312) 567-7517

Fees: \$1,425 (Tuition)

**PHYSICAL/CHEMICAL PROCESSES IN WATER AND
WASTEWATER TREATMENT (ENVE 542)**

Illinois Institute of Technology

Participants: Professionals currently working in the field.

Course objectives: To further professional development.

Course overview: Course lectures cover fundamental kinetics, equilibria and applications of physical processes used in water and wastewater treatment: mixing, sedimentation, flocculation, filtration, adsorption and gas transfer. Also considered are chemical conversion techniques including precipitation, oxidation-reduction, ion exchange, electro dialysis, and coagulation. The course considers both theoretical and applied aspects for treatment of water supply, and municipal and industrial wastewaters.

Scholarship funds: None available through the course provider.

WR 385

Dates: To be determined

Duration: To be determined

Location: Asia sites negotiable

Contact:
Mr. Robert D. Norris
Technical Director
Bioremediation Services
227 French Landing Drive
Nashville, TN 37228 USA

Phone: (615) 255-2288

Fax: (615) 256-8332

Fees: \$1225

PRINCIPLES OF WASTEWATER TREATMENT

Eckenfelder, Inc.

Participants: Engineers and scientists supervising the operation of wastewater treatment plants.

Course objectives: To understand processes for treatment of municipal and industrial wastewaters, and methodologies of design and operation processes, and to be able to select cost effective alternatives.

Course overview: This course covers wastewater treatment alternatives, waste stream characterization, primary treatment, sedimentation, chemical treatment, principles and kinetics of biological treatment, aeration, activated sludge processes, nutrient issues, wastewater audits, wastewater ponds, anaerobic treatment, land disposal, ion exchange processes, sludge management, and new methods of sludge treatment and disposal.

Scholarship funds: None available through the course provider.

WR 386

PROCESS TRAINING FOR WATER AND WASTEWATER TREATMENT

Jones & Henry Engineers, Inc.

Dates: Offered on demand

Duration: Negotiable

Location: U.S. sites negotiable

Contact:

Mr. Darrel M. Blanchard
Director, Operations and
Maintenance
2000 West Central Avenue
Toledo, OH 43606-3996 USA

Phone: (419) 473-9611

Fax: (419) 473-8924

Fees: Negotiable

Participants: Managers, operators, and maintenance personnel of water and wastewater treatment projects.

Course objectives: To make operators better aware of their own unit processes and how to optimize their use.

Course overview: This course uses lectures, group discussions, and slide presentations to train from an operator's perspective. Topics include the requirements and impact of the Safe Drinking Water Act, surface water treatment rules, water sources, and the impact of the environment on these sources. Participants are led through each plant process from water pumping and treatment to consumption.

Scholarship funds: None available through the course provider.

WR 387

**RESERVOIR OPERATIONS: HEC-5
MICROCOMPUTER APPLICATIONS**

University of California-Davis (Extension)

Dates: February 7-11, 1994

Duration: 5 days

Location: Sacramento, California

Contact:

Ms. Rita Smith-Simms
Engineering Programs
University Extension-UC
Davis, CA 95616-8727 USA

Phone: (916) 757-8899

Fax: (916) 757-8676

Fees: \$795 (Course fees and materials, one meal, and course diskettes)

Participants: Engineers with a background in water resources.

Course objectives: To be better able to design or operate a reservoir or system of reservoirs for hydro-power, water supply, or flood control.

Course overview: Course lectures and workshop sessions cover reservoir operations for flood control, hydropower, pumped storage, and conservation. Participants gain hands-on experience in a workshop setting using the model to operate and analyze existing reservoir systems, designing new systems, and solving operational problems.

Scholarship funds: None available through the course provider.

WR 388

Dates: April 20-22, 1994

Duration: 3 days

Location: Sacramento, California

Contact:

Ms. Rita Smith-Simms
University Extension-UC
Davis, CA 95616-8727 USA

Phone: (916) 757-8899

Fax: (916) 757-8676

Fees: \$595 (Course fees and materials, one meal, and program diskettes)

**SEDIMENT TRANSPORT CALCULATIONS: HEC-6
MICROCOMPUTER APPLICATIONS**

University of California-Davis (Extension)

Participants: Experienced engineers and hydrologists.

Course objectives: To learn procedures for using HEC-6 for computing scour and deposition in rivers and reservoirs.

Course overview: This course introduces HEC-6, one-dimensional numerical models of river mechanics that compute scour and deposition by simulating the interaction between the hydraulics of flow and sediment processes. The course includes hands-on use of the COED full-screen editor with on-screen help information; the PLOT2 program (developed for HEC-2) for plotting cross sections; and CGA, EGA and VGA formats for screen plots. Lectures review fluvial processes, physical properties of sediment, sediment transport mechanics, river hydraulics, and HEC-6 data, collection, and interpretation.

Scholarship funds: None available through the course provider.

WR 389

Dates: To be determined

Duration: To be determined

Location: Asia sites negotiable

Contact:

Mr. Robert D. Norris
Bioremediation Services
227 French Landing Drive
Nashville, TN 37228 USA

Phone: (615) 255-2288

Fax: (615) 256-8332

Fees: \$960

TOXICS MANAGEMENT IN WASTEWATER

Eckenfelder, Inc.

