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Value of Certification: The Occupational Safety and Health Professional

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BCSP Board of Certified Safety Professionals

- Since 1969 -

The Value of Certification

Presenter:

Cheri Marcham, PhD, CIH, CSP, CHMM, FAIHA





Agenda and Objectives

- About BCSP
- What certification is and what it is not
- Importance of accreditation
- The return on investment of certification
- Identifying the right BCSP certification for you





About BCSP

Mission:

BCSP sets and certifies technical competency criteria for safety, health, and environmental practitioners worldwide; enhancing careers, advancing the profession, protecting the public.

Vision:

Creating a safer world through safety, health, and environmental certification.



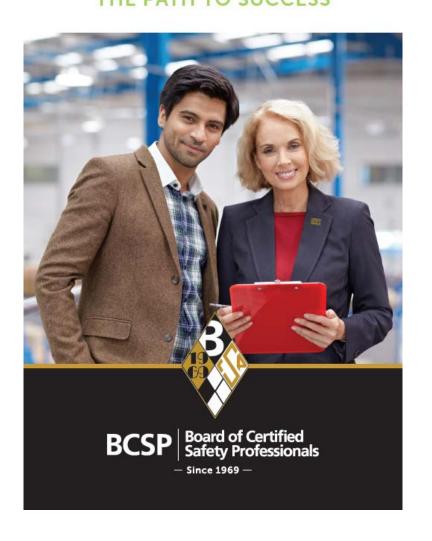
- Since 1969 -



About BCSP

- Established in 1969
- Not-for-profit headquartered in Indianapolis, IN
- 9 14 member Board of Directors
- Not a membership organization
- Internationally recognized
- >49,500 active certifications/designations in 70 countries

SAFETY CERTIFICATIONS THE PATH TO SUCCESS





8 Sponsoring Organizations

- AIHA American Industrial Hygiene Association (1974)
- ASSE American Society of Safety Engineers (1974)
- IISE Institute of Industrial and Systems Engineers (1994)
- ISSS International System Safety Society (1977)
- NESHTA National Environmental, Safety and Health Training Association (2012)
- NFPA National Fire Protection Association (2007)
- NSC National Safety Council (1994)
- SFPE Society of Fire Protection Engineers (1984)



What is Certification?

Certify – to attest authoritatively as meeting a standard.

Webster's Ninth Collegiate Dictionary

Voluntary process

- Set standards
 - Educational
 - Experience
 - Examination
- Evaluates individuals against standards
- Awards certification and use of mark
- Requires continuing professional development

It is NOT

License to practice

Permanent

Membership

Certificate of completion



4	Certification	Certificate	
	Results from an <u>assessment</u> process	Results from an <u>educational</u> process	
	Requires some amount of professional experience	For newcomers and experienced professionals alike	
	Indicates <u>mastery/competency</u> , usually by application or examination	Indicates <u>completion of a course</u> or series of courses with a specific focus	
	Typically results in a designation to use after one's name	Usually listed on a resume detailing education	
	Has <u>on-going requirements</u> to maintain; holder must demonstrate he/she continues to meet requirements	Is the <u>end result</u> ; individual may or may not need to demonstrate knowledge of course content at the end of a set period of time	
	V.2017.11.01 Board of Certified Safety Professionals bcsp.org		



Why is Certification Important?

- Demonstrates competency
- Advances safety professionalism
- Competitive advantage
- Demonstrates credibility
- Sets standards
- Pay and mobility
- Contract qualifications





What is Accreditation?

Accreditation — the formal recognition by an independent body, generally known as an accreditation body, that a certification body operates according to international standards

International Organization for Standardization (ISO)

Why it's important:

- Protects integrity of individual certification programs
- Ensures validity of certifications' development and revalidation
- Enhances authority of certification body
- Promotes public confidence in the competence of individual certificants



Accreditation Organizations for Personnel Certification Bodies

Accrediting Body		SH&E-related certifications*
American National Standards Institute (ANSI)	ISO/IEC- 17024	15

- Approximately 300 EHS certification programs and titles are available in the U.S
- Only a few (15-17) are actually accredited certifications issued by accredited certification bodies (institutions that are themselves evaluated against international standards)
- The BCSP, ABIH and the IHMM are accredited certification bodies that provide the gold standards for credentials most relevant to the EHS professional



Salary Survey 2018

- Joint effort led by BCSP and American Society of Safety Professionals (ASSP)
- 10,282 responses
- Median annual base salary: \$97,000

Findings:

