



MINING EXAMINATION TO BE AVAILABLE IN 2011

Based on industry demand, the Board of Certified Safety Professionals (BCSP) commissioned a validation study to determine the task, knowledge and skills associated with Safety Trained Supervisor (STS) practice in mining. BCSP uses the validation study to ensure the examination's subject material is relevant to current practice.



BCSP commissioned the current study in 2008 and completed it in 2009. The result was a function based examination blueprint. The examination will be a 100-item, multiple-choice, computer-delivered examination. Please note the blueprint is not related to the qualifications candidates must meet to earn the STS credential.



This booklet is designed to provide a comprehensive look at the information, knowledge and expertise needed to pass the STS examination. The new STS-Mining examination blueprint appears on the subsequent pages.



For more information on the STS Program, please visit the BCSP website at www.bcsp.org.

BCSP

**Board of Certified
Safety Professionals**

Safety Trained Supervisor in Construction
Safety Trained Supervisor in Mining

Examination Blueprint

Task 1 (9.2%): Conduct risk assessments by performing pre-task hazard analyses and evaluating personal protective equipment (PPE), tools, equipment, and job expectations, in order to mitigate hazardous conditions and minimize the risk of incident or injury.

Knowledge Areas:

1. Principles of risk assessment
2. Risk assessment procedures
3. Components of pre-task hazard analyses (e.g., job hazard analysis, job safety analysis, activity hazard analysis, job task analysis)
4. Hazards associated with tasks
5. Available or applicable PPE, tools, and equipment
6. Limitations of PPE, tools, and equipment
7. Proper use, care, and maintenance requirements of PPE, tools, and equipment

Skill Areas:

1. Communicating effectively
2. Developing and conducting pre-task hazard analyses
3. Recognizing hazards and mitigating exposures
4. Using, caring for, and maintaining PPE, tools, and equipment
5. Inspecting for the proper use, care, and maintenance of PPE, tools, and equipment
6. Using testing equipment (e.g., air quality, air velocity, noise)
7. Creating proper documentation

Task 2 (6.9%): Confirm that employees have the necessary job-specific technical skills and qualifications by observing work practices or reviewing training records in order to ensure competent staff.

Knowledge Areas:

1. Work practices and procedures
2. Procedures for observing work practices
3. Training requirements for job tasks
4. Sources for applicable standards (e.g., consensus standards, government agencies, manufacturers, company policy)

Skill Areas:

1. Recognizing desirable and undesirable workplace behavior (e.g., proactive, impaired)
2. Measuring employees' performance through observation
3. Accessing and reading training records
4. Applying applicable standards to the evaluation of employees technical skills

Task 3 (9.2%): Ensure that personnel in the work area are oriented to safety and health considerations by communicating hazardous conditions and monitoring behaviors in order to help ensure that applicable rules and emergency actions plans are understood.

Knowledge Areas:

1. Principles of hazard assessment
2. Components of new hire orientation programs
3. Principles of risk assessment
4. Components of emergency action plans
5. Sources for applicable standards (e.g., consensus standards, government agencies, manufacturers, company policy)
6. Principles of behavior-based safety
7. Characteristics of proactive and reactive safety cultures

Skill Areas:

1. Communicating hazards
2. Conducting new employee orientation
3. Recognizing hazards and mitigating exposures
4. Conducting worksite inspections
5. Conducting safety meetings
6. Coaching safe behavior
7. Comparing safety performance to applicable standards
8. Communicating the emergency action plan

Task 4 (9.2%): Evaluate work practices by observing employees' behavior and their use of PPE, tools, and equipment in order to minimize the risk of incident or injury and to comply with applicable standards.

Knowledge Areas:

1. Work practices and procedures
2. Types of workplace behavior (e.g., proactive, impaired)
3. Available or applicable PPE, tools, and equipment
4. Limitations of PPE, tools, and equipment
5. Proper use, care, and maintenance requirements of PPE, tools, and equipment
6. Sources for applicable standards (e.g., consensus standards, government agencies, manufacturers, company policy)

Skill Areas:

1. Recognizing desirable and undesirable workplace behavior (e.g., proactive, impaired)
2. Measuring employees' performance through observation
3. Defusing emotionally charged situations

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Examination Blueprint (continued)

Task 5 (8.0%): Ensure safety and health standards are implemented through coaching and by correcting observed deficiencies in order to maintain a safe and healthful work environment.

Knowledge Areas:

1. Methods for implementing safety and health rules and regulations
2. Methods for coaching employees
3. Methods for correcting observed deficiencies
4. Sources for applicable standards (e.g., consensus standards, government agencies, manufacturers, company policy)

Skill Areas:

1. Coaching safe behavior
2. Correcting observed deficiencies
3. Applying safety and health standards appropriately

Task 6 (9.2%): Take appropriate action when confronted with unsafe acts and conditions by exercising stop-work authority, modifying tasks, escalating issues to higher management, consulting with qualified professionals (when the matter is outside the scope of the supervisor's capabilities, etc.) and disciplining employees in order to minimize the risk of incident or injury.