Participants: Engineers and managers responsible for wastewater treatment in industrial and petrochemical plants.

Course objectives: To understand the key technical and regulatory issues for managing wastewater toxicity issues.

Course overview: This course covers ecotoxicology, regulatory issues, criteria and standards, wastewater characterization, toxicity testing, water quality monitoring, toxicity assessments protocols, risk assessment and risk management.

Scholarship funds: None available through the course provider.

WR 390

**UNSATURATED ZONE HYDROLOGY: MODELING,
MONITORING AND REMEDIATION**

*Princeton University/Waterloo Center for Ground Water
Research*

Dates: January 1994, 1995

Duration: 4 days

Location: Princeton, New Jersey

Contact:

Professor Michael A. Celia
Water Resources Program
Department of Civil Engineering and
Operations Research
Princeton University
Princeton, NJ 08544 USA

Phone: (609) 258-5425

Fax: (609) 258-1270

Fees: \$975

Participants: The course is designed for hydrologists, engineers, and environmental managers concerned with movement of water and/or contaminants in the unsaturated zone.

Course objectives: To learn fundamental concepts necessary to model flow and transport processes in the unsaturated zone.

Course overview: The course consists of lectures, laboratory demonstrations and hands-on computer exercises. The lectures cover the basic equations that govern fluid movement and contaminant transport in unsaturated soils; the parameters that must be determined; the techniques used to measure these parameters; the use of computer simulation models; and the practical application of these concepts to contaminant transport and remediation problems.

Scholarship funds: None available through the course provider.

WR 391

WASTEWATER TREATMENT SYSTEMS DESIGN

Central State University

Dates: Offered on demand

Duration: 8 weeks

Location: Wilberforce, Ohio

Contact:

Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$6,000

Participants: Sanitation/wastewater engineers, chemists, public health officials, environmental engineers, and graduate students.

Course objectives:

- To better evaluate water treatment approaches for a community;
- To learn to better design water treatment systems.

Course overview: This course uses the unit operations approach in dealing with the design of systems for the treatment and disposal of wastewater. Topics covered include activated sludge and its variants, sludge handling, collection system design, trickling filters and tertiary treatment operations. There is a strong emphasis on the management and operation of municipal and industrial wastewater treatment and disposal plants. An extended field experience at area treatment plants is an integral part of the course.

Scholarship funds: None available through the course provider.

WR 392

Dates: November 8, 1993

Duration: 5 days

Location: Pittsburgh, Pennsylvania

Contact:

Ms. Maureen McFalls
University of Pittsburgh
Center for Hazardous Materials
Research
320 William Pitt Way
Pittsburgh, PA 15238 USA

Phone: (412) 826-5320

Fax: (412) 826-5552

Fees: \$475

WASTEWATER MONITORING AND SAMPLING

University of Pittsburgh Applied Research Center

Participants: Engineers, technicians, and policy makers.

Course objectives: To acquire knowledge of the proper procedures for sampling and monitoring wastewater treatment systems.

Course overview: This course introduces the procedures for sampling and monitoring wastewater collection and treatment. Topics covered include sampling techniques, the operation of sampling and monitoring equipment, and data collection and reporting.

Scholarship funds: Discounts for government and groups from the same organization are available through the course provider.

WR 393

Dates: September, 1994; 1995; 1996

Duration: 4 days

Location: Rothschild, Wisconsin

Contact:

Ms. Judy Lewandowski
Zimpro Environmental, Inc.
Customer Service Office
301 West Military Road
Rothschild, WI 54474 USA

Phone: (715) 359-7211

Fax: (715) 355-3532

Fees: \$175-\$275

WASTEWATER TREATMENT

Zimpro Environmental, Inc.

Participants: Operators and managers of industrial and municipal wastewater and sludge management systems (designed for personnel with Zimpro Environmental, Inc. technology on-line).

Course objectives: To learn to optimize wastewater treatment equipment and processes through training in operations and maintenance fundamentals.

Course overview: This course covers operations, optimization of wet air oxidation systems, sludge dewatering equipment, sludge incinerators, PACT systems and Hydro-clear rapid sand filters. Participants receive hands-on experience in laboratory and troubleshooting exercises.

Scholarship funds: None available through the course provider.

WR 394

WASTEWATER TREATMENT IN THE ORGANIC CHEMICALS AND PHARMACEUTICALS INDUSTRIES

Eckenfelder Inc./Center for Professional Advancement

Dates: To be determined

Duration: 3 days

Location:

East Brunswick, New Jersey; other U.S. and Asia sites negotiable

Contact:

Registrar, The Center for Professional Advancement
P.O. Box 964
East Brunswick, NJ 08816-0964 USA

Phone: (908) 613-4500

Fax: (908) 238-9113

Fees: \$990

Participants: Plant managers, environmental directors, regulators, and consultants.

Course objectives: To understand wastewater issues specific to industries, methods of treatment source control, and criteria for system design.