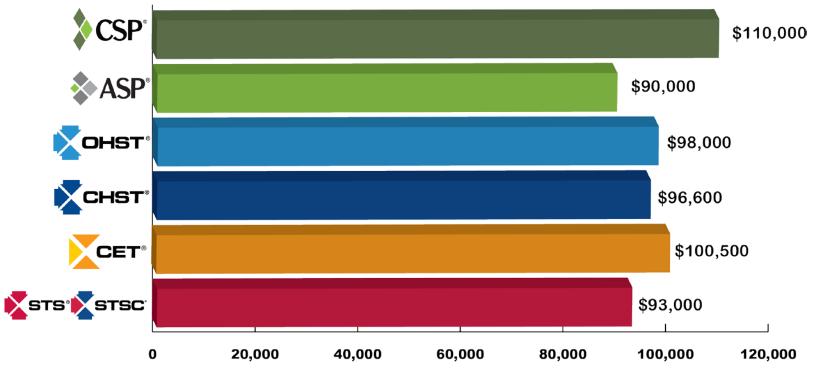
- Certified SH&E professionals typically earn \$20,000 MORE per year than those with no licenses or certifications
- CSP is higher: \$30,000 more per year*

http://www.bcsp.org/SH-E-Practice/Salary-Survey

*compared to their colleagues that perform similar functions but do not hold the CSP

Certification Career Value 2018 Safety Salary Survey

Median Salary by Certification



- Median salaries based on 2018 SH&E Industry Salary Survey <u>http://www.bcsp.org/SH-E-Practice/Salary-Survey</u>
- Note: Many respondents held multiple credentials and there is considerable variation. Caution is advised when attempting to interpret salary survey data.



BCSP Certifications









Certified Safety Professional®

Associate Safety Professional®

Safety Management **Specialist**

Occupational Hygiene and Safety Technician









Construction Health and Safety Technician®

Safety Trained Supervisor®

Safety Trained Supervisor Construction®

Certified Environmental, Safety and Health Trainer®



Four Types of Certification

Professional

- Management
- Technician and Supervisory
- Training



SAFETY CULTURE A Safety Continuum.

Different roles with one common goal...

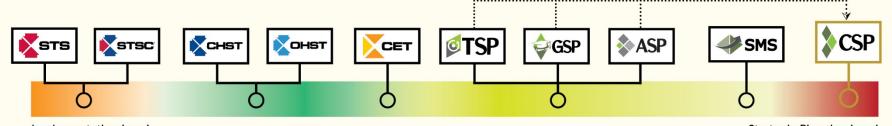
Create a safer workplace.

BCSP fulfills industry and global demand for validating highly competent safety practitioners with varying amounts of formal education and with significant amounts of experience.

BCSP certifications complete the continuum of those impacting the safety culture of their organizations. Strategic Planning
Strategic Plans & Sets Actions
Interprets Plans & Sets Actions
MID-MANAGEMENT

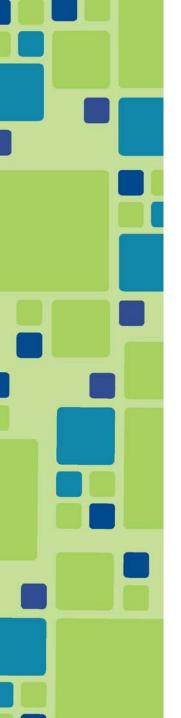
Technical Expertise
MANAGER SUPPORT

Implementation
FRONTLINE



Implementation Level

Strategic Planning Level



Professional Certifications and Designations





Associate Safety Professional®



Transitional Safety Practitioner





CSP Qualifications

Education Requirement

Bachelor's degree or higher in any field from an accredited institution*

Experience Requirement

- 4 Years Minimum
 - •Full-time position (or Part-Time ≥ 900 hrs/yr)
 - •Professional safety is primary function (≥ 50% of position)
 - •Primary responsibility must be the prevention of harm to people, property, or the environment
 - Must be at professional level (responsible charge)

Credential Requirement

 Must hold the ASP, GSP, TSP, CIH, CMIOSH, CRSP, ACRC, CSE, SISO, NEBOSH National or International Diploma in Occupational Health and Safety, Diploma/Certificate in Industrial Safety from Board/Department of Technical Education of the State Governments of India, U.S. Army Combat Readiness Center (USACRC)-Professional Certificate in Safety and Occupational Health (CP-12), or has Member status with the Institute of Safety Professionals of Nigeria



ASP Eligibility Requirements



Minimum Academic Requirement

- Accredited* Associate's Degree in SH&E-related field; OR
- Accredited* Bachelor's Degree in any field

