



Environmental Chemistry Demystified™

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Course Description

This two and a half day chemistry for non-chemists course, developed by Dr. Denise Turner, does not require attendees to have any background in chemistry. Dr. Turner and William Spain have taught this course for nearly 20 years. Drawing on more than 50 years combined field expertise with chemicals, these two instructors provide simple, straightforward explanations of the chemistry behind important environmental topics.

Case studies and real world examples are used throughout the course to make the chemistry of everyday life, both at home and at work, more understandable. Attending this course will improve your ability to comprehend key data found in material safety data sheets, laboratory analytical reports, and environmental assessments.

Topics Covered Include:

- Material safety data sheets
- Chemical compatibility/reactivity
- Organic compounds
- Metals
- Sampling and analysis
- Chemical reactions, when and why they occur
- Waste treatment
- Nuclear chemistry and radioactivity
- Chemical measurements (metric units, PPM, PPB)

The science behind many global environmental problems is also explained, including:

- Climate change/global warming/global dimming
- Ozone depletion/smog/acid rain/NO_x
- Biofuels/fossil fuels/nuclear power
- Biomagnification/bioaccumulation
- Wastewater treatment
- PCBs, CFCs, DDT, dioxins, halogenated solvents
- The Pacific Garbage Patch/Gulf of Mexico dead zone
- The potential hazards of plastics



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Agendas are subject to change

Day One

- 8:00 am Registration
- 8:30 amCourse Introduction
- 9:00 am.Defining and Understanding Matter
- 9:45 amBreak
- 10:00 amThe Periodic Table
- 11:00 amMetric Measurement
- 11:30 amLunch on your own or with colleagues
- 12:45 pmNuclear Chemistry
- 1:45 pmBreak
- 2:00 pmStructure and Bonding
- 3:15 pmInorganic Chemistry
- 4:15 pmCase Studies
- 4:30 pm Adjourn

Day Two

- 8:00 am Day One Review
- 9:00 am Break
- 9:15 am Organic Chemistry

11:00 am Break
11:15 am Chemistry of Water
12:00 pm Lunch on your own or with colleagues
1:15 pm Biological Chemistry
1:45 pm Break
2:00 pm The Chemistry Behind MSDS
3:00 pm..... MSDS Case Study
3:15pm..... Break
3:30 pm Chemical Compatibility
4:00 pm Organic Nomenclature
4:30 pm Adjourn

Day Three

8:00 am Day Two Review
9:00 am Break
9:15 am Chemical Reactions and Physical Treatment Process
10:30 am Break
10:45 am Sampling and Analysis
12:00 pm Course Adjourn

Instructors

A. Denise Turner, Ph.D



Dr. Turner has more than sixteen years of experience in environmental consulting, training, biomedical product development, and research. She currently manages her own environmental consulting business working in the U.S. and Europe in product development, training, and technical oversight.

Prior to May 1996, she worked at RMCI, where she played a key role in training and business development. She also supported a 32-million dollar FAA Southern Region contract dealing with a broad range of environmental issues, including environmental audits, PCBs, emergency preparedness, asbestos, lead-based paint, and underground storage tanks. In addition to her technical and program management expertise, Dr. Turner's environmental experience also includes managing the multimillion dollar contract workload of EPA Region 4 for A.T. Kearney, in which she conducted more than 250 RCRA Facility Assessments (RFAs) and reviews of RCRA Facility Investigation (RFI) work plans and reports. She has participated in risk assessments for EPA Regions 2 and 4, as well as reviewing Boiler and Industrial Furnace (BIF) permit applications for EPA.

Dr. Turner's commercial consulting experience includes the development of a national safety program for an international paper company, as well as conducting a complete management/safety audit of a major U.S. nonprofit organization struggling with increased OSHA and FDA regulation. She has also played key roles in numerous business proposals, which were awarded more than 250 million dollars in consulting contracts.

Dr. Turner has taught for Duke University, the University of Maryland, and Troy State University, as well as presenting more than 100 national workshops and training seminars in environmental chemistry, RCRA orientation, RCRA updates, environmental assessments, permit writing, and the identification of RCRA-regulated hazardous wastes. She has produced two biomedical patents and six publications in the "Journal of the American Chemical Society", "Biochemistry", the "Annals of the New York Academy of Sciences", "The British Journal of Phytotherapy", and "Thrombosis and Haemostasis". She also lectures for Government Institutes, the Environmental Institute, and Emory University. She is currently writing three technical books on environmental chemistry, phytochemistry, and phytopharmaceuticals.