Course overview: The course provides an understanding of the latest information on methods and process performance design guidelines for wastewater treatment in the organic chemicals and pharmaceuticals industries, including process selection, biokinetics analysis and design for aerobic and anaerobic systems, source control methods, and priority pollutant and toxicity reduction. Case histories are included.

Scholarship funds: None available through the course provider.

WR 395

WATER QUALITY STANDARDS ACADEMY

U.S. Environmental Protection Agency

Dates: 5-6 times annually

Duration: 4 days

Location: Varies

Contact:

Ms. Frances A. Desselle
USEPA
401 M Street, SW WH-585
Washington, DC 20460 USA

Phone: (202) 260-1320

Fax: (202) 260-9830

Fees: No tuition

Participants: Those interested in basic core information about water quality standards and criteria development.

Course objectives: To be introduced to all aspects of the water quality standards and criteria programs, including application of the water quality standards regulation and criteria development.

Course overview: This basic introductory course consists of lectures, case studies, role playing, and videotaped presentations. It is composed of 22 modules on the development and application of water quality standards and criteria. It addresses the use of attainability analysis, methods of reconciling socio-economic considerations with water quality standards, and covers interpretations of regulations.

Scholarship funds: None available through the course provider.

WR 396

Dates: To be determined

Duration: 1 week

Location: U.S. and Asia sites negotiable

Contact:
Mr. David A. Burack
Director of International Affairs
CH2M Hill International, Ltd.
1250 H Street, NW, Suite 575
Washington, DC 20005 USA

Phone: (202) 393-2426

Fax: (202) 783-8410

Fees: Negotiable

WATER RESOURCES MANAGEMENT

CH2M Hill International, Ltd.

Participants: Water resource engineers; hydraulic engineers; surface water hydrologists; water resource planners; government officials from agencies responsible for planning funding, design, and construction of water resource development projects.

Course objectives: To learn more efficient management of water resources through innovative resource management and conservation.

Course overview: The course addresses water resource management through non-conventional planning; demand management; creative methods of water re-use; dual water systems; rain water catchment; and land storage.

Scholarship funds: None available through the course provider.

WR 397

Dates: Offered on demand

Duration: 8 weeks

Location: Wilberforce, Ohio

Contact:
Dr. Victor Okereke, Director
International Center for Water
Resources Management
Central State University
Wilberforce, OH 45384 USA

Phone: (513) 376-6212

Fax: (513) 376-6530

Fees: \$6,000

WATER TREATMENT PLANT DESIGN AND OPERATION

Central State University

Participants: Practicing engineers, water treatment plant managers, other water professionals, and graduate students.

Course objectives:

-To better evaluate water treatment approaches for a community;
-To learn to better design water treatment systems.

Course overview: The course covers the technical issues relating to the design and operation of water treatment plants including solid-liquid separation, rapid mix unit, unit operations, coagulation, flocculation, sedimentation, absorption, ion exchange and reverse osmosis. The management of municipal treatment plants and distribution systems is also covered. The course includes field experiences at area treatment plants.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 398

Dates: Offered on demand

Duration: 3-4 weeks

Location: Laramie, Wyoming

Contact:

Mr. Ed Bradley
International Programs
University of Wyoming
401 Old Main
Laramie, WY 82071 USA

Phone: (307) 766-2872

Fax: (307) 766-2871

Fees: \$2,877

WATER RESOURCES AND MICROCLIMATE MEASUREMENTS

University of Wyoming

Participants: Natural resources managers, agriculturalists, engineers, or extension specialists working in the subject area.

Course objectives: To improve the capacity to manage riparian zones, wildlife, livestock, and plants.

Course overview: This course covers the theoretical and practical aspects of water resource and microclimatic measurements. It includes the definition of parameters, description and study of instrumentation, the assessment of measurement reliability, and techniques for climatic data.

Scholarship funds: None available through the course provider

WR 399

Dates: 1) November 18, 1993
2) February 19, 1994
3) March 11, 1994
4) August 19, 1994

Duration: 2 days

Location: 1) Somerset, New Jersey
2) Chicago, Illinois
3) San Diego, California
4) Washington, D.C.

Contact:

Ms. Pamela McNally
American Chemical Society
1155 16th Street, NW
Washington, DC 20036 USA

Phone: (202) 872-4508

Fax: (202) 872-6336

Fees: \$825

WATER AND WASTE ANALYSIS BY USEPA STANDARDS

American Chemical Society

Participants: Chemists or laboratory personnel who analyze water, wastewater, and solid waste samples.

Course objectives: To learn the fundamentals of applied environmental measurements of pollutants in liquid and solid samples.

Course overview: Course lectures describe the U.S. regulatory process and cover fundamental instrumentation-specific methods such as gas chromatography, and design of laboratory environmental analysis. Additional topics include fundamental analytical techniques for trace analysis of organic elemental, and inorganic species in complex aqueous, liquid, slurry, and solid environmental matrices; wastewater analysis methods; and sampling, handling, and quality control procedures.

Scholarship funds: None available through the course provider.

