CSP® EXAMINATION BLUEPRINT
CSP11

Domain 1
Advanced Application of Safety Principles • 25%

1. Describe the principles of minimizing hazards using Prevention-Through-Design (e.g., avoidance, elimination, substitution, safety design criteria for workplace facilities, machines, and practices)
2. Apply the principles of process safety (e.g., pressure relief systems, chemical compatibility, management of change, materials of construction, process flow diagrams)
3. Evaluate common workplace hazards (e.g., electrical, falls, confined spaces, lockout/tagout, working around water, caught in, struck by, excavation)
4. Evaluate facility life safety features (e.g., public space safety, floor loading, occupancy loads)
5. Describe fleet safety principles (e.g., driver and equipment safety, maintenance, surveillance equipment, GPS monitoring, telematics, hybrid vehicles, fuel systems, driving under the influence, fatigue)
6. Evaluate materials handling methods and controls (e.g., forklifts, aerial lifts, and other powered industrial trucks; cranes, hand trucks, hoists, rigging, manual handling, drones)
7. Evaluate the use of tools, machines, and equipment (e.g., hand tools, power tools, ladders, grinders, hydraulics, robotics)

Domain 2
Program Management • 25%

1. Compare performance against established benchmarks (e.g., gap analysis)
2. Analyze performance standards to determine plan of action
3. Determine how to measure, analyze, and improve EHS culture
4. Determine appropriate incident investigation techniques (root causes) and apply corrective actions
5. Describe the Management of Change process (prior, during, after)
6. Describe system safety analysis techniques (e.g., fault tree analysis, failure modes and effects analysis [FMEA], Safety Case approach, risk summation)
7. Evaluate leading and lagging indicators
8. Recognize safety, health, and environmental management and audit systems (e.g., ISO 14000 series, 45001, 19011, ANSI Z10)
9. Describe required components for plans, systems, and policies (e.g., safety, health, and environmental regulations and standards)
10. Utilize document retention or management principles (e.g., incident investigation, training records, exposure records, maintenance records, environmental management system, audit results, privacy, trade secrets, personal information)
11. Apply budgeting, finance, and economic analysis techniques and principles (e.g., timelines, budget development, resourcing, return on investment, cost/benefit analysis, role in procurement process)
12. Differentiate management leadership techniques (e.g., management theories, leadership theories, motivation, discipline, authority, responsibility, accountability, communication styles)
13. Apply project management principles and techniques (e.g., RACI charts, project timelines)
14. Analyze and/or interpret data (e.g., exposure, release concentrations, sampling data, mean, median, mode, confidence intervals, probabilities, Pareto analysis)

Domain 3
Risk Management • 15%

1. Apply general principles of the safety risk evaluation process (i.e., identifying, analyzing, evaluating, monitoring, and communicating risk affecting an organization)
2. Apply risk management strategies to identify and mitigate EHS hazards (e.g., risk analysis, job hazard analysis, process hazard analysis, hierarchy of controls)
3. Differentiate financial risk mitigation strategies as they relate to risk avoidance, risk retention, risk sharing, risk transfer, loss prevention and reduction
4. Apply risk analysis process of identifying, ranking, and monitoring (e.g., disasters/emergency preparedness, fire prevention, occupational health, hazardous materials management/environmental compliance)

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Domain 4
Emergency Management • 9%

1. Create, employ, and maintain an Emergency Response Plan (e.g., fire, severe weather, nuclear incidents, natural disasters, terrorist attacks, chemical spills, utilities systems, cyber security)
2. Describe the elements in disaster response and recovery (e.g., incident command, business continuity, contingency plans)
3. Identify key components of fire prevention, protection, and suppression systems
4. Prepare procedures for the safe transportation and security of hazardous materials
5. Implement a workplace violence prevention program

Domain 5
Environmental Management • 6%

1. Describe environmental protection and pollution prevention programs (e.g., spill containment, abatement, best practices)
2. Identify procedures used to manage hazardous materials (e.g., GHS classification system, storage and handling, policy, security, hazardous waste storage and disposal)
3. Identify procedures used to manage waste (e.g., universal, recycling, spill clean-up, labeling, remediation)
4. Determine sustainability principles and practices (e.g., supply chain; reduce, reuse, recycle)
5. Describe the impact of environmental issues (e.g., aging infrastructure, asbestos, air pollution, climate change, environmental, social, and governance)

Domain 6
Occupational Health and Applied Science • 10%

1. Anticipate, recognize, evaluate, and control occupational exposures by implementing techniques for measurement, sampling, and analysis (e.g., hazardous chemicals, SDS, radiation, noise, biological hazards, heat/cold, indoor air quality, ventilation, nanoparticles, combustible dust, heat systems, high pressure, silica, powder and spray applications, blasting, molten metals, hot work, cold and heat stress, laser)
2. Understand principles of public health as applicable (i.e., fundamentals of epidemiology, infectious disease, risk factors, statistics to interpret data)
3. Apply toxicology principles to create exposure control plans and develop risk mitigation plans (e.g., using sampling equipment, symptoms of an exposure, LD50, LC50, mutagens, carcinogens, teratogens, ototoxins)
4. Evaluate principles related to ergonomics and human factors (e.g., visual acuity, body mechanics, lifting, vibration, anthropometrics, fatigue management)
5. Apply chemistry principles to calculate required containment volumes and hazardous materials storage requirements
6. Apply core concepts in physics (e.g., forms of energy, weights, forces, stresses)

Domain 7
Training • 10%

1. Describe the needs assessment process to determine worker training, competencies, and qualifications
2. Develop training programs with training materials to address various learning styles (e.g., presentation methods and tools)
3. Describe how to implement training programs utilizing the Continuous Improvement model
4. Determine the effectiveness of training programs (e.g., surveys, on-the-job compliance, feedback, assessments, demonstrations, quizzes)
5. Demonstrate working knowledge of education and training methods and techniques (e.g., classroom, online, simulation, computer-based, Artificial Intelligence, coaching, on-the-job training)
6. Understand adult learning principles (e.g., visual, auditory, reading and writing, kinesthetic)

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