Alloway Course Catalog

A Professional Training Resource for
Laboratory Analysts & Treatment Plant Personnel

Alloway®
Your Resource for Defensible Data

Alloway
Your Resource for Defensible Data

Contents

Introduction to the Alloway Course Catalog

The Alloway Course Catalog is a platform for Alloway to offer practical training for practical people. Anyone who coordinates professional development events for water and wastewater professionals will find this catalog useful. Alloway has more than 35 years' experience in environmental testing and training, and this catalog showcases our most popular training options. Mix and match courses, or have us tailor a course to your specific requirements. We will work to meet your content needs, budget constraints, and time frame.

Who should use this catalog?
Training coordinators or anyone who schedules professional development for water or wastewater professionals will benefit from this catalog. Course content is geared towards the needs of laboratory analysts and supervisors, as well as treatment plant operators. Most courses have direct laboratory applications, but they are beneficial for all manner of treatment plant personnel. Industrial professionals will also find course content appropriate to their environmental training needs.

What are the benefits of an outside training company?
You can by-pass the hassle of writing courses or lining up qualified presenters by letting Alloway bring the courses to you. Alloway's time-tested courses have been presented across the United States with great success. That does not mean that these courses are standard, one-size-fits-all; we can tweak any course to match your specific needs. We can present courses at your facility or on behalf of your laboratory organization. Alloway provides the courses and instructors. You provide the students, the date, and the location.

How do I use this catalog?
Simply browse the catalog and pick out courses that interest you. Then follow the steps on page 14. If you do not find a particular subject, contact us—we may be able to design a customized presentation for you.

Alloway
Your Resource for Defensible Data

About Alloway

Alloway is a full-service environmental laboratory specializing in analyses on drinking water, wastewater, and solid and hazardous waste. Alloway's mission is to partner with our customers in a way to help them be more successful.

Over the years, we perceived a void in our industry. There were limited resources for training, laboratory development, software, and support. Our vision to be the ultimate laboratory resource encompasses those needs and compliments our core analytical business.

We generate defensible data. We staff your industrial laboratory. We partner with non-competing commercial laboratories. We provide innovative software solutions. We help you develop your laboratory and train your analysts.

Alloway maintains memberships in national, regional, and state organizations. Being active in the industry puts us on the cutting edge of advancements in technology, changes in regulations, and opportunities for market growth.

With three locations to serve you and more than 35 years' experience, Alloway is your resource for defensible data. Learn more at www.alloway.com

Alloway
Your Resource for Defensible Data

On-Site Courses Available

Quality Control/Quality Assurance in Environmental Laboratories – Advanced
12.0 contact hours (2 days)
"Quality Control/Quality Assurance in Environmental Laboratories – Advanced" is the definitive course for laboratory supervisors, managers, and analysts who want to develop a top-notch quality system that is consistent with NELAC and state-specific accreditation programs. The course is an in-depth discussion of QC/QA topics, including certification, terminology, sample handling, document control, accuracy and precision, methodology, standard operating procedures, log books, reagents, method detection limits, training, calibration and maintenance, corrective action, ethics, and proficiency testing. The course combines lectures, problem sets, and exams.

Quality Control/Quality Assurance in Environmental Laboratories – Basic
6.0 contact hours (1 day)
This introductory course is a manageable option for those who need to adhere to accepted quality control/quality assurance standards. "Quality Control/Quality Assurance in Environmental Laboratories – Basic" covers the fundamentals of QC/QA, emphasizing the practical topics operators and analysts need most. This is a perfect course for someone new to the laboratory. You receive an overview of the same QC/QA topics as the advanced version, just in less detail.

Auditing the Environmental Laboratory
2.0-4.0 contact hours
An internal audit can alert laboratory personnel to trouble spots and allow time to make changes before regulatory officials arrive. This course outlines the major indicators of a well-functioning laboratory: management responsibility, sample handling, quality system, document control, log books, accuracy and precision, methodology, reagents, method detection limits, data handling, calibration, maintenance, training, corrective action, ethics, and proficiency testing. Organized in a simple checklist format—with items customized to fit state-specific regulations—this course prepares you to thoroughly audit your laboratory.