WR 400

WATER RESOURCES MANAGEMENT: PLANNING AND COORDINATION FOR SYSTEMS INTEGRATION

Colorado State University

Dates: To be determined

Duration: 5 days (flexible)

Location: Negotiable

Contact:

Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA

Phone: (303) 491-7425

Fax: (303) 491-7727

Fees: \$895 (Course fees-may be negotiable)

Participants: Middle- and upper-level water resources managers, engineers, consultants, and staff members who deal with environmental laws and deal with political situations.

Course objectives: To learn methods for solving complex problems and identifying win-win solutions amid conflicts in the water industry.

Course overview: Course lectures and case studies provide frameworks to organize programs of comprehensive water resources management, river basin administration, and planning and coordination by national and state governments.

Scholarship funds: None available through the course provider.

WR 401

WATER MANAGEMENT TRAINING PROGRAM

Oregon State University

Dates: July-August 1994

Duration: 6 weeks

Location: Corvallis, Oregon

Contact:

Mr. Jim Peters
International Training Coordinator
Office of International Research & Development, Snell Hall 400
Oregon State University
Corvallis, OR 97221-1641 USA

Phone: (503) 737-6408

Fax: (503) 737-3447

Fees: \$4,000 (course materials, tuition, and field trips)

Participants: Mid-level managers of private and government environmental agencies responsible for managing water resources at the local, regional, or national level. A minimum of six participants is required.

Course objectives: To build technical, leadership, and management foundations for on-going or projected water management programs.

Course overview: The course focuses on metropolitan and rural water systems including sources, treatment, distribution, irrigation, the role of water masters, financing, research priorities, regulation, water resource issues, water policies, public education, and water conservation programs. Participants gain practical experience through an internship in a leading water management agency and design a water management plan relevant to their home country context.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 402

Dates: 1) November 4, 1993
2) December 5, 1993

Duration: 2 days

Location: 1) St. Louis, Missouri
2) New York, New York

Contact:

Mr. Harold Abramson
American Institute of Chemical
Engineers
345 East 47th Street
New York, NY 10017 USA

Phone: (212) 705-7372
Fax: (212) 752-3297

Fees: \$825

WATER QUALITY ENGINEERING FOR INDUSTRY *American Institute of Chemical Engineers*

Participants: Professionals responsible for water pollution control with a background in engineering, chemistry or biology.

Course objectives:

- To be able to knowledgeably discuss water quality standards with regulatory agencies and suggest rational legislation;
- Define the sources and effects of industrial wastewaters and other discharges on the aquatic environment, and determine optimum treatment methodology for specific wastewater problems;
- To develop economic comparisons for water quality management, and propose water quality surveys, monitoring, and bioassay procedures for management purposes.

Course overview: The course presents the fundamentals of water pollution control technology. The basic concepts of water quality engineering as applied to present day needs will be developed.

Scholarship funds: None available through the course provider.

WR 403

Dates: To be determined

Duration: 5 days (flexible)

Location: Negotiable

Contact:

Ms. Janet Lee Montera
Civil Engineering Department
Colorado State University
Fort Collins, CO 80523 USA

Phone: (303) 491-7425
Fax: (303) 491-7727

Fees: \$895 (Course fees may be negotiable)

WATER RESOURCES DEVELOPMENT AND ENVIRONMENTAL PROTECTION: PROBLEMS, ISSUES, CONTROVERSIES, CONFLICTS, AND SOLUTIONS

Colorado State University

Participants: Engineers, hydrologists, environmental chemists, consultants, lawyers, and other professionals concerned with various aspects of environmental protection and its quality enhancement.

Course objectives: To understand complex relationships and controversies among water resources development, characteristics of the hydrologic cycle at a particular location, and environmental quality and protection.

Course overview: Course lectures address water resources development, conservation, control, protection, the resulting environmental quality, and the need for environmental protection.

Scholarship funds: None available through the course provider.

WR 404

Dates: August-December 1994

Duration: 14 weeks (estimated)

Location: Chicago, Illinois;
Wheaton, Illinois

Contact:
Graduate Records Office
Illinois Institute of Technology
3300 South Federal Street
Chicago, IL 60616-3793 USA

Phone: (312) 567-6887

Fax: (312) 567-7517

Fees: \$1,425 (Tuition)

WATER AND WASTEWATER ENGINEERING (ENVE 404)

Illinois Institute of Technology

Participants: Professionals currently working in the field.

Course objectives: To further professional development.

Course overview: Course lectures cover the principles and application of physical, chemical, and biological processes relative to pollutant characteristics, and the design of engineering treatment systems to meet water quality and effluent standards.

Scholarship funds: None available through the course provider.

WR 405

Dates: March 2-3, 16-17, 1994

Duration: 2 days

Location: To be determined

Contact:
Ms. Rita Smith-Simms
Engineering Programs
University Extension-UC
Davis, CA 95616-8727 USA

Phone: (916) 757-8899

Fax: (916) 757-8676

Fees: \$795 (Course fees and materials)

WATER SURFACE PROFILE COMPUTATION: HEC-2 MICROCOMPUTER APPLICATIONS

University of California-Davis (Extension)

Participants: Engineers with well developed computer skills.