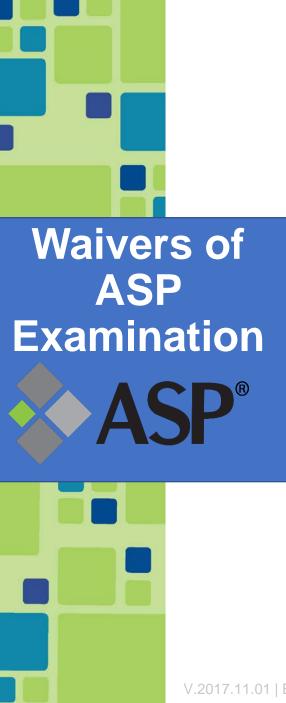
Experience Requirement

• At least one (1) year of experience where safety is at least 50%, preventative, professional level with breadth and depth of safety duties.

Ethics

Commitment to the BCSP Code of Ethics

*Degree Programs and School must be accredited. An accredited school is one that is recognized by the US Department of Education or the Council of Higher Education Accreditation (CHEA) *Note: Non-US transcripts must be evaluated for equivalency through the National Association of Credential Evaluation Service (NACES)



Organization	Credential/Diploma		
American Board of Industrial Hygiene (ABIH)	Certified Industrial Hygienist (CIH)		
Board of Canadian Registered Safety Professionals (BCRSP)	Canadian Registered Safety Professional (CRSP)		
Board of Certified Safety Professionals (BCSP)	Graduate Safety Practitioner (GSP)		
Board of Certified Safety Professionals (BCSP)	Transitional Safety Practitioner (TSP)		
Board/Department of Technical Education, State Governments of India	Diploma/Certificate in Industrial Safety		
Institute of Safety Professionals of Nigeria (ISPON)	Member ISPON (MISPN)		
Institution of Occupational Safety and Health (IOSH)	Chartered Member of IOSH (CMIOSH)		
International Training Centre of the International Labour Organization (ITC-ILO)	Master in Occupational Safety and Health		
National Examination Board in Occupational Safety and Health (NEBOSH)	National and/or International Diploma in Occupational Health and Safety		
Singapore Institution of Safety Officers (SISO)	Member SISO		
State Administration of Work Safety (SAWS), China	Certified Safety Engineer (CSE)		
U.S. Army Combat Readiness Center (USACRC)	Professional Certificate in Safety and Occupational Health (CP-12)		
ety Professionals I bosp org			



Graduate Safety Practitioner

- Designation
- Available to graduates of Qualified Academic Programs (QAPs)



- Recognition for being on a path toward the CSP certification
- Recognition for the level of preparation for professional safety practice
- There is no GSP application fee
- A waiver of the ASP examination requirement for CSP eligibility
- A certificate awarding the GSP designation
- Access to the BCSP Career Center





Transitional Safety Practitioner (TSP)

- Designation
- Available to individuals of Qualified Equivalent Programs (QEPs)
 - CP-12 Professional Certificate in Safety and Occupational Health (CP-12), U.S. Army Combat Readiness Center (USACRC)
 - Master in Occupational Safety and Health, International Training Centre of the International Labour Organization (ITC-ILO)
- The TSP is an alternate path to the CSP and does not replace other paths.

Benefits:

There are numerous benefits for obtaining the TSP designation, including:

- A waiver of the ASP examination requirement for CSP eligibility
- Recognition for being on a path toward the CSP certification
- Recognition for the level of preparation for professional safety practice
- A certificate awarding the TSP designation
- Access to BCSP Career Center





Safety Management Certification



Validates the experience of safety practitioners with more than 10 years of experience, with or without a college degree



SMS Eligibility Requirements

Experience Requirement

 Ten (10) years of safety management experience, 35% of job tasks related to management of safety-related programs, processes, procedures, and personnel

Ethics

 Commitment to the BCSP Code of Ethics







Technician and Supervisory Certifications



Occupational Hygiene and Safety Technician



Safety Trained Supervisor®



Construction Health and Safety Technician ®



Safety Trained Supervisor Construction®



OHST Eligibility Requirements

Experience Requirement

 Have 3 years of experience with 35% of primary job duties in safety and health

Ethics

Commitment to the BCSP Code of Ethics







CHST Eligibility Requirements

Experience Requirement

 Have 3 years of experience with 35% of primary job duties in constructionrelated safety and health

Ethics

 Commitment to the BCSP Code of Ethics





STS & STSC Eligibility Requirements

Training Requirement

30 hours of formal safety-related training

Experience Requirement

• Two (2) years of supervisory experience or four (4) years of industry experience

Ethics

 Commitment to the BCSP Code of **Ethics**









SH&E Training Certification



Certified Environmental, Safety and Health Trainer ®

BCSP offers a SH&E Trainer certification that provides additional career paths to professional trainers.



