

ADVANCED CERTIFICATE COURSE ON

DAM SAFETY, SURVEILLANCE & ASSET INTEGRITY

Integrated Approaches for Inspection, Monitoring,
Investigation, Rehabilitation and Risk Reduction of
Dams and Associated Water Infrastructure



India's Premier Professional Program for Modern Dam Safety and Infrastructure Assurance

Designed for engineers, managers, consultants and decision-makers responsible for the safety, monitoring, investigation and lifecycle management of dams and associated water infrastructure.



SAFETY FIRST

Protecting people,
assets & communities



EVIDENCE-BASED DECISIONS

Monitoring, investigations
& diagnostics



MODERN TECHNOLOGIES

Geophysics, DFOS,
Remote Sensing &
Digital Tools



FIELD-ORIENTED LEARNING

Practical case studies
& applications



CAPACITY BUILDING

Developing next-
generation dam safety
professionals



WHY THIS COURSE MATTERS

- ✓ India's dams and associated water infrastructure are aging rapidly while exposure to extreme events, seismic risks and operational demands continues to increase.
- ✓ Ensuring the long-term safety and performance of these assets requires modern investigation technologies, systematic monitoring, condition assessment and risk-informed decision making.
- ✓ This program equips professionals with practical knowledge and modern tools to assess, monitor, manage and enhance the safety and resilience of critical water infrastructure.



COURSE SNAPSHOT



DURATION

15+ Hours of
Lecture Videos



DELIVERY MODE

LMS-Based
Hybrid Learning
Program



ACCESS WINDOW

6 Months
Self-Paced
Access



LEARNING FORMAT

Recorded Lectures
+ Downloadable
Presentations (PDF)
+ Lecture Notes



CERTIFICATE

Certificate of
Completion from
AF Academy

BUILD EXPERTISE. ENSURE SAFETY. SECURE THE FUTURE.



www.damsafety.co



dams@damsafety.co



+91-9818568825 (WhatsApp)



SCAN TO
KNOW MORE



AF ACADEMY

LEARN. APPLY. LEAD.

COURSE CURRICULUM & LEARNING OUTCOMES

A comprehensive program structured into two integrated sections to build knowledge, skills and confidence across the entire dam safety and asset management life cycle.

SECTION

01



DAM SAFETY FUNDAMENTALS, OPERATIONS & MONITORING

Build a strong foundation in dam safety principles, design, operations, instrumentation, monitoring and emergency preparedness for safe and reliable performance.

KEY TOPICS

- Dam Safety Concepts & Legislation
- Design Philosophy & Structural Behaviour
- Hydrology, Floods & Dam Safety
- Seismic Risks & Reservoir Induced Seismicity
- Instrumentation, Monitoring & Data Interpretation
- Inspection Techniques & Use of Modern Tools
- Conveyance Networks, Appurtenances & Ancillary Structures
- Concrete Durability, Deterioration & Rehabilitation
- Hydromechanical Equipment & Operation
- Emergency Preparedness, EAP & Communication
- Reporting, Records & Standard Operating Procedures
- Rock Mechanics in Dams
- Geomembranes, Cavities & Leakage Control

LEARNING OUTCOMES

- Understand dam safety principles, legislation, design and operations.
- Use instrumentation and monitoring systems for data-driven decisions.
- Plan and conduct effective inspections using modern tools.
- Ensure reliability of structures and equipment through proactive maintenance and rehabilitation.
- Prepare for and respond to emergencies and extreme events.
- Apply standard procedures and reporting for safety assurance.

SECTION

02



INVESTIGATION, ASSESSMENT & ADVANCED TECHNOLOGIE

Learn advanced techniques for investigation, condition assessment and diagnostics using modern geotechnical, geophysical and digital tools.

KEY TOPICS

- Geotechnical Investigations of Dams & Foundations
- Concrete Investigations & NDT
- Leak Detection, Internal Erosion & Seepage Control
- Cavity, Sinkhole & Weak Zone Detection
- Stilling Basin & Energy Dissipator Investigations
- Geophysical Techniques - Principles & Applications
- Seismic, Electrical & Electromagnetic Methods
- GPR, Seismic Tomography, MASW, ERT, Refraction Other Advanced Methods
- Remote Sensing, Drones & GIS Applications
- Case Studies & Best Practices

LEARNING OUTCOMES

- Evaluate dam safety and performance using advanced investigation techniques.
- Detect hidden issues such as leakage, cavities, weak zones and internal erosion.
- Interpret geophysical and investigation data for reliable decision making.
- Leverage modern technologies such as DFOS, drones and remote sensing.
- Apply case studies and best practices for practical problem solving.