Course objectives: To learn to prepare input data and evaluate program output for application to specific problems.

Course overview: The course focuses on hydrologic engineering techniques for flood plain studies emphasizing computing water surface profiles for rivers using the HEC-2 computer program. IBM PC-compatible microcomputers are used in class; however, material presented applies to use of the program on any computer system. The course uses a menu-driven package for on-screen and plotter graphs of cross-sections and water surface profiles. Topics include: water surface profiles through bridges, HEC-2 normal and special bridge routines, HEC-2 modeling techniques and error checking, channel improvement options, and split flow calculations.

Scholarship funds: None available through the course provider.

Water Resources Management

WR 406

WATERSHED MANAGEMENT IN FORESTED AREAS *Oregon State University*

Dates: May 29-July 8, 1994

Duration: 6 weeks

Location: Corvallis, Oregon

Contact:

Mr. Jim Peters
International Training Coordinator
Office of International Research &
Development, Snell Hall 400
Oregon State University
Corvallis, OR 97331-1641 USA

Phone: (503) 737-6408

Fax: (503) 737-3447

Fees: \$4,000 (course materials,
tuition, and field trips)

Participants: Mid-level managers of private and government environmental agencies responsible for the stewardship of natural resources at the local, regional or national level.

Course objectives: To build a technical, leadership and management foundation for on-going or projected programs of watershed management and technology transfer.

Course overview: As an action- and experience-oriented course, the soil, water and human resources involved in successful management of forested watersheds are covered. The terrain reviewed in this course through field trips, individual land management projects, and short internships at national forest ranges from rainforest to semi-arid conditions.

Scholarship funds: None available through the course provider.

Water Environment Federation

67th ANNUAL CONFERENCE & EXPOSITION

McCormick Place North; Chicago, Illinois; October 16-20 1994

Every year, thousands of wastewater treatment and water quality professionals meet to learn the latest technical and managerial information from top experts.

The latest technical information: enhance your knowledge and skills with information on cutting-edge research findings, new regulations, and case studies full of practical information.

The chance to learn from your peers from around the world: exchange information with your colleagues to discover proven solutions to common water quality problems.

Present a paper at the Annual Conference: with the size and prestige of WEF's conference, your research will get the critical exposure and attention that it deserves.

The opportunity to see new products and services available from top suppliers: speak directly with manufacturers and resolve your purchasing questions within the conference halls.

Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314 USA. Phone: 703-684-2464, Fax: 703-684-2475

List of Course Topics and Sub-Topics

Topic/Subtopic	Codes					
AC - AQUATIC AND COASTAL RESOURCES						
MANAGEMENT (11 Courses)						
Coastal Management	AC 5	AC 10	AC 11			
Fisheries Management	AC 1	AC 3	AC 4	AC 6	AC 8	AC 9
	(BC 48)	(GI163)				
Wetlands Management	AC 2	AC 7				
AQ - AIR QUALITY (34 Courses)						
Air Pollution Control	AQ 12	AQ 16	AQ 20	AQ 22	AQ 33	AQ 34
	AQ 35	AQ 36	AQ 45			
Air Quality Monitoring/ Sampling	AQ 13	AQ 14	AQ 15	AQ 17	AQ 18	AQ 19
	AQ 21	AQ 24	AQ 25	AQ 26	AQ 27	AQ 28
	AQ 37	AQ 38	AQ 39	AQ 41	AQ 42	AQ 43
	AQ 44					
Indoor Air Quality	AQ 29	AQ 30	AQ 31	AQ 32	AQ 40	
BC - BIODIVERSITY CONSERVATION (10 Courses)						
Botanical Diversity	BC 46	BC 50				
Protected Areas Management		BC 52	BC 53	BC 55		
Wildlife Conservation	BC 47	BC 51	BC 54			
Wildlife Management	BC 48	BC 49	(GI163)			
CC - CLIMATE CHANGE (2 Courses)						
	(AQ 33)	CC 56	CC 57			
EC - ENVIRONMENTAL ECONOMICS (17 Courses)						
Economic/Financial Analysis	(CC56)	EC 60	EC 64	EC 66	EC 68	
	(EN135)	(ET155)	(PA264)	(PA267)	(PA287)	(PP319)
Economic Impact	EC 59					
Economic Policy	EC 61	EC 62	EC 65	(PA285)	(PA298)	
Resource Economics	EC 58	EC 63	EC 67	EC 69	EC 70	EC 71
	EC 72	EC 73	EC 74	(PA294)	(PA295)	
ED - ENVIRONMENTAL EDUCATION (13 Courses)						
Education Evaluation	ED 81					
Environmental Training	ED 75	ED 76	ED 77	ED 78	ED 79	ED 80
	ED 82	ED 83	ED 84	ED 85	ED 87	(EH 90)
Training of Trainers	ED 86					
EH - ENVIRONMENTAL AND INDUSTRIAL HEALTH (9 Courses)						
	EH 88	EH 89	EH 90	EH 91	EH 92	EH 93
	EH 94	EH 95	EH 96	(HW208)	(IA236)	

Note: Course codes shown in parentheses indicate courses that are cross-referenced.