CET Eligibility Requirements

Training Requirement

 Minimum of 135 delivery hours of training or teaching in any technical or educational SH&E specialty

Experience Requirement

Hold a BCSP-approved credential

Ethics

Commitment to the BCSP Code of Ethics







Active Certifications

ASP	5,175
GSP	3,373
TSP**	103
CSP	18,434
CHST	6,579
OHST	1,982
SMS	1,090
STS	2,685
STSC	7,484
CET	715

Total Certifications/Designations: 47,620

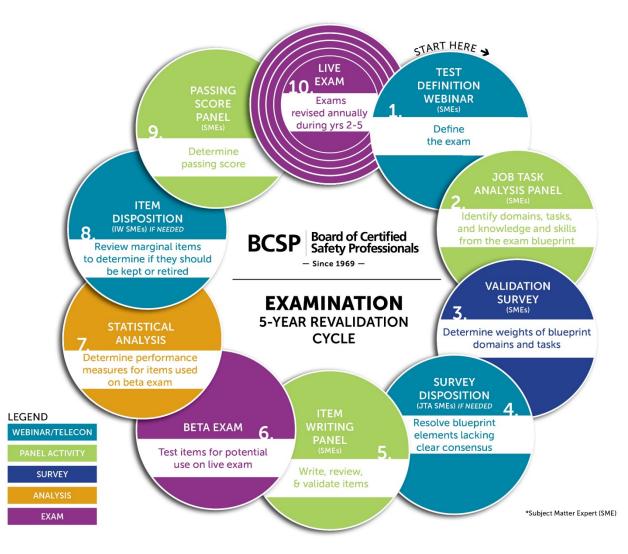
* Numbers are as of October 1, 2018





The Examination Development Process (Psychometric Process)

- Test Definition Webinar
- Job Task Analysis Panel
- Validation Survey
- Item Writing Panel
- Beta Examination
- Statistical Analysis
- Passing Score Panel
- Continuous Improvement





Job Task Analysis

- Representative SMEs who hold the certification gather for 2-3 days
- Identify tasks, knowledge, and skills that the minimally qualified candidate should know to hold that certification



Validation Survey

A different group of SMEs that hold the certification are surveyed as to the importance, criticality, and frequency of use of the tasks knowledge or skills identified in the Job Task Analysis

Survey results frame the examination blueprint

- Domains (areas)
- Knowledge and skills required in those domains
- Relative importance
 - Indicates the number of questions (called items) which should come from each domain and knowledge/skill area



Examination/Item Development

Another group of SMEs gather with a library of safety and health resources to write test questions

- Items must:
 - Be accurate
 - Be relevant
 - Be at the appropriate level of difficulty
 - Have only one correct
 answer
 - Have three credible distractors

- Measure the knowledge or skills in the blueprint
- Be written clearly and concisely
- Be independent from other items on the exam
- Be grammatically correct



Examination/Item Development

The body of the question (the stem), must clearly and completely present the question or problem

- No excess verbiage or teaching in the stem
- No complex sentence structure
- No negatively worded questions
- Avoid subjective or opinion-based questions

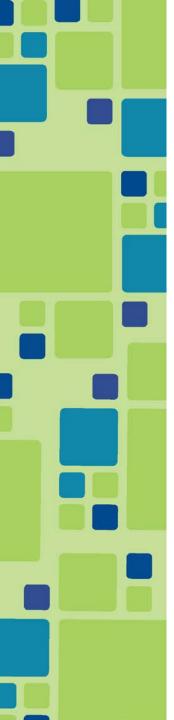
The answers must

- Be a logical extension of the stem (finish the sentence)
- Be of same length, tense and complexity



Examination/Item Development

- All test questions must pass a beta testing process
- Each exam has a certain number of beta items that are not used in the determination of your final score (for the CSP 25/200)
- The results of the response to those beta items are evaluated before allowing it to become a scored item on a future test.
 - Those that are too easy, too hard or are misunderstood are re-evaluated and either rewritten or removed.