- Ph.D., Chemistry and Biochemistry, Duke University, 1986
- B.S., Summa Cum Laude, Chemistry; Clemson University, 1982

William H Spain

William Spain has more than 32 years experience consulting, teaching, publishing, research, regulatory compliance, and technical management in occupational health and environmental science. He has worked for large corporations, the Federal Government, an engineering university, a national consulting/analytical/training corporation, and now a state government. This experience helps Mr. Spain understand and share the technical and other aspects of these professional fields from many different points of view.

Mr. Spain's current regular employment is as Unit Coordinator for Georgia's Environmental Protection Division. He heads the Compliance and Enforcement Unit for the Lead-Based Paint and Asbestos Program. Prior to this he spent 11 years managing and directing divisions of an environmental consulting, analytical, and training firm. He was the National Director of The Environmental Institute for 10 years. In this capacity he directed and taught in more than 1500 environmental courses throughout the United States and the Western World. The courses included asbestos, lead, environmental chemistry, respirators, HAZWOPER, environmental site assessments, and others. Before this, he was Director of the Continuing Education and Publications Office for the Environmental Safety and Health Division at Georgia Institute of Technology/GTRI. There he helped develop and present hundreds of environmental and occupational health course offerings nationally and internationally.

While at The Environmental Institute and Georgia Tech he helped write 5 Model Courses for U.S. EPA. He has helped teach courses for University of Indiana, Tufts University, Emory University, Georgia State University, Texas A&M, The Institute for Applied Pharmaceutical Sciences, The OSHA Training Institute, and Georgia Tech. Prior to his Georgia Tech employment, he worked for the U.S. Department of Labor/OSHA for nearly 7 years. He progressed from a GS 9 Field Industrial Hygienist, to a State Monitor Industrial Hygienist, to a Technical Support Industrial Hygienist, and then to a GS 13 Industrial Hygiene Supervisor working in their Saint Louis, Birmingham, and Raleigh area offices and Atlanta Regional Office. Mr. Spain's first full time employment was as an Industrial Hygienist in the Medical Department of McDonnell Douglas Corporation in Saint Louis. There he acquired valuable experience in air monitoring, noise measurement and control, respirators, medical investigations, and other Industrial Hygiene activities. Mr. Spain has dozens of refereed publications in sources such as the American Industrial Hygiene Journal, the National Asbestos Council Journal, Occupational Health and Safety Magazine, and Pediatrics. He was Technical Advisor and Assistant Editor for Occupational Safety and Health Magazine for 5 years. He is the co-author of two published book chapters. He has a Magna Cum Laude joint B. I. S. Degree in Chemistry/Management/Communications from Georgia State University. He performed Industrial Hygiene Internship at Los Alamos Scientific Laboratory/University of California.

Lodging Information

The course will be held at the Doubletree by Hilton San Juan at Gallery Plaza
105 De Diego Avenue
San Juan, PR 00911

787-721-1200

[Hotel Website](#)



The Archer Institute has negotiated a special rate of \$135/night + tax for our students. This rate is available on a first-come, first-serve basis and will expire on April 14, 2012 or when the block has filled – whichever comes first.

Reservations can be made by calling 787-721-1200 and using group code Archer Institute.

Directions:

From Luis Munoz Marin International Airport (Drive time 10 minutes)

Follow Baldorioty de Castro Avenue (Route 26) towards San Juan and after two overpasses, turn right onto Calle Marginal. Cross Calle San Jorge and Calle Del Parque. Turn right on De Diego Avenue.

Typical Taxi charge: \$15.00

From Ferdinando Luis Ribas Dominicci Airport (Drive time 20 minutes)

Follow Baldorioty de Castro Avenue (Route 26) towards Carolina. Take fourth exit on right hand side towards Calle Marginal. Turn left at the first traffic light onto De Diego Avenue.

Registration and payment

To register for Environmental Chemistry Demystified™ in San Juan May 14-16, 2012 click [here](#).

The Archer Institute accepts all major credit cards, checks and purchase orders. While our online credit card processing service is completely secure, we would be happy to take your credit card information over the phone. Please make checks payable to Archer Institute of Environmental Training LLC.

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