"The instructors were extremely knowledgeable and able to answer all my questions. I came away with many good ideas on how to improve quality assurance in our lab."

—Don Tucker
City of Grand Forks (ND)

For more information or to schedule a course, see page 14 or contact Alloway

800-436-1243
support@alloway.com
www.alloway.com

Alloway
Your Resource for Defensible Data

For more information or to schedule a course, see page 14 or contact Alloway

800-436-1243
support@alloway.com
www.alloway.com

"The instructors present topics that I find complicated in a simple and forthright way."

—Chris Saunders
Team Manager
Anne Arundel County (MD) DPW

Nitrogen Series
6.0 contact hours (1 day)
Laboratory space required
****Maximum # participants: 15***
Nitrogen is one of the most abundant elements on earth and an important laboratory analyte. This course covers the various forms of nitrogen, including ammonia, nitrate, nitrite, total kjeldahl nitrogen (TKN), and total nitrogen. Each form of nitrogen is discussed according to standard methods, with an emphasis on sampling, analysis, calculations, and required quality control. "Nitrogen Series" is a perfect introductory or refresher course for laboratory professionals.

Basic Environmental Chemistry
6.0 contact hours (1 day)
Laboratory space required
****Maximum # participants: 15***
Chemistry minus the confusion. "Basic Environmental Chemistry" is perfect for new analysts or operators. The course begins with the fundamentals: units, significant figures, rounding, and the periodic table. It then progresses to equations, acids and bases, chemical reactions, solutions, and titrations. As a result of the integrated lecture-demonstration-problem-set format, you will be able to perform basic chemistry in your laboratory.

Basic Laboratory Calculations
6.0 contact hours
One bad calculation can produce a string of bad data. Misrepresented data can skew results and violate permit limits. Reduce common calculation and reporting errors by brushing up on basic laboratory calculations. This course reviews units and conversions for measures, weights and volumes, significant figures, calibration standards, and quality control. These fundamentals are necessary to calculate final results for test such as BOD/CBOD, COD, solids, and more. Method detection limits, confidence intervals, percent recovery, and control charts will also be discussed.

Basic Laboratory Calculations – Condensed
2.0-3.0 contact hours
If you are a seasoned professional who desires a refresher course or a novice needing to begin with the basics, this course is a sure fit. It covers the same topics as the 6-hour version, but in a condensed manner that is supplemented by ample problem sets.

Process-Control Tests: pH, Dissolved Oxygen, Conductivity, Chlorine
6.0 contact hours
****Laboratory space required***
*****Maximum # participants: 15***
Process-control tests measure the efficacy of the water or wastewater treatment process. These are standard tests that all operators and laboratory analysts must be able to perform, especially if they will be doing more advanced tests like BOD. This course discusses the procedure for performing pH, dissolved oxygen (DO), conductivity, and chlorine. Topics such as appropriate sampling, necessary instruments and glassware, and quality control will also be covered. Problem sets will be used to solidify the concepts.

BOD, TSS, pH
6.0 contact hours (1 day)
****Laboratory space required***
*****Maximum # participants: 15***
This course focuses on three essential laboratory tests: biological oxygen demand (BOD), total suspended solids (TSS), and pH. The BOD portion includes laboratory water preparation, seed preparation, sample dilutions, meter calibrations, and calculations. For TSS, you will learn about filter pretreatment, balance and thermometer calibrations, and sample analysis. Finally, you will learn about pH meters, calibrations, electrode methods, and buffers. The course will cover the necessary quality control activities for each test. Anyone who performs process-control tests and maintains a NPDES permit will benefit from this course.

"Alloway provided superb QA/QC training to the Rocky Mountain Water Quality Analysts Association in Colorado. John and Marcy were both excellent speakers and very knowledgeable. They welcomed questions and comments. In addition, they provided all of the materials (books, pens, calculators, certificates). All we had to do was provide the location and food. RMWQAA looks forward to working with Alloway in the future to provide members with quality training."

—Lesa Julian
Wastewater Laboratory Supervisor
City & County of Broomfield (CO)

Alloway
Your Resource for Defensible Data

"I enjoyed the workshop. The topics pertained to what is actually needed on the job. The seminar relates to day-to-day operation. Presenters were very good at explaining the subject matter."