Topic/Subtopic	Codes						
EN - ENERGY EFFICIENCY/ RENEWABLE ENERGY (57 Courses)							
Appropriate Energy	EN 97	EN 99	EN 122	EN131	EN137	EN139	
	EN140	EN146	EN 147	EN148	EN149	EN153	
	(PA268)						
Clean Energy	EN103	EN104	EN105	EN106	EN107	EN135	
Demand Side Management		EN108	EN109	EN110	EN111	EN112	
	EN113	EN114	EN115	EN116	EN117	EN118	
	EN121	EN128	EN133	EN134			
Energy Accounting/Auditing		EN124	EN125				
Energy Efficiency/Conservation		EN 98	EN101	EN102	EN104	EN126	
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LM - LAND MANAGEMENT (19 Courses)							
Forest Management	(EC 69)	LM244	LM248	LM249	LM250	LM252	
		LM254	LM256	LM258	LM260	LM261	
Land Use Planning		LM245	LM246	LM247	LM251	LM253	LM255
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PA - ENVIRONMENTAL POLICY, PLANNING, AND ADMINISTRATION (48 Courses)							
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		PA286	PA291	PA292			
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		PA276	PA285	PA288	PA290	PA301	PA305
		(PP326)	(PU330)				
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		PA298	PA304				
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		PA300	(WR374)				
Law, Regulations, Enforcement		(BC 51)	(EC64)	(ED86)	PA283	PA289	
		PA306					
Risk Communication		PA303					
Total Quality Management		PA275	PA296	PA302	PA307	PA308	
PP - POLLUTION PREVENTION/CONTROL (19 Courses)							
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		PP320	PP326	PP327	PP328		
Pollution Control/Prevention	(EC65)	(EC 66)	(EN142)	PP310	PP313		
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		PP324	PP325				
PU - POPULATION GROWTH AND URBANIZATION (2 Courses)							
		PU329	PU330				
RR - RESOURCE RECOVERY/RECYCLING (2 Courses)							
		RR331	RR332				
SP - SOIL PROTECTION/REHABILITATION (5 Courses)							
Soil Conservation		SP337					
Soil Remediation		SP333	SP335	(WR365)			
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Irrigation	WR369	WR376				
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	WR388	WR405				
Water Analysis/Treatment		(AC 6)	WR350	WR351	WR353	WR356
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	WR385	WR386	WR389	WR391	WR392	WR393
	WR394	WR397	WR399	WR404		
Water Quality	WR355	WR380	WR402			
Water Resources Management		(AC 7)	(EC 73)	(G1158)	(G1162)	WR354
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AC 6	October 1994	Inventory and Management of Lakes and Reservoirs	3
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AQ 23	1) November 17-18, 1993 2) December 8-9, 1993	Computer Modeling Laboratory	12
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Colorado School of Mines

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Cornell University

M.S. and Ph.D. programs in Environmental Engineering with subject areas in environmental systems engineering, geotechnical engineering, energy, hydraulics and hydrology, transportation engineering, and water resources engineering.

Contact: Graduate Faculty Representative, School of Civil and Environmental Engineering, Hollister Hall, Cornell University, Ithaca, New York 14853-3501, USA. Telephone: (607) 255-7560, Fax: (607) 255-9044.

M.S. and Ph.D. programs in Toxicology through the Field of Environmental Toxicology. Field offers programs in cellular and biochemical toxicology, ecotoxicology, and environmental chemistry. Contact: Graduate Faculty Representative, Environmental Toxicology, Cornell University, Ithaca, New York 14853, USA. Telephone: (607) 255-8008, Fax: (607) 255-8047.

M.S. and Ph.D. programs through the Field of Ecology including applied ecology, animal ecology, biogeochemistry, community and ecosystem ecology, systematics and more.

Contact: Graduate Faculty Representative, Field of Ecology and Systematics, Cornell University, Ithaca, New York 14853, USA. Telephone: (607) 255-6583, Fax: (607) 255-8088.

Drexel University

M.S. and Ph.D. programs in Environmental Science and Environmental Engineering. Multidisciplinary areas of specialization include air pollution, applied ecology, environmental assessment, environmental chemistry, health and industrial hygiene, hazardous and solid waste, water resources, and wastewater treatment.

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Duke University

M.S. and Ph.D. programs involve an integrated, multidisciplinary, quantitative approach to education and research in natural resources and environmental sciences, management, and policy. Professional degrees offered in Forestry and Environmental Management.

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George Washington University

M.S. and Ph.D. programs in Energy, Environmental Engineering, and Water Resources. Course programs are individually planned for each student.

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Indiana University at Bloomington

M.S. and Ph.D. programs in Environmental Science. Multidisciplinary approaches are offered through the Biology, Geology, and Law schools. The National Institute for Global Environmental Change and the Environmental Systems Application Center are the principal research facilities within the University.

Contact: Graduate Programs, School of Public and Environmental Affairs, Indiana University, Bloomington, Indiana 47405, USA. Masters Programs: Telephone: (812) 855-2840, Fax: (812) 855-7802; Doctoral Programs: (812) 855-2457, Fax: (812) 855-7802.

