



## **AFT Impulse Training: Water Hammer and Surge Analysis Techniques**



**AGILE LEADERS**  
Training Center



## **AFT Impulse Training: Water Hammer and Surge Analysis Techniques**

### **AFT Impulse Training: Water Hammer and Surge Analysis Techniques Overview:**

AFT Impulse Training: Water Hammer and Surge Analysis Techniques is a comprehensive course designed to empower engineers with the skills needed to master the AFT Impulse software and tackle complex hydraulic transient issues in various piping systems. This course provides an in-depth look at water hammer analysis, surge analysis techniques, and hydraulic transients in piping systems, utilizing real-world scenarios from industrial applications like cooling water systems, fire protection systems, and water supply and distribution networks. Participants will learn about transient analysis and cavitation, piping system design and analysis, and hydraulic modeling and simulation, all tailored to enhance safety, efficiency, and innovation in their engineering projects. By integrating these components, the course not only enhances practical knowledge but also aligns with the latest industry standards and technological advancements.

### **Target Audience:**

- Mechanical Engineers
- Process Engineers
- Design Engineers specializing in hydraulics
- Safety Engineers in industrial settings
- Maintenance and Reliability Engineers

### **Targeted Organizational Departments:**

- Engineering
- Maintenance
- Safety and Compliance
- Research and Development

### **Targeted Industries:**

- Oil and Gas
- Manufacturing
- Utilities
- Chemical Processing
- Governmental Entities

## Course Offerings:

By the end of this course, participants will be able to:

- Conduct detailed water hammer and surge analysis using AFT Impulse.
- Design robust piping systems with advanced understanding of hydraulic transients.
- Implement surge mitigation strategies effectively.
- Utilize hydraulic modeling and simulation to predict system behaviors and optimize designs.
- Address transient analysis and cavitation in industrial applications.

## Training Methodology:

This course employs a blend of theoretical instruction and practical application through case studies. Participants will engage in hands-on tasks that mirror real-world challenges, enhancing their problem-solving skills and understanding of complex fluid dynamics. Interactive sessions allow for immediate feedback and iterative learning, ensuring a deep comprehension of surge analysis techniques and their implementation in industrial settings.

## Course Toolbox:

- Course Workbook and Reference Materials
- Hydraulic Transients Analysis Templates
- Surge Analysis and Mitigation Checklists
- Access to Online Resource Portal
- Simulation Exercises and Case Study Materials

## Course Agenda:

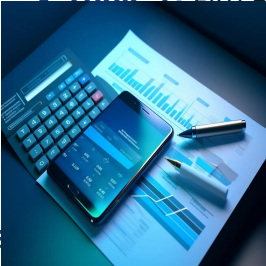
### Day 1: Foundations of Hydraulic Transients

- **Topic 1:** Introduction to Water Hammer and Surge Analysis
- **Topic 2:** Basics of AFT Impulse
- **Topic 3:** Hydraulic Transients in Piping Systems - Basics
- **Topic 4:** Design Principles for Piping System Design and Analysis
- **Reflection & Review:** Overview of key concepts and Q&A


### Day 2: Advanced Analysis Techniques

- **Topic 1:** Intermediate Hydraulic Modeling and Simulation
- **Topic 2:** Surge Mitigation Strategies - Basics
- **Topic 3:** Pump Startup and Trip Analysis - Basics
- **Topic 4:** Industrial Applications of Surge Analysis - Cooling Systems
- **Reflection & Review:** Case studies and hands-on practice review


## Day 3: Application of Training Course Categories



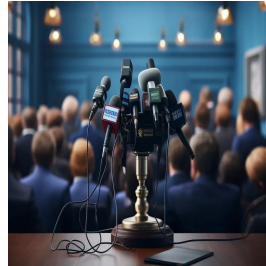
**Topic 1: Fire Protection Systems Hydraulic Analysis**



**Topic 2: Transient Pumps and Check Valves - Advanced Techniques**



**Topic 3: Pipes and Junction Analysis - Advanced**



**Topic 4: Impulse Assumptions and Boundary Conditions**

**Finance and Accounting Training Courses**

**Agile PM and Project Management Training Courses**

**Certified Courses By International Bodies**

**Communication and Public Relations Training Courses**

- **Topic 1:** Transient Pumps and Check Valves - Advanced Techniques
- **Topic 2:** Pipes and Junction Analysis - Advanced
- **Topic 3:** Impulse Assumptions and Boundary Conditions
- **Topic 4:** Cooling Water Systems Surge Analysis - Advanced
- **Reflection & Review:** Integration of day's learnings with real-world scenarios



**Data Analytics Training and Data Science Courses**



**Environment & Sustainability Training Courses**



**Governance, Risk and Compliance Training Courses**



**Human Resources Training and Development Courses**

## How This Course is Different from Other AFT Impulse Training Courses:

AFT Impulse Training: Water Hammer and Surge Analysis Techniques stands out due to its comprehensive range of content and advanced application of real-world scenarios. The course is designed to provide the most sophisticated analysis and practical insights into the field of water hammer and surge analysis. It is a unique opportunity for professionals to gain in-depth knowledge and skills that are essential for the industry. The course is delivered by experienced experts who bring their own expertise and practical experience to the training. The course is designed to be highly interactive and engaging, with a focus on practical application and problem-solving. The course is also highly flexible, allowing participants to tailor their learning experience to their own needs and interests. The course is a must-have for anyone looking to advance their career in the field of water hammer and surge analysis.



**IT Security Training & IT Training Courses**



**Leadership and Management Training Courses**



**Legal Training, Procurement and Contracting Courses**



**Maintenance Training and Engineering Training Courses**



# Training Course Categories



**Marketing, Customer Relations, and Sales Courses**



**Occupational Health, Safety and Security Training Courses**



**Oil & Gas Training and Other Technical Courses**



**Personal & Self-Development Training Courses**



**Quality and Operations Management Training Courses**



**Secretarial and Administration Training Courses**





**AGILE LEADERS**  
Training Center

## Training Cities



**Accra - Ghana**



**Amman - Jordan**



**Amsterdam - Netherlands**



**Baku - Azerbaijan**



**Bali - Indonesia**



**Bangkok - Thailand**



**Barcelona - Spain**



**Cairo - Egypt**



**Cape town - South Africa**



**Casablanca - Morocco**



**Doha - Qatar**



**Dubai - UAE**



**Geneva - Switzerland**



**Istanbul - Turkey**



**Jakarta - Indonesia**



**Johannesburg - South Africa**

# Training Cities



**Kuala Lumpur - Malaysia**



**Langkawi - Malaysia**



**London - UK**



**Madrid - Spain**



**Manama - Bahrain**



**Milan - Italy**



**Nairobi - Kenya**



**Paris - France**



**Phuket - Thailand**



**Prague - Czech Republic**



**Rome - Italy**



**Sharm El-Sheikh - Egypt**



**Tbilisi - Georgia**



**Tokyo - Japan**



**Vienna - Austria**



**Zanzibar - Tanzania**



**AGILE LEADERS**  
Training Center

# Training Cities



**Zoom - Online  
Training**



# WHO WE ARE

Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

## OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

## OUR MISSION

We are dedicated to developing value-adding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

## WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.



**AGILE LEADERS**  
Training Center

## CONTACT US

 UAE, Dubai Investment Park First

 +971585964727  
+447700176600

 [sales@agile4training.com](mailto:sales@agile4training.com)