—Danine Schultz
City of Painesville
(Ohio) Water

Wastewater & Sludge Microbiology
12.5 contact hours (2 days)
Laboratory space required
****Optional wastewater treatment plant tour***
*****Maximum # participants: 15***
******Participants encouraged to bring their own microscopes***
This comprehensive, two-day microscopy workshop will help participants evaluate wastewater and sludge samples, interpret data, and apply findings to the day-to-day operations of a treatment plant. This course will address microbiology's role in process control; biological processes at work in a treatment plant; the different types of microbes and filaments; how to properly use and care for microscopes; brightfield, darkfield and phase contrast techniques; evaluating data obtained from the microscope; and strategies for controlling foam and filament. The hands-on course is taught through a combination of lectures, demonstrations, and an optional trip to a nearby treatment plant.

Water and Wastewater Microbiology
6.0 contact hours (1 day)
Microorganisms and microscopic living organisms play an essential role in the treatment of water and wastewater. This lecture-driven course covers the five groups of microorganisms: viruses, bacteria, algae, fungi, and protozoa, and their unique functions. Special emphasis is given to fecal coliform bacteria, total coliform bacteria, and E.coli. The course addresses different analytical methods, equipment, quality control, and proficiency testing for a well-rounded overview of microbiology.

E.coli Analysis in Wastewater by Quanti Tray, Method 9223 B
2.0 contact hours
Changing regulations regarding fecal coliforms have made E.coli the preferred bacteriological water-quality indicator. Learn how to use the most current method, Quanti Tray, to meet permit regulations. The course illustrates sample collection, equipment, reagents, analysis, calculations, and quality control activities for performing E.Coli by Quanti Tray.

Industrial Pretreatment Sampling
3.0 contact hours
The relationship between municipalities and industries can be strengthened by clearly communicating requirements. This course helps clarify what is expected of industrial pretreatment programs. Topics covered include sampling, bottles, preservation, hold times, safety, and documentation. This course is appropriate for pretreatment coordinators, environmental engineers, and others who are involved with industrial sampling.

Sample Handling – Water
2.0 contact hours
Geared towards the water professional, this course can help save time and money by providing a thorough overview of sampling topics. This course will cover safety, critical documentation (chain of custody), bottle preparation, collection volumes needed, sampling equipment, representative samples, preservation and hold time, sampling quality control and quality assurance, labeling, shipping, and required sampling events.

Sample Handling – Wastewater
2.0-3.0 contact hours
Even if analyzed accurately and precisely, a sample that was collected improperly can jeopardize data quality. Wastewater professionals can save significant time and avoid costly fines by understanding sample handling procedures. This course addresses several sampling topics: safety, critical documentation (chain of custody), bottle preparation, collection volumes needed, sampling equipment, representative samples, preservation and hold time, sampling quality control and quality assurance, labeling, shipping, and required sampling events.

Types, Use, and Cleanliness of Laboratory Glassware
2.0 contact hours
Even equipment as straightforward as glassware can affect the quality of data produced in a laboratory. Learn how to distinguish among volumetric flasks, graduated cylinders, beakers, Erlenmeyer flasks, and pipettes (volumetric, serological, and mohr). Once you know the right glassware, learn how to keep it clean. The course covers approved detergents, automatic dishwashers, cleanliness checks, and safe glassware handling.

For more information or to schedule a course, see page 14 or contact Alloway

800-436-1243
support@alloway.com
www.alloway.com

"Excellent. Highly recommended for initial laboratory certification and ongoing certification."

—Abraham Ledesma
QC/QA Supervisor
CalEnergy Corp.
Calipatria, CA

Alloway
Your Resource for Defensible Data

"Very informative and personal. The small class size allowed you to customize the class to our needs."

—Tammy Miller
QC Manager
TEC Environmental Laboratories
Jackson, TN

For more information or to schedule a course, see page 14 or contact Alloway

800-436-1243
support@alloway.com
www.alloway.com

Nature Field Seminar – Basic
6.0 contact hours (1 day)
***Outdoor space required**
Unlike traditional lecture-based seminars, the "Nature Field Seminar" puts you in charge of the curriculum. You will learn about the principles of inquiry-based learning. Explore, make observations, raise questions, and pursue those questions. The premise of this course is to think outside the confines of traditional learning, and discover new knowledge in a hands-on way. This seminar will also show you how to use inquiry-based learning in your professional lives. Other sub-topics of this course include conservation, biodiversity, and local ecology.

