Critical Infrastructure Protection (CIP) and Resilience Training Course

Professional Development Training Course Outline

Category	Defense and Security	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Critical Infrastructure Protection (CIP) and resilience have become essential priorities for governments, security agencies, and strategic industries as the frequency of cyberattacks, natural disasters, terrorism, and supply chain disruptions continues to increase globally. Critical Infrastructure Protection (CIP) and Resilience Training Course provides a comprehensive foundation in protecting vital systems such as energy grids, transport networks, telecommunications, water supply, financial systems, and digital infrastructure. Through the integration of global best practices, threat assessment models, and resilience-building approaches, participants will gain the essential knowledge required to safeguard critical assets and maintain operational continuity under crisis conditions.

This course uses practical, data-driven, and scenario-based methods to equip participants with actionable strategies for infrastructure risk assessment, continuity planning, interagency coordination, and emergency response. Learners will explore the evolving threat landscape, including hybrid warfare, cyber-physical attacks, systemic vulnerabilities, and disaster impacts, enabling them to strengthen institutional preparedness and build long-term operational resilience. By the end of the course, participants will be able to design robust protection frameworks that support national security, economic stability, and public safety.

Programme Curriculum

Critical Infrastructure Protection (CIP) and Resilience Training Course

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Course Objectives

1. Understand key concepts and global frameworks governing critical infrastructure protection.
2. Identify emerging threats affecting national and sector-specific infrastructure systems.
3. Conduct risk and vulnerability assessments using modern analytical tools.
4. Develop resilience-building strategies for infrastructure networks.
5. Strengthen cyber-physical security measures across essential sectors.
6. Establish interagency coordination mechanisms for crisis management.
7. Implement continuity of operations planning (COOP) and disaster recovery strategies.
8. Apply modern surveillance, monitoring, and detection technologies.
9. Integrate public-private collaboration models for infrastructure protection.
10. Improve emergency response planning and cross-sector communication.
11. Develop infrastructure resilience metrics and performance indicators.
12. Support national security strategies through CIP-aligned planning.
13. Build institutional capacity for long-term CIP governance and preparedness.

Organizational Benefits

- Enhanced institutional readiness against infrastructure disruptions
- Strengthened cybersecurity and physical protection posture
- Improved alignment with national security and regulatory frameworks
- Increased resilience of critical infrastructure networks
- Reduced operational, financial, and reputational risk
- Strengthened crisis management and emergency response capacity
- Better interagency coordination and communication channels
- Improved continuity of operations planning
- Increased ability to protect essential services and population well-being
- Stronger long-term infrastructure governance and planning

Target Audiences

- National security and defense agencies
- Critical infrastructure operators and regulators
- Cybersecurity and risk management professionals
- Disaster management and emergency response teams
- Intelligence and homeland security personnel
- Public utilities and energy sector managers
- Transportation, telecommunications, and finance sector leaders

- Business continuity and resilience planners

Course Duration: 10 days

Course Modules

Module 1: Foundations of Critical Infrastructure Protection

- Understand global CIP frameworks and definitions
- Examine critical sectors and national priorities
- Map essential services and interdependencies
- Review CIP regulatory and policy environments
- Identify strategic infrastructure risks
- Case Study: National CIP framework implementation

Module 2: Threat Landscape for Critical Infrastructure

- Analyze cyber, physical, and hybrid threats
- Study emerging terrorism and sabotage trends
- Understand insider threats and human-factor risks
- Examine geopolitical risks and conflict escalation
- Assess sector-specific threat profiles
- Case Study: Hybrid attack on a national energy grid

Module 3: Risk and Vulnerability Assessment Tools

- Conduct infrastructure risk mapping
- Apply modern vulnerability assessment tools
- Perform asset criticality analysis
- Prioritize threats for mitigation
- Document risk profiles for decision-making
- Case Study: Vulnerability assessment of water systems

Module 4: Cybersecurity for Critical Infrastructure

- Secure cyber-physical convergence environments
- Protect industrial control systems (ICS and SCADA)
- Implement zero-trust security principles
- Strengthen monitoring and intrusion detection
- Develop cyber-incident response workflows
- Case Study: Cyber intrusion on a power distribution network