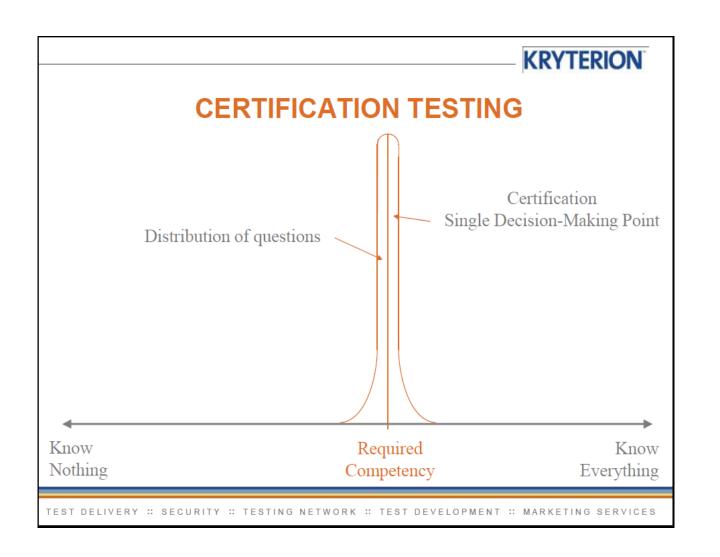


Cut Score Process

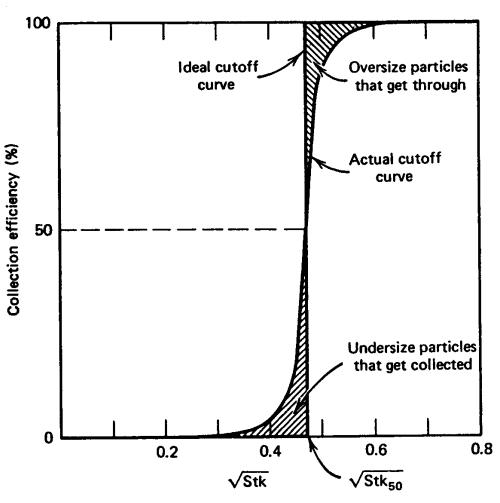
By eliminating both the very easy and the very hard questions, those questions that remain are those that can truly differentiate between candidates who possess the requisite knowledge and skills and those who do not.

This is an important contribution as to why the cut score, or passing score, for an examination is relatively low (usually below 70%) compared to a typical academic-style multiple choice examination.











Cut Score Process

Angoff Method or Modified Angoff Method

- Representative SMEs review each exam question and produce ratings based on whether a minimally qualified candidate would have the experience and knowledge to be able to answer the question.
- The ratings are then evaluated by a psychometrician and an Angoff cut score is calculated.

Passing scores are published

https://www.bcsp.org/Portals/0/Assets/PDF/BCSP-At-A-Glance.pdf

CSP9 99/175 (57.1%)

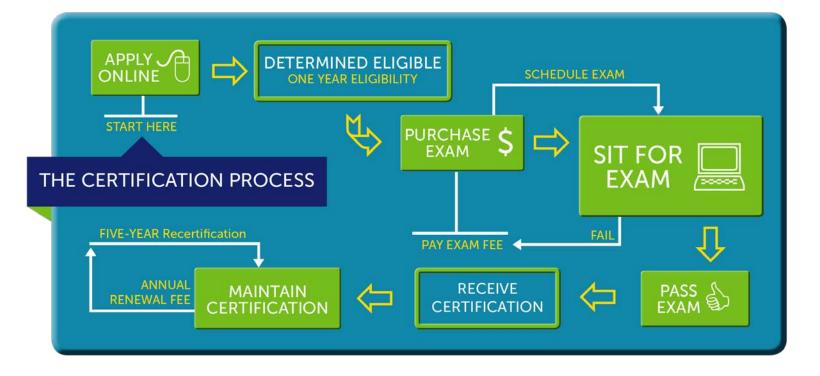
ASP 107/175 (61.1%)