Nature Field Seminar – Advanced
12.0 contact hours (2 days)
***Outdoor space required**
Really challenge your creativity in this two-day nature workshop. Designed to teach the principles of inquiry-based learning, this course allots ample time for exploration and reflection. Come away with a new appreciation for nature, learning, and your own creative process. This is a welcome respite for the adventurous learner who craves first-hand experience and a chance to break free from the classroom.

Customized On-Site Courses

Looking for a special topic? Alloway can modify an existing course or even design a new course to meet your specific needs. Alloway is able to produce courses on a variety of chemistry and biology topics. Contact a course counselor to explore your customized training options.

Additional Training Options

Training DVDs

Alloway's training DVDs are appropriate for laboratory supervisors, managers, field technicians, analysts, and operators who perform laboratory measurements in environmental laboratories, municipal water and wastewater treatment plants, and commercial laboratories.

- These self-paced courses cover laboratory procedures and instrumentation for beginners and advanced students.
- Receive up-to-date training in a user-friendly format.
- Participate and review lessons at your convenience.
- These videos are a low-cost, reusable training tool.
- Courses incorporate video clips, photographs, EPA reference materials, and telephone support.
- Purchase individual DVDs or the full set.

Videos Available:

Use of Laboratory Measuring Devices – Glassware
Run time: 25 minutes. Price: $69 (plus $20 S&H).
This video introduces you to the many types of glassware used in laboratory testing. You will learn the proper techniques for using laboratory glassware to obtain the most accurate measurements. This training video also shows you how to properly read each type of glassware.

Proper Procedures for Cleaning Laboratory Glassware
Run time: 16 minutes. Price: $69 (plus $20 S&H).
This video explains the importance of clean glassware and shows you the proper procedures for cleaning many types of laboratory glassware. You will learn how to inspect and receive new glassware in the laboratory. This video shows you how to use detergents, the best way to remove substances from the glassware, and the proper rinsing techniques to ensure cleaning solutions are removed. You will be instructed how to correctly use a pH indicator to batch-check glassware to demonstrate acceptable glassware cleaning. You will also learn how to safely dispose of broken glassware.

For more information or to purchase a DVD, see page 14 or contact Alloway

800-436-1243
support@alloway.com
www.alloway.com

Alloway
Your Resource for Defensible Data

For more information or to purchase a DVD, see page 14 or contact Alloway

800-436-1243
support@alloway.com
www.alloway.com

"Presentations were practical with practical applications."

—Martin Bell
Program Manager
Delaware County (Ohio) Regional Sewer District

Chemicals, Reagents, and Supplies
Run time: 24 minutes. Price: $69 (plus $20 S&H).
This video will show you good laboratory practices and procedures to ensure the safety of all laboratory personnel. You will be introduced to the chemicals needed to perform laboratory testing and the most common grades of these chemicals. This training will show you the importance of reagent documentation and how to provide traceability for all reagents. You will learn about different types of filters and the correct filter to use for specific laboratory analyses. This training will cover the requirements for laboratory-grade water. You will also learn about standards and the correct process for preparing, using, and documenting standards in laboratory testing.

Laboratory Equipment
Run time: 23 minutes. Price: $69 (plus $20 S&H).
This video will help you provide document equipment used in various analyses, including thermometers, balances, pH meters, DO meters, turbidity meters, and colorimeters. You will learn how to calibrate and read a thermometer. You will be instructed to correctly calibrate an electronic balance, a pH meter, and a Dissolved Oxygen probe using air calibration. You will learn the definition of turbidity and observe how a turbidity meter is used. You will see what is involved in calibrating and performing tests with a spectrophotometer.