Module 5: Physical Security and Access Control

- Design access control and perimeter protection
- Integrate surveillance and sensor systems
- Improve on-site incident detection
- Develop facility protection strategies
- Implement integrated physical-cyber security
- Case Study: Physical breach at a transportation hub

Module 6: Infrastructure Interdependencies and Cascading Risks

- Understand sector interconnectivity vulnerabilities
- Analyze cascading failure scenarios
- Map supply chain dependencies
- Assess systemic risk pathways
- Develop mitigation approaches for interlinked systems
- Case Study: Cascading blackout across regional grids

Module 7: Business Continuity and Operational Resilience

- Develop continuity of operations plans (COOP)
- Create resilient operational workflows
- Build recovery time objectives (RTOs)
- Integrate redundancy mechanisms
- Implement resilience monitoring indicators
- Case Study: Continuity planning in a finance institution

Module 8: Emergency Response and Crisis Coordination

- Develop multi-agency response protocols
- Improve crisis communication systems
- Conduct scenario-based emergency drills
- Strengthen command-and-control structures
- Coordinate local, national, and sectoral responses
- Case Study: Multi-agency response to infrastructure failure

Module 9: Infrastructure Monitoring and Early Warning Systems

- Implement real-time monitoring tools
- Integrate remote sensing and surveillance systems
- Use predictive analytics for threat detection
- Establish early-warning thresholds
- Maintain monitoring system resilience
- Case Study: Early detection of pipeline anomalies

Module 10: Disaster Risk Reduction and Natural Hazard Management

- Identify natural hazards affecting infrastructure
- Assess climate and environmental risks
- Implement mitigation engineering solutions
- Strengthen preparedness for extreme events
- Integrate DRR into CIP planning
- Case Study: Flood-resilient infrastructure adaptation

Module 11: Public-Private Partnerships in CIP

- Understand PPP frameworks for infrastructure security
- Build collaboration between state and private operators
- Coordinate joint CIP exercises
- Define roles and responsibilities during crises
- Improve information-sharing mechanisms
- Case Study: Public-private collaboration for telecom resilience

Module 12: Legal, Policy, and Regulatory Compliance

- Understand national CIP legislation
- Align institutional practices with regulatory frameworks
- Document compliance processes
- Engage with regulatory authorities
- Prepare for compliance audits
- Case Study: Infrastructure compliance audit findings

Module 13: Technology Solutions for CIP

- Explore new protection technologies
- Integrate sensors, drones, and AI tools
- Apply digital twins for resilience modelling
- Use data analytics for infrastructure monitoring
- Strengthen vulnerability scanning tools
- Case Study: AI-enabled critical infrastructure surveillance

Module 14: Governance and Strategic Planning for CIP

- Establish CIP governance structures
- Develop organizational leadership roles
- Create long-term protection strategies
- Build strategic resilience frameworks
- Promote culture of security and preparedness
- Case Study: National strategic CIP planning roadmap

Module 15: Building National and Institutional Resilience

- Strengthen adaptive capacity for evolving threats
- Develop cross-sector resilience programs
- Integrate community and stakeholder resilience
- Measure and track progress using resilience indicators
- Invest in long-term resilience programs
- Case Study: Country-wide resilience transformation initiative

Training Methodology

- Instructor-led presentations and interactive lectures
- Group exercises and scenario-based simulations
- Case study analysis across multiple infrastructure sectors
- Risk assessment and resilience planning practicals
- Tools, templates, and frameworks for institutional adoption
- Team-based development of resilience action plans

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
02 Nov 2026	13 Nov 2026	Online	$2,000
02 Nov 2026	13 Nov 2026	Physical	$3,000
02 Nov 2026	13 Nov 2026	Physical	$6,000
02 Nov 2026	13 Nov 2026	Physical	$6,000
02 Nov 2026	13 Nov 2026	Physical	$12,000
02 Nov 2026	13 Nov 2026	Physical	$9,000
02 Nov 2026	13 Nov 2026	Physical	$12,000
02 Nov 2026	13 Nov 2026	Physical	$12,000

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