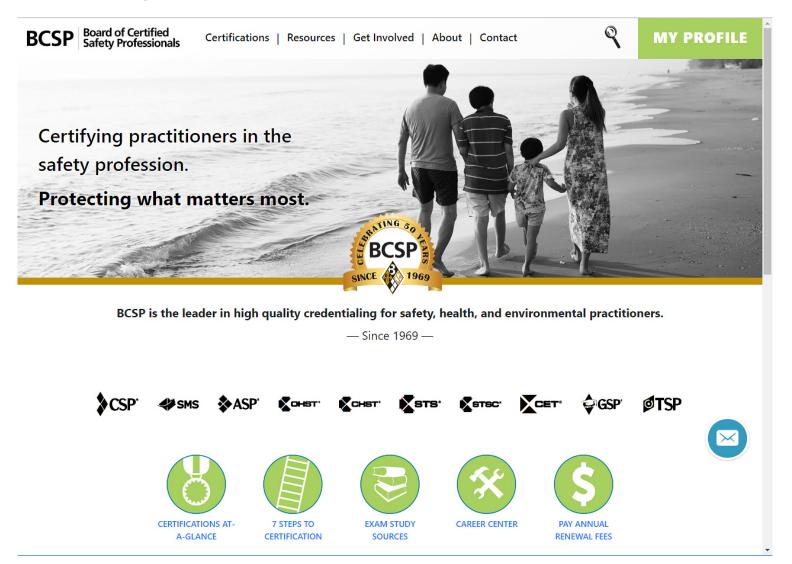
The Certification Process

- Apply online
- Determine eligibility
- Purchase exam
- Pass exam

- Maintain certification
 - Annual renewal fee
 - Recertification



Apply Online: BCSP.ORG





Now Offering an **Exam Bundle!**

REDUCE STRESS WITH A 2ND CHANCE TEST!

Exam bundles include an examination authorization, an online self-assessment, and a second exam attempt if the first is unsuccessful for one reduced price.

Apply Today @







Preparing for the Exam

Blueprint Reference Lists

CSP http://www.bcsp.org/Portals/0/Assets/DocumentLibrary/CSP_References.pdf
ASP http://www.bcsp.org/Portals/0/Assets/DocumentLibrary/ASP_References.pdf

Self-Assessments Online and Exam Bundles Available

https://www.bcsp.org/About/BCSP-News/ArtMID/623/ArticleID/1164/BCSP-Now-Offering-Exam-Bundles

Study Sources

http://www.bcsp.org/Resources/Review-and-Study-Sources

Mentors

http://www.bcsp.org/Resources/Mentoring

Top 10 Things to Know Before Taking the ASP/CSP Exams

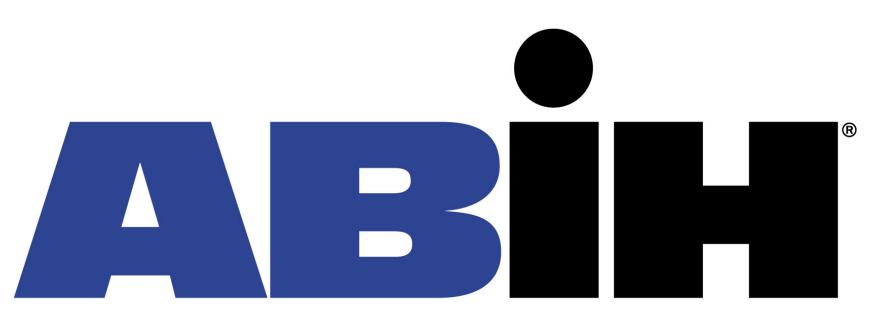
http://www.connectingehs.com/top-10-things-to-know-before-taking-the-aspcsp-exams/



BCSP Giving Back to the Profession

- Application fee waivers to faculty, military and government employees, as well as for graduates from QAP schools for the GSP
- Free recertification quiz questions on the MyBCSP app (http://appstore.com/mybcsp)
- BCSP Foundation created to support our future:
 - In 2017, BCSP awarded \$5,000 scholarships to nine students selected by the American Society of Safety Professionals Foundation, the Associated General Contractors of America, and the American Industrial Hygiene Foundation.
 - BCSP also awarded \$5,000 scholarships to 31 QAPs (Qualified Academic Programs) that were ABET (Accreditation Board for Engineering and Technology) and AABI (Aviation Accreditation Board International) accredited.
 - QAPs are eligible for a gift of up to \$10,000 toward full accreditation or reaccreditation by ABET and AABI. In addition, BCSP provides \$1,000 annually to ABET or AABI accredited programs to help cover costs of retaining accreditation.

In total, BCSP contributed \$262,000 to SH&E students and programs in 2017.



american board of industrial hygiene®



of industrial policy of indust





What is ABIH®?

- Since 1960, ABIH®, a not-for-profit corporation, has been the world's largest organization for certifying professionals in the practice of industrial hygiene.
- Currently, more than 6900 people in 32 countries are certified to use the CIH® credential.
- ABIH® also administers the Qualified Environmental Professional (QEP®) credential for established environmental practitioners and the Environmental Professional In-Training (EPI) designation for earlycareer practitioners.

What is ABIH®?



