

UNDERSTANDING AND INTERPRETING YOUR EXAMINATION SCORE



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The goal of this publication is to help you understand how BCSP sets the passing score for BCSP examinations and how to interpret your examination score report.

CSP Certification Examination Structure

BCSP examinations measure whether candidates meet a minimum standard of knowledge demonstrating competence in professional safety practice. To achieve the CSP, candidates must meet education and experience standards and meet a knowledge standard by passing the Safety Fundamentals and Comprehensive Practice examinations.

For BCSP examinations, the key is not so much how well you score, but simply whether you meet or exceed the passing score, or cut score. BCSP examinations cover knowledge and skills applicable to professional safety practice for which the certification is awarded. Validation studies involving people in professional safety practice identify what subjects are important in practice, how much time practitioners spend on them, and how critical they are in protecting the public. Results from these studies lead to the BCSP examination blueprints which define the content of the examinations. The blueprints establish what portion of the items on each examination are devoted to each major subject area or domain.

The trend today in certification examinations is to construct the examination around the functions and tasks required for practice rather than around major and minor subjects. Based on a large study conducted by BCSP during 1999 involving 1,500 professional safety practitioners, the BCSP examinations have changed from a subject-based outline to one structured around functions and tasks (also called domains and responsibilities) and the knowledge and skills applicable to each task.

The Examination Passing Scores

Each BCSP examination has a single passing score. As a result, CSP candidates must demonstrate knowledge and skills in many areas in order to correctly answer enough items to achieve a passing score.

A candidate's score is based directly on the items answered correctly. There is no penalty for wrong answers. All items have the same weight, regardless of their complexity, length or difficulty.

How BCSP Sets the Passing Score

Many people expect an examination to have a passing score of 70%. This is based on experience on examinations in school in which the instructor arbitrarily sets a passing score for the course. That approach is not acceptable for certification examinations because it is not an appropriate measure of minimum competency.

Others have experience with achievement test scores in which percentiles are reported for test-takers. Parents are excited when their child scores in the 90th percentile or higher. This approach, called normative scoring, is not acceptable for certification examinations because some test-takers influence the scores of others.

For certification examinations, all test-takers must have an equal chance of passing the examination regardless of who sits for it. In addition, the examination is intended to assess who has sufficient knowledge and skills in professional practice to meet the competency standard represented by the passing score.

BCSP uses the most common approach for setting passing scores for certification examinations, the modified Angoff procedure, named after an expert in tests and measurement. The procedure is called a criterion-referenced method, since the passing score is based on the minimally-qualified or minimally-competent candidates for the examination. For BCSP examinations, the procedure requires a panel of experts in safety to individually rate each item on the examination based on "what portion of those candidates, who are just good enough to meet qualification standards, will know the answer." The average rating across all experts and all questions becomes the recommended passing score. The Angoff procedure results in a passing score which provides every candidate the same opportunity to pass the examination. In addition, the passing score reflects the difficulty of the individual items on the examination. If items are difficult or from a limited area of practice, raters would not expect as many to get the answer correct. With each examination revision, the passing score will change in response to item difficulty.

Table 1. Sample Score Report

(This is not your actual score report.)

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SAMPLE EXAMINATION SCORE REPORT

Examinee: (Name goes here)
Report Date: mm/dd/yy
Exam Date: mm/dd/yy
Examination Form: SPSFxx
Authorization Number: TE2xxxxx

Examination: **Safety Fundamentals**
Exam Location: (Testing Center)
Overall Result: Fail
Passing Score: 63.4% of scored items
Examinee Score: 58.3% of scored items answered correctly

The table below lists your results by Domain and Responsibility. Please refer to the full examination blueprint for detailed descriptions of Responsibilities. The blueprint appears in the *CSP Examination Guide*. It can be downloaded from the BCSP web site at www.bcsp.org. **MAX %** shows the percent of the scored examination items devoted to the domain or responsibility. **YOUR %** shows the percent of scored items that you answered correctly. Please note that some of the items included in the examination are not scored because they are developmental questions. These items do not count toward your score and do not impact your pass/fail result. Also note that your reported percent scores may be rounded.