MODERN TECHNOLOGIES COVERED



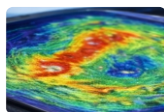
DFOS & Advanced Instrumentation



Drones & Aerial Surveys



Mobile Apps & Digital Tools



Geophysical Investigations



GPR & Subsurface Imaging



Remote Sensing & GIS



Data Analytics & Decision Support

OUR COURSE APPROACH



Build Concepts



Learn Methods



Apply in Practice



Analyze & Assess



Ensure Safety

“ A balanced blend of theory, modern technologies and real-world applications to build capability for safe, resilient and sustainable water infrastructure. ”



02

ADVANCED CERTIFICATE COURSE ON
DAM SAFETY, SURVEILLANCE & ASSET INTEGRITY



SAFER DAMS. STRONGER COMMUNITIES. SUSTAINABLE FUTURE.



AF ACADEMY

LEARN. APPLY. LEAD.

DELIVERY MECHANISM

LMS-BASED HYBRID LEARNING PROGRAM

A flexible and effective learning experience designed for working professionals. Learn at your own pace with access to world-class content, expert guidance and practical insights.

HOW YOU WILL LEARN

-  **PRE-RECORDED EXPERT LECTURES**
High-quality video lectures by experienced professionals from industry, academia and government.
-  **DOWNLOADABLE RESOURCES**
Access presentations, technical notes, guidelines, articles and reference documents.
-  **SELF-PACED LEARNING**
Learn anytime, anywhere. Revisit lectures and materials as per your convenience.
-  **ASSESSMENTS & QUIZZES**
Reinforce learning through assessments designed to test and apply your knowledge.
-  **CERTIFICATE OF COMPLETION**
Earn a certificate from AF Academy on successful completion of the program.

**6 MONTHS
ACCESS WINDOW**



Learn at your own pace within 6 months with unlimited access to all course materials.

**FLEXIBLE.
ACCESSIBLE.
EFFECTIVE.**

ADVANCED CERTIFICATE COURSE ON DAM SAFETY, SURVEILLANCE & ASSET INTEGRITY

EXPERT FACULTY. REAL-WORLD EXPERIENCE.

Learn from a distinguished panel of practitioners, researchers and policy experts with decades of experience in dam safety, investigations, monitoring, rehabilitation and infrastructure management.



DAM SAFETY EXPERTS

Senior professionals with extensive experience in design, operation, surveillance and safety assurance.



INVESTIGATION SPECIALISTS

Experts in geotechnical, structural and geophysical investigations and advanced diagnostics.



INSTRUMENTATION & MONITORING EXPERTS

Specialists in modern monitoring systems, sensors, data acquisition, and interpretation.



PRACTICING CONSULTANTS

Industry consultants with hands-on experience from major projects across India and abroad.



ACADEMICIANS & RESEARCHERS

Subject matter experts from premier institutions and research organizations.



POLICY & REGULATORY PROFESSIONALS

Experts in legislation, dam safety policy, guidelines and regulatory frameworks.

BENEFITS FOR PARTICIPANTS



ENHANCE EXPERTISE

Strengthen your knowledge and skills across the entire dam safety and asset management life cycle.



MAKE BETTER DECISIONS

Use data, investigations and risk-informed approaches for effective and reliable decision making.



IMPROVE SAFETY AND RELIABILITY

Ensure long-term safety, resilience and performance of dams and water infrastructure.



MASTER MODERN TOOLS & TECHNOLOGIES

Gain hands-on understanding of advanced monitoring, investigation and digital technologies.



PROFESSIONAL GROWTH

Earn a certificate from AF Academy (An entity of Aqua Foundation, a not-for-profit organization)



CONTRIBUTE TO SUSTAINABILITY

Support sustainable water management, climate resilience and community well-being.

LEARNING RESOURCES



Video Lectures



Presentation Slides



Technical Notes



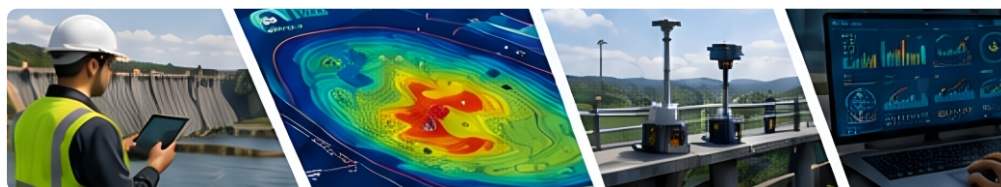
Guidelines & Standards



Case Studies & Reports



Reading Material



GLOBAL LEARNING COMMUNITY

Join a growing community of professionals from India and across the world.