Johns Hopkins University

M.S. and Ph.D. programs in Occupational Health, Radiation Health, Environmental Health Sciences, Physiology, and Toxicological Sciences through the Department of Environmental Health Sciences. The division, contained within the School of Public Health, bridges disciplines of biology and chemistry with a range of problems related to human health.

Contact: Dr. Terence H. Risby, Director, Division of Environmental Chemistry and Biology, School of Public Health, Johns Hopkins University, 615 North Wolfe Street, Room 8515, Baltimore, Maryland 21205-2179, USA. Telephone: (410) 955-0021, Fax: (410) 955-0617.

Michigan State University

Ph.D. program in Environmental Toxicology with a multidepartmental program of study and research. Course work in toxicology and environmental sciences including environmental dynamics; economics, policy, and law; waste management; and analytical chemistry.

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New Jersey Institute of Technology

M.S. and Ph.D. programs in Environmental Science focusing on air, water, and hazardous waste remediation and treatment. Environmental Engineering degrees are offered through the Department of Civil and Environmental Engineering with specialization in air pollution control, environmental planning, hydrology, industrial pollution control, municipal waste treatment, solid and hazardous wastes, solid waste management, systems and water resources. The University is home to two leading environmental research centers.

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Rice University

M.S. and Ph.D. programs in several areas including marshlands biology, population and community ecology, global biogeochemistry, sociobiology, and evolutionary biology.

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Rutgers, The State University of New Jersey

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M.S. and Ph.D. programs within the areas of chemical ecology, ecology, entomology, environmental physiology, fish and wildlife biology and management, forest pathology and mycology, plant science and biotechnology, natural resource management, and soil ecology.

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M.S. and Ph.D. programs focus on the management of commodities and amenities in dryland regions. Coursework includes agroforestry, water management in dryland ecosystems, social perspectives on dryland forestry, and dryland forestry management.

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M.S. and Ph.D. programs through the Energy and Resources Group involving technical, economic, environmental and institutional aspects of energy conservation on a national and international level.

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University of Michigan

M.S. and Ph.D. programs in environmental engineering. Areas of specialization for Ph.D. include environmental chemistry and microbiology, solid and hazardous waste treatment and management, water quality engineering, fate and transport of surface and ground water contaminants, and environmental policy and economics.

Contact: Mr. E. Benjamin Wylie, Chair, Department of Civil and Environmental Engineering, 2340 G.G. Brown Building, Ann Arbor, Michigan 48109-2125, USA. Telephone: (313) 764-8495, Fax: (313) 764-4292.

M.S. and Ph.D. programs in Resource Economics, Forestry, Landscape Architecture, and various areas of ecosystems and resource management. Certificate programs are available in remote sensing and the management of natural resource organizations. Programs are interdisciplinary and are individually designed to meet the academic and career goals of each student.

Contact: Office of Academic Programs, School of Natural Resources, University of Michigan, Ann Arbor, Michigan 48109, USA. Telephone: (313) 764-6453, Fax: (313) 936-2195.

University of Minnesota

M.S. and Ph.D. programs in Forestry, Fisheries, and Conservation. Faculty involvement in international projects and a strong complement of international students provide a global perspective.

Contact: Director of Graduate Studies, College of Natural Resources, (specify Forestry, Fisheries, Wildlife, or Conservation Biology), University of Minnesota, St. Paul, Minnesota 55108, USA. Forestry and Conservation Biology programs - Telephone: (612) 624-1234, Fax: (612) 624-8701; Fish and Wildlife programs - Telephone: (612) 624-3600, Fax: (612) 642-5299.

University of North Carolina at Chapel Hill

M.S. and Ph.D. programs with offerings in environmental science and environmental engineering.

Contact: Chair, School of Public Health, Department of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, North Carolina 27599, USA. Telephone: (919) 966-7676, Fax: (919) 966-7141.

University of Oklahoma

M.S. and Ph.D. programs in many areas including air, ground water management, hazardous and solid waste, occupational safety and health, water quality resources, and process design.

Contact: Graduate Coordinator, College of Engineering, Program in Environmental Science, University of Oklahoma, Norman, Oklahoma 73019, USA. Telephone: (405) 325-5911, Fax: 325-4217.

University of Rhode Island

M.S. and Ph.D. programs in Resource Economics and Marine Resources.

Contact: Dr. Tim Tyrrell, College of Resource Development, Department of Resource Economics, University of Rhode Island, Kingston, Rhode Island 02881, USA. Telephone: (401) 792-4580, Fax: (401) 792-4766

M.S. program in Marine Affairs. An interdisciplinary study of factors that effect marine and coastal environment.

Contact: Dr. Dennis Nixon, Coordinator, Department of Marine Affairs, University of Rhode Island, Kingston, Rhode Island 02881, USA. Telephone: (401) 792-2596, Fax: (401) 792-2156.

University of Washington

M.S. and Ph.D. programs in Forest Resources Management, Forest Products, and Urban Horticulture.