	MAX %	YOUR %
OVERALL EXAMINATION	100.0%	58.3%
DOMAIN/RESPONSIBILITY		
Domain 1. Safety, Health and Environmental Management	37.1%	24.0%
Responsibility 1.	8.0%	5.7%
Responsibility 2.	5.7%	4.0%
Responsibility 3.	5.7%	2.9%
Responsibility 4.	7.4%	2.9%
Responsibility 5.	4.6%	3.4%
Responsibility 6.	5.7%	5.1%
Domain 2. Safety, Health and Environmental Engineering	25.1%	17.1%
Responsibility 1.	6.9%	5.1%
Responsibility 2.	6.9%	2.9%
Responsibility 3.	6.3%	4.0%
Responsibility 4.	5.1%	5.1%
Domain 3. Safety, Health and Environmental Information Management and Communications	32.6%	13.7%
Responsibility 1.	4.6%	2.3%
Responsibility 2.	4.6%	2.3%
Responsibility 3.	4.0%	1.7%
Responsibility 4.	4.0%	1.1%
Responsibility 5.	5.1%	2.9%
Responsibility 6.	3.4%	1.1%
Responsibility 7.	4.0%	1.1%
Responsibility 8.	2.9%	1.1%
Domain 4. Professional Conduct and Ethics	5.1%	3.4%
<i>(Responsibilities are not reported here because of the small number of items.)</i>		

How to Interpret Your Examination Score

When you completed the Safety Fundamentals or Comprehensive Practice examination at the testing center, you received pass-fail information. BCSP later provided you with your official score report showing your performance within each domain and responsibility. A sample BCSP score report appears in Table 1.

If you passed, you may simply be curious about how well you did on the examination overall and within the major and minor areas.

If you failed the examination, you will want to understand how well you scored in each domain and responsibility and use that information to develop a strategy for further preparation before retaking the examination. Certification examinations are very reliable and candidates will usually get the same score when retaking the examination unless they improve their knowledge and skills.

The domains represent major professional safety functions and the sections within domains represent responsibilities.

The score report shows the passing score which must be met to pass the examination and how well you scored.

The scores are percent scores, indicating what percent of the questions on the examination, or within a domain or responsibility, you got correct. Some questions may be developmental and do not count toward candidate scores.

How to Use Your Scores to Prepare for Retaking the Examination

It is not a good idea simply to retake the examination without changing what you know. Otherwise, you are likely to get the same score. Simply retaking the examination is not likely to raise your score. However, you can develop a preparation strategy using your examination score report and other information.

Conduct a Self-Evaluation of Your Knowledge and Skills. You may want to do a self-evaluation of your knowledge and skills related to each domain and responsibility covered by the examination. Simply rate yourself as having strong, moderate or weak knowledge and skills for each domain and responsibility. There is a chart in BCSP's *Examination Guide* that will help you. You can download this publication and its rating charts from www.bbsp.org.

You can also evaluate your self-ratings. You might want to use a highlighter or similar means to color code your strong, moderate, and weak areas. In particular, you will want to read and study materials covering your weak and moderate areas and practice computations applicable to them.

Your weak and moderate areas provide the greatest chance of improving your overall score. These areas have a greater portion of questions that you can change from incorrect to correct to raise your score. There are fewer questions available in your strong areas to increase your overall score.

Evaluate Your Strengths and Weaknesses from Your Score Report. You will want to evaluate your actual examination scores in a similar manner to the self-evaluation process. One approach is to use highlighters or other methods to mark your strong, moderate, and weak areas. Another approach is illustrated in Table 2. The table lists the scores in each domain and responsibility and compares them to the overall passing score. The columns at the right group domains and responsibilities which are above and below the overall passing score. The interpretation identifies performance on domains and responsibilities and suggests how to convert performance information to a preparation strategy. Also, you can compare your self-evaluation to your actual scores. By considering both, you may want to adjust your preparation strategy.