KEY HIGHLIGHTS

- ✓ Comprehensive coverage of fundamentals to advanced technologies
- ✓ Strong focus on investigations, monitoring and risk management
- ✓ Real-world case studies and practical applications
- ✓ Expert-led content aligned with global best practices
- ✓ Supports Dam Safety Act, DRIP and modern infrastructure priorities

“ Knowledge empowers. Technology enables. Competence ensures safety. ”

**BUILD CAPABILITY.
ENSURE SAFETY.
DELIVER IMPACT.**

03

ADVANCED CERTIFICATE COURSE ON
DAM SAFETY, SURVEILLANCE & ASSET INTEGRITY



SAFER DAMS. STRONGER COMMUNITIES. SUSTAINABLE FUTURE.



AF ACADEMY

LEARN. APPLY. LEAD.



ADVANCED CERTIFICATE COURSE ON DAM SAFETY, SURVEILLANCE & ASSET INTEGRITY

IMPACT THAT MATTERS

Building a safer and more resilient tomorrow



2,000+

Professionals
Trained



40+

Countries
Reached



225+

Organizations
Empowered



6 MONTHS

Access Window
(Self-Paced)



15+HOURS

of
Lecture Videos



CERTIFICATE

of Completion
from AF Academy

TRUSTED BY PROFESSIONALS ACROSS THE GLOBE



Our participants come from across the world

India | Philippines | Nepal | Sri Lanka | Australia | Malawi
Indonesia | Malaysia | Bangladesh | Bhutan | UAE | and many more...

WHO SHOULD ATTEND



Dam Safety
Professionals



Irrigation & Water
Resources Engineers



Hydropower
Engineers



Public Works
Departments



Dam Owners &
Operators



Consultants &
Designers



Researchers &
Academicians



Construction &
Rehabilitation
Professionals



Instrumentation
& Monitoring
Experts



Young Engineers &
Asset Management
Professionals

WHAT OUR PARTICIPANTS SAY

“ The course content is very comprehensive and up to date. The real-world case studies and examples shared were extremely valuable. ”

- Mr. Harish Chandra

Chief Engineer (Design), NHPC Limited

“ An excellent program. The case studies, monitoring aspects and practical insights were very useful for our day-to-day work. ”

- Mr. K. R. Prasad

Chief Engineer (Dams), CWC, Ministry of Jal Shakti,
Government of India

“ Well-structured and informative course. The LMS platform is user-friendly and the learning experience was smooth and flexible. ”

- Ms. Anuradha K.

Engineer, Kerala Water Resources Department

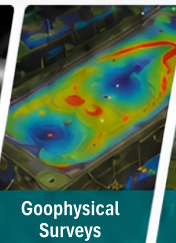
REAL-WORLD LEARNING. PRACTICAL IMPACT.



Field
Investigations



Instrumentation
& Monitoring



Geophysical
Surveys



Drones & Remote
Sensing



Data Analytics &
Decision Support

Case studies from real projects across India and around the world.



Dams &
Reservoirs



Spillways &
Hydraulic
Structures



Canals &
Conveyance
Systems



Tunnels &
Underground
Structures



Pipelines &
Appurtenant
Works

SIMPLE ENROLLMENT PROCESS



01

VISIT

www.damsafety.co
and choose
the course



02

REGISTER

Fill in the
registration
form



03

CONFIRM

Receive fee details
and complete
payment



04

GET ACCESS

Receive LMS access
credentials on
your email



05

START LEARNING

Learn at your pace
and interact with
experts



LIMITED SEATS. EARLY ENROLLMENT RECOMMENDED.

TAKE THE NEXT STEP TOWARDS A SAFER FUTURE

Equip yourself with the knowledge,
tools and confidence to ensure the
long-term safety and performance
of dams and water infrastructure.

BUILD EXPERTISE. ENSURE SAFETY. SECURE THE FUTURE.



SCAN TO
ENROLL NOW!

GET IN TOUCH

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AF Academy

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A proudly presented initiative of

AF Academy

A Platform of Excellence in
Infrastructure Learning

04

ADVANCED CERTIFICATE COURSE ON
DAM SAFETY, SURVEILLANCE & ASSET INTEGRITY



SAFER DAMS. STRONGER COMMUNITIES. SUSTAINABLE FUTURE.