Knowledge Areas:

1. Work practices and procedures
2. Types of workplace behavior (e.g., proactive, impaired)
3. Unsafe acts and conditions
4. Stop-work policies and procedures
5. Modifications of tasks to improve safety
6. Organizational structure and lines of communication
7. Disciplinary action policies and procedures
8. Roles and responsibilities of management and coworkers

Skill Areas:

1. Recognizing unsafe acts and conditions
2. Responding to unsafe acts and conditions
3. Exercising leadership
4. Communicating effectively
5. Documenting unsafe behaviors and conditions, and actions taken in response

Task 7 (8.0%): Facilitate a positive, proactive safety culture by anticipating hazards, modeling and coaching safe behavior, reporting incidents, encouraging employee participation, and communicating performance measures in order to enhance safety and health.

Knowledge Areas:

1. Characteristics of a positive, proactive safety culture
2. Safe work practices and procedures
3. Types of workplace behavior (e.g., proactive, impaired)
4. Methods for modeling and coaching safe behavior
5. Methods for correcting observed deficiencies
6. Sources for applicable standards (e.g., consensus standards, government agencies, manufacturers, company policy)
7. Policies and procedures related to incident reporting

Skill Areas:

1. Recognizing and rewarding safe work practices
2. Correcting observed deficiencies
3. Conducting safety meetings
4. Modeling and coaching safe behavior
5. Applying safety and health standards appropriately

Task 8 (6.9%): Evaluate employees using safety performance and behavior as key criteria in order to hold employees accountable for safety.

Knowledge Areas:

1. Components of employee performance systems
2. Essential behavior to include in performance evaluations (e.g., job safety requirements, attitude toward safety, use of PPE, tools, and equipment)
3. Principles of behavior-based safety
4. Methods for encouraging proactive workplace behavior
5. Methods for holding employees accountable for safe work performance (e.g., positive reinforcement, negative reinforcement)

Skill Areas:

1. Making objective observations
2. Comparing safety performance to applicable standards (e.g., consensus standards, government agencies, manufacturers, company policy)
3. Providing feedback on safe work performance
4. Communicating proactively
5. Listening to suggestions
6. Tasking disciplinary actions

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Examination Blueprint (continued)

Task 9 (6.9%): Participate in investigations that determine causes, identify corrective actions, document lessons learned, and address employee concerns using recognized investigation techniques in order to minimize the risk of workplace incidents.

Knowledge Areas:

1. Work practices and procedures
2. Types of workplace behavior (e.g., proactive, impaired)
3. Available or applicable PPE, tools, and equipment
4. Limitations of PPE, tools, and equipment
5. Proper use, care, and maintenance requirements of PPE, tools, and equipment
6. Principles of incident investigation and root cause analysis
7. Roles and responsibilities of various personnel involved with investigations
8. Communication requirements related to investigations at all organizations levels (e.g., crisis management, company policy)
9. Development and uses of lessons learned

Skill Areas:

1. Conducting incident investigations
2. Identifying corrective actions
3. Identifying root causes
4. Accessing and documenting lessons learned
5. Addressing employees' concerns
6. Communicating effectively

Task 10 (5.7%): Verify the effectiveness of emergency action plans through training and practice in order to ensure effective response in crises.

Knowledge Areas:

1. Principles of emergency action planning
2. Components of emergency action plans
3. Training techniques and exercises (e.g., simulation, drill)
4. Crisis management techniques that include first response protocols

Skill Areas:

1. Communicating the emergency action plan
2. Conducting emergency action drills
3. Conducting training related to emergency action plans and crisis management plans
4. Preparing after-action reports that include lessons learned

Task 11 (6.9%): Coordinate operations and work processes with other supervisors by communicating effectively in order to minimize risk.

Knowledge Areas:

1. Roles and responsibilities of other management personnel
2. Work practices and procedures
3. Available or applicable PPE, tools, and equipment
4. Communication strategies and requirements
5. Crew coordination techniques (e.g., between shift changes, upon recognizing adjacent area hazards)
6. Inspection and documentation procedures
7. Hazards related to work processes

Skill Areas:

1. Communicating effectively
2. Using standard terminology
3. Recognizing hazards and mitigating exposures
4. Minimizing exposures through risk assessment
5. Recording shift events

Task 12 (9.2%): Perform safety and health-related record keeping in accordance with applicable standards using established procedures in order to document essential processes.

Knowledge Areas:

1. Events that require documentation (e.g., task analysis, safety meetings, on-the-job training, inspections, incident investigations)
2. Safety and health record keeping systems
3. Sources for applicable standards (e.g., consensus standards, government agencies, manufacturers, company policy)
4. Confidentiality requirements

Skill Areas:

1. Writing clearly and effectively
2. Using established documentation procedures and forms
3. Maintaining confidentiality of records

Task 13 (4.6%): Comply with company and STS codes of ethics by resolving issues consistently with these requirements in order to protect the interests of employees, employers, and other stakeholders.

Knowledge Areas:

1. Components of company and STS codes of ethics

Skill Areas:

1. Resolving issues ethically
2. Communicating effectively