- Accredited by:
 - ANSI to ISO/IEC 17024
 - National Commission for Certifying Agencies (NCCA)
- Recognized by:
 - International Occupational Hygiene Association (IOHA)









www.ipep.org





QEP – Qualified Environmental Professional

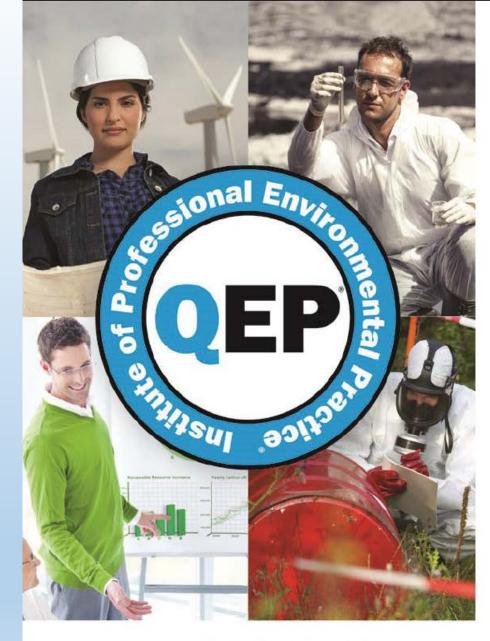
meets application requirements plus 7 years or more experience 2 Part Exam: General Environmental Science + Specialty Exam

QEP Specialty Exams (four choices): Air Quality, Solid & Hazardous Waste, Water Quality, and Environmental Science, Management & Policy

EPI – Environmental Professional In-Training

for graduates and young professionals with up to 7 years experience

1 Exam: General Environmental Science



Protecting the Health of Every Environment

QEP Application & Exam

- Exams Available
 - Air Quality
 - Water Quality
 - Waste Management
 - Environmental Science, Management & Policy
- 3 References, Hard Science Degree
- Reviewed by Committee of QEPs
- Proctored by QEP, computer-based exam
- Multiple choice, 100 questions per exam
- 3 hours per exam
- 5 year CM Cycle

Body of Knowledge - QEP

OEnvironmental Science, Management & Policy

- Environmental Impact, Site Assessment, and Risk Assessment Processes
- Global and Multi-Media Environmental Issues
- Environmental Management Systems
- Pollution Prevention, Design for Environment, and Sustainability
- Development and Implementation of Environmental Public Policy

OWater

- Water Systems- Surface And Groundwater
- Water Quality Assessment
- Collection, Treatment and Disposal (Methods and Unit Operations)
- Protection of the Water Environment

OWaste

- Fundamentals Of Soil And Groundwater Contamination
- Municipal Solid Waste
- Hazardous Waste Management
- Site Remediation Radioactive Waste, Mixed Waste, Medical Waste
- Treatment And Disposal Facility Siting and Risk Communication

OAir

- Fundamentals Of Air Pollution Meteorology
- Air Pollution Control
- Toxic Air Contaminant (Tac) Risk Assessment
- Ambient Air Quality And Source Sampling And Analysis
- Atmospheric Chemistry

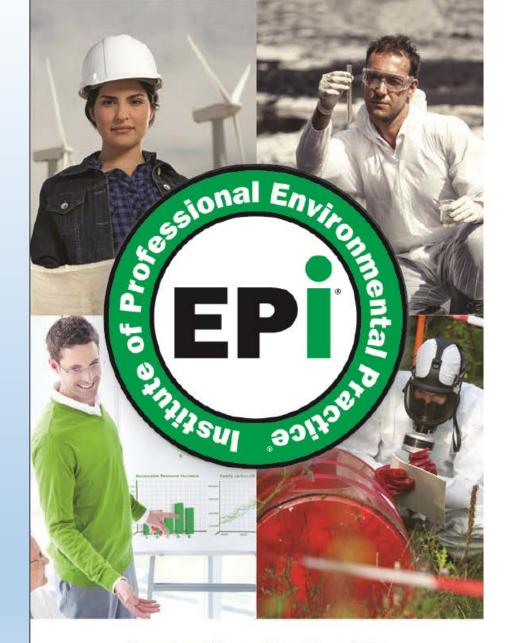
International Presence

There are QEPs in 20 countries.