Develop a Preparation Strategy. Develop a plan from your self-evaluation and from your score report for improving your examination performance. Develop a list of readings, a study activity plan, and a schedule for your activities to improve your knowledge and skills. Give priority to your weak and moderate areas for the best chance to increase your overall score.

Use the suggested references for the examination or similar publications. The suggested references are ones which are noted authorities for some examination topics or are publications in print that give reasonable overviews of subjects on the examinations. You do not have to buy them. You may want to borrow them from a colleague or get them on inter-library loan. You may have access to earlier editions or other references covering the same subjects. Typically, the examination items are not derived directly from the references. BCSP examination items are drafted by practicing safety professionals, and many items draw on their professional experience.

You will also want to consider the test-taking suggestions in BCSP's *Examination Guide* (downloadable from www.bbsp.org). Knowing how to take an examination is very important.

Sample Score Report

The score report in Table 1 is an illustrative example and typical of those issued after completing BCSP examinations. **Table 1 is not your actual score report.** The sample is for a Safety Fundamentals examination. The Comprehensive Practice examination score report is very similar, although the distribution of questions may be different.

Table 2. Example Analysis of Examination Results (refer to sample score report) and Interpretation

(For illustration purposes only. All numbers are rounded for simplicity.)

	<i>Score Report Data</i>			<i>Your Performance Relative to Overall Passing Score</i>			
	Max %	Your %	Overall Passing %	Above Overall Passing %		Below Overall Passing %	
				Score Ratio	% of Max	Score Ratio	% of Max
Domain 1. SHE Management	37%	24%	63%	24/37	65%		
R1.	8%	6%	63%	6/8	75%		
R2.	6%	4%	63%	4/6	67%		
R3.	6%	3%	63%			3/6	50%
R4.	7%	3%	63%			3/7	43%
R5.	5%	3%	63%			3/5	60%
R6.	6%	5%	63%	5/6	83%		
Domain 2. SHE Engineering	25%	17%	63%	17/25	68%		
R1.	7%	5%	63%	5/7	71%		
R2.	7%	3%	63%			3/7	43%
R3.	6%	4%	63%	4/6	67%		
R4.	5%	5%	63%	5/5	100%		
Domain 3. SHE Information Management and Communications	33%	14%	63%			14/33	42%
R1.	5%	2%	63%			2/5	40%
R2.	5%	2%	63%			2/5	40%
R3.	4%	2%	63%			2/4	50%
R4.	4%	1%	63%			1/4	25%
R5.	5%	3%	63%			3/5	60%
R6.	3%	1%	63%			1/3	33%
R7.	4%	1%	63%			1/4	25%
R8.	3%	1%	63%			1/3	33%
Domain 4. Professional Conduct and Ethics	5%	3%	63%			3/5	60%

Interpretation of Analysis

Assuming that the examination had 175 items that counted toward the score, the 63.4% overall score means that a candidate must get 111 correct (63.4%) in order to pass. The actual overall score (58.3%) means that the candidate got 102 correct and needed to get nine more items correct in order to pass the examination.

From the analysis, Domain 3 is clearly the weakest area for this candidate. Not only did the candidate score well below (42%) the overall passing score (63%) for this domain, the score for all responsibilities within the domain were below the passing score. This domain provides the greatest opportunity to increase the number of correct items. Because the examination has a high reliability, the candidate must learn the subjects in this domain in order to have a good chance of passing the examination. It would be important to learn more about the knowledge and skills in each responsibility for this domain.

The performance in Domains 1, 2 and 4 was above or near the passing score. These domains provide limited opportunity to increase the overall examination score. Additional study in these domains provides some opportunity to increase the examination score.