Contact: Student Services Office, College of Forest Resources, 116 Anderson Hall, AR-10, University of Washington, Seattle, Washington 98195, USA. Telephone: (206) 543-7081, Fax: (206) 685-0790

M.S. program in Marine Affairs is a multidisciplinary program combining the policy, planning, and marine science issues that effect marine resources.

Contact: Graduate Student Coordinator, Institute for Marine Affairs, University of Washington, Seattle, Washington 98195, USA. Telephone: (206) 543-4326, Fax: (206) 543-1417.

University of Wisconsin-Madison

M.S. and Ph.D. programs with study areas including, wastewater treatment, hazardous and solid waste, pollution control, water supply, transportation, environmental engineering, geoenvironmental engineering and more.

Contact: Mr. Robert L. Smith Jr, Chair, Department of Civil and Environmental Engineering, Room 2205 Engineering Building, University of Wisconsin-Madison, 1415 Johnson Drive, Madison, Wisconsin 53706, USA. Telephone: (608) 262-3542, Fax: (608) 262-5199.

Yale University

M.S. and Ph.D. programs in Forestry and Environmental Science for students interested in preserving the health, productivity and renewability of the world's natural resources. Degrees are appropriate for resource management careers, academic research or teaching.

Contact: Ms. Nancy F. Rabbott, Director of Student Affairs, Yale School of Forestry and Environmental Studies, 205 Prospect Street, New Haven, Connecticut 06511, USA. Telephone: (203) 432-5106, Fax: (203) 432-5942.

Additional Sources of Information on Short-Term Courses

Environmental Training Green Pages Referral Directory 1993 Edition. This catalogue lists trainers and training firms, especially those dealing with waste management and hazardous materials. Published by: The National Environmental Training Association, 2930 East Camelback Road, Suite 185, Phoenix, AZ 85016-4412, USA. Telephone: (602) 956-6099, Fax: (602) 956-6399. ISBN: 1-880996-85-5.

Global Non-Degree Training Opportunities in Agriculture, January 1993. This catalogue lists over one thousand courses, many of which are related to environment, ecology, and natural resources. Listings include courses given within and outside the U.S.; courses given on demand are also included. Published by: Winrock International, Morrilton, AK, USA; Ms. Susan Elrod, Editor. This catalogue may be ordered from Winrock International, Publication Sales, P.O. Box 9363, Arlington, VA 22209-0363, USA. Telephone: (703) 525-9430, Fax: (703) 525-1744.

Profiles of U.S.A. Natural Resource Schools: International Programs at National Association of Professional Forestry Schools and Colleges (NAPFSC) Member Institutions. This catalogue lists educational, research, and extension resources related to forestry. These are given in the U.S. and are open to all nationalities. Published by: The Forestry Support Program, International Forestry Staff, P.O. Box 96090, Washington, DC 20090, USA. Telephone: (202) 453-9589, Fax: (202) 453-3603.

Short-Term Training Courses Offered by Universities of the Consortium for International Development 1992. This catalogue lists courses provided by the Consortium's eleven member institutions. Course topics address a broad range of development issues, such as urban development, agriculture, english language instruction, water and land resources, etc. Published by: CID, 6367 East Tanque Verde, Suite 200, Tucson, AZ 85715, USA. Telephone: (602) 885-0055, Fax: (602) 886-3244.

Urban Environmental Training Courses: A Compendium of Programs Around the United States. This catalogue lists short-term courses provided by U.S. universities and business associations. Topics covered include air and water quality and waste management. Published by: The International City Managers Association (ICMA), 777 North Capitol Street, NE, Washington, DC 20002-4201, USA. Telephone: (202) 289-4262, Fax: (202) 962-3500.

Short-Term Training Opportunities in Environment and Natural Resources, January 1992. This survey of short-term, non-degree training opportunities is intended for practical use by USAID personnel worldwide and for other organizations and personnel who would benefit from knowing what training exists in the broad field of environment and natural resources. Published by: The Bureau for Research and Development, Office of Environment and Natural Resources (R&D/ENR), Room 509, SA-18, U.S. Agency for International Development, Washington, DC 20523-1812, USA. Telephone: (703) 875-4106, Fax: (703) 875-4639.

Evaluation Form for this Directory

Comments on this Directory from Directory users and training providers are sincerely appreciated.

Your Name: _____ Country: _____

Your Position or Job Title: _____

Complete
Address: _____

Telephone: _____ Fax: (if available) _____

What areas of Environmental Management are you especially interested in? (Please check not more than five topics of major interest.)

- Air Quality
- Aquatic and Natural Resource Management
- Biodiversity Conservation
- Climate Control
- Environmental Economics
- Ecotourism
- Environmental Education
- Energy Efficiency/Renewable Energy
- Geographic Information Systems
- Hazardous Waste Management
- Environmental Impact Assessment
- Environmental and Industrial Health
- Land Management (Forests)
- Environmental Policy, Planning, and Administration
- Pollution Prevention/Control
- Population Growth and Urbanization
- Resource Recovery/ Recycling
- Soil Protection/Rehabilitation
- Solid Waste Management
- Water Resources Management
- Other (Please specify) _____
- Other (Please specify) _____

(Continued on reverse side)