Sampling
Run time: 25 minutes. Price: $69 (plus $20 S&H).
This video will show you the proper techniques and methods for collecting samples for laboratory analysis. You will learn what information is necessary to properly document samples, including how to complete a chain of custody. You will learn the best way to perform a grab sample collection. The video will take you through the steps of labeling and storing the sample. You will be shown the correct procedure for collecting a drinking water sample from a tap for microbiological analyses. You will be introduced to composite sampling and will see how an automatic sampler is used to collect composite samples. You will learn various techniques to correctly preserve a sample. This video explains the holding-time requirements for various laboratory tests.

Data Handling
Run time: 29 minutes. Price: $69 (plus $20 S&H).
You will learn how to review all paperwork associated with a specific test so as to incorporate quality assurance procedures. You will learn to review calculations and evaluate the results for proper rounding, significant figures, and units. You will learn to report results with the appropriate units and how to convert analytical data into the correct reporting units by using common conversion factors. You will also learn best practices and procedures for a final review of data, including how to implement an evaluation process to ensure test results are displayed with the correct test name, the appropriate parameter names, and the required permit limits.

Quality Assurance
Run time: 29 minutes. Price: $69 (plus $20 S&H).
This video will introduce you to the process and procedures of proficiency testing (PT) in laboratories. You will learn about common types of PT studies: WS, WP, and DMRQA. You will learn how blind standards are used in the PT process to ensure the accuracy of reported analyses. This video shows the proper procedures for the preparation of PT standards, including full-volume standards and other common PT standards that help ensure the highest level of accuracy. You will also learn to report the results for the exact parameters requested in the instructions and on the report form. The video instructs you to report data using Data Report Forms or via electronic data reporting by listing all the information that must be contained in the report. You will also learn what corrective action is and its role in resolving issues so a laboratory can return to generating accurate data.

Complete Set of Training Videos
Price: $299 (plus $20 S&H).

"The information was very helpful to me as a supervisor and will help me make decisions based on accurate information."

—Diana Jordan
Chemist
Cincinnati MSD

Alloway
Your Resource for Defensible Data

How to Order On-Site Courses

Follow these easy steps and you'll be on your way to receiving exceptional training:

1. Select your topic(s). You can put together any combination of courses. Keep in mind that booking multiple days back-to-back could lower costs.
2. Decide on your preferred date and host facility. We request that you give Alloway at least 3 months' notice to allow adequate planning time.
3. Estimate the number of participants.
4. Call Alloway to speak with a course counselor who can discuss any customization you may want.
5. Alloway will then issue you a quote based on the distance, number of hours, personnel required, and expected number of participants. There is a 20% down payment required to book the course.

Approval Process

Alloway will send you the documents needed to facilitate approval in your state.

Additional Information

- Alloway will provide all course materials and handouts.
- Alloway will take care of our presenters' travel, lodging, and food.
- Alloway will issue a participant survey and make available information about our products and services.
- You will be responsible for booking the facility and providing food/beverages for participants.
- You will be responsible for promoting the seminar.
- If you would like to use Alloway's registered logo to promote the seminar, you must first obtain permission by e-mailing support@alloway.com Logo use rights terminate after the course is finished.
- If for any reason you must cancel a scheduled course, please contact Alloway as soon as possible. If you cancel with at least one month's notice, you will receive a refund for the original down payment amount. If you cancel with less than one month's notice, your down payment will not be refunded.

How to Order Training DVDs

1. Select the DVD(s) you want.
2. You may purchase DVDs on Alloway's website: http://www.alloway.com/products
3. Online transactions are processsed through PayPal.
4. If you wish to use a purchase order or pay by credit card (Visa, MasterCard, and Discover) without using PayPal, please contact Jessica Begonia at 800-436-1243.
5. There is a $20 U.S. Shipping and Handling charge.
6. You should receive your DVDs in 5-7 business days.

Instructor Credentials

John R. Hoffman is President and Laboratory Director of Alloway. John holds a Bachelor of Arts in Microbiology/Chemistry from Miami University. He has attended numerous laboratory and environmental-related training schools, including Perkin-Elmer's School for Atomic Absorption, USEPA Course 452, Principles and Practices of Air Pollution Professional Advancement Course "Quality Assurance for the Analytical Laboratory", statistics studies at The Ohio State University, and the Varian Inc. GC/MS School in Chicago. He holds a Class I and II Wastewater License and is a Class IV OWPCC Certified Laboratory Analyst/Manager. He is a member of various professional organizations, including the Water Environmental Federation and the American Society for Microbiology.

Marcy Bolek is Vice President and Technical Director of Alloway. Marcy earned her Bachelor of Science in Chemistry from Ashland University. She began her career in environmental analysis in 1986. She has managed Alloway's Mansfield and Lima laboratories. She attended the American Chemical Society for GC/MS School in Chicago. Marcy is a Class IV OWPCC Certified Laboratory Analyst/Manager. She has been actively involved with analyst training throughout her career. She has developed training videos and led training seminars and presentations on Quality Control/Quality Assurance and specific environmental analyses, including BOD, solids, and Nitrate/Nitrite by Cadmium Reduction. Marcy is a member of the Ohio Water Environment Association (OWEA) and the Ottawa River Coalition (ORC). She has participated in multiple successful accreditations and is actively involved with Alloway's Beacon Laboratory and Analyst Development Program.

Dr. Radek Bolek is the Laboratory Manager at Alloway in Lima, Ohio. Radek earned his Masters and Doctorates in Biochemistry from the Technical University of Lodz, Poland. Radek has attended the Varian Inc. GC/MS Training Course in Chicago, and the Advanced Course on Applied Biocatalysis in Zakopane, Poland. He has conducted training seminars and given presentations on Quality Control/Quality Assurance, and specific environmental analyses, including BOD, solids, and Nitrate/Nitrite by Cadmium Reduction. Radek designed and wrote the Maximum Advantage Reagent Traceability Software, which is used in the environmental and pharmaceutical laboratory industries. He is an Ohio Environmental Protection Agency Certified Biology Drinking Water Analyst. He has experience in various analytical methods, including GC, GC/MS, IC, TOX, HPLC, metals, and wet chemistry. He has more than seven years' experience sampling stormwater, wastewater, and soil matrices. Radek also serves as the IT professional for Alloway.

Kim Riddell is Alloway's Director of Business Development. She has over 17 years of experience in the industry, including Superintendent of the Delphos Wastewater Treatment facility, City Council President for the city of Delphos, Chief Operating Officer for Smith Environmental, and Plant Operations Committee Co-Chair for OWEA. In addition to her professional experience, Kim maintains a Class IV Wastewater Operator license and a Class II Wastewater Laboratory Analyst license. Kim is a member of the OWEA's Crystal Crucible Society and 5S Society, and she served on the Ohio EPA Operator Education Advisory Board. She received her Bachelor of Science in Biology from the University of Toledo, and her Master's in Organizational Management from Bluffton University.

Amy Staley is an Analyst at Alloway in Lima, Ohio. Amy earned her Bachelor of Science, majoring in marine science, from Coastal Carolina University. She is an Ohio Environmental Protection Agency Certified Total Coliform Drinking Water Analyst. Her analytical experience includes TOCs, oil and grease, TPH, TCLP, BOD, E.Coli, fecal coliform, total coliform, MPN, total suspended solids, Nitrate/Nitrite, total plate count, yeast and mold, TDS, TS, and suspended sediment concentration. Amy also assists with bioassay. She helped with scripting and demonstrations for Alloway's training videos on pH calibrations, measuring devices (laboratory glassware), biochemical oxygen demand, glassware cleaning, and reagent traceability. In addition, Amy has presented to the Southwest Ohio Water Environment Association, and she has conducted various contact-hour seminars. She has served as an instructor of biological sciences for Medical Dynamics in Dayton and at James A. Rhodes State College.

Lanie Wenning is the Assistant Laboratory Manager at Alloway in Lima, Ohio. Lanie earned her Bachelor of Science in Natural Resources with an Environmental Science Water Option from The Ohio State University in Columbus, Ohio. As lab supervisor, Lanie oversees analysts' productivity and verifies the accuracy of their work. In addition, she performs wet chemistry using a spectrophotometer, and analyzes semi-volatile organics using GC/MS and metals using ICP. Lanie has experience in quality control, and research and development.

Contact Alloway

Please contact Alloway to speak with a knowledgeable course counselor.

We look forward to providing a customized training experience for you!

800-436-1243

support@alloway.com

www.alloway.com

Alloway®

Your Resource for Defensible Data