- •USA
- •UK
- •UAE
- South Africa
- Singapore
- •Saudi Arabia
- •Puerto Rico
- Philippines
- Mexico
- Malaysia



- Kuwait
- Jamaica
- •ltaly
- •Israel
- •India
- Brazil
- Australia
- Bahrain
- •Canada
- Qatar



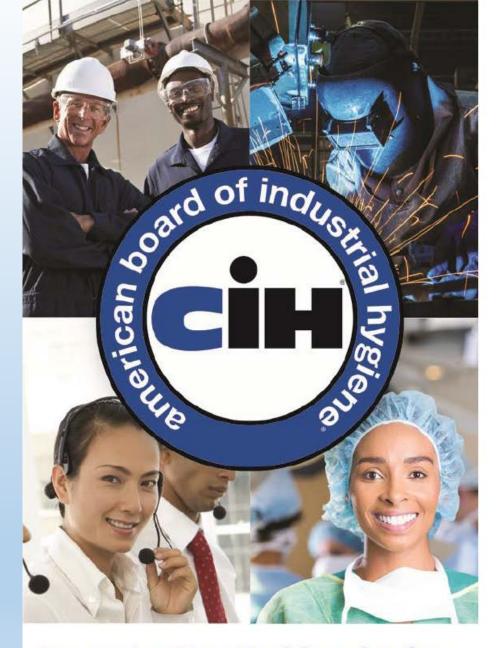
Protecting the Health of Every Environment

EPI Application & Exam

- General Science Content
- 3 References, Hard Science Degree
- Reviewed by Admissions Committee Chair
- Proctored by QEP, computer-based exam
- Multiple choice, 100 questions, 3 hours
- Expires after 7 years

Body of Knowledge - EPI

Sub-Part A, Basic Sciences	Wt %
Chemistry	7
Physics	6
Earth Science/Geology	4
• Ecology	4
Toxicology and Risk Assessment	4
Sub-Part B, Mathematics	
Mathematics/Statistics	5
Data Management	6
Environmental Economics (Risk & Cost Benefit Analysis)	6
Sub-Part C, Environmental Science, Management & Policy	
Environmental Quality Standards	5
Basic Principles of Environmental Systems	5
Cross-Media Impacts of Pollution	4
Health & Safety Requirements	4
Public Information/Community & Regulatory Relations/Ethics	5
Sub-Part D, Waste / Pollution Management, Treatment & Disposal	
Waste Minimization, Recycling, Reuse	6
Hazardous Materials/Waste Management and Transport	3
Fate and Transport of Environmental Contaminants in Air/Water/Soil	5
Principals of Water, Soil & Solid Waste Treatment & Residuals Disposal	7
Air Pollution Control	5
Sub-Part E, Monitoring	
Air Emissions Monitoring & Inventories	5
Surface & Ground Water Monitoring	4



Protecting Your Health and Safety in Every Environment

Eligibility Requirements

Education: Have at least U.S. Bachelor's Degree (or international equivalent with NACES/AICE international degree review)

- <u>Sciences</u>: 60 semester hours of science, math, engineering, or science-based technology (15 hours of the 60 must be at the junior, senior, or graduate level).
- Industrial/Occupational Hygiene: 180
 academic or 240 Continuing-Education
 (CE) hours of coursework where 50% or
 more covers the Fundamentals of IH,
 Toxicology, Measurements and Controls
- Ethics: 2 Hours

Experience: 4 years IH experience in at least 2 of 4 stressors:

- Chemical
- Physical
- Biological
- Ergonomic

Examination:

- 5 hours with an optional 30-minute break
- 150 scored items, 30 pilot-test items

Top 10 Countries with the Most CIHs

December 31, 2017



- 6,259 U.S., Puerto Rico, U.S. Virgin Islands, and Guam
 - 413 Canada
 - 85 China (including Hong Kong)
 - 33 Australia
 - 31 Singapore

- 17 India (moved from 8th to 6th position)
- 13 South Korea
- 12 Malaysia
- 11 Saudi Arabia
- 8 Taiwan (replacing Great Britain)

CIH Application & Exam Process

- \$150 application Fee, completed application
- 2 references, 4-year degree, at least 4-years experience
- Reviewed by ABIH applications manager
- \$350 exam fee
- Spring (Apr-May) and Fall (Oct-Nov) exam windows
- Exam offered at Prometric testing locations
- Multiple choice, 180 questions, 5-hour exam
- \$150 annual fee, 5 year CM cycle

Areas of Expertise Tested on the Exam

- Air Sampling & Instrumentation
- Analytical Chemistry
- Basic Science
- Biohazards
- Biostatistics & Epidemiology
- Community Exposure
- Engineering Controls/Ventilation
- Ergonomics
- Health Risk Analysis & Hazard Communication

- Management
- Noise
- Non-Engineering Controls
- Radiation Ionizing and Non-ionizing
- Thermal Stressors
- Toxicology
- Work Environments & Industrial Processes

Current CIH Exam Emphasis

Exposure Assessment 50%

Hazard Control 35%

Risk Management 15%

Each domain contains multiple topics on the subject matter within that domain. (Reconfirmed Sept 2014 with updated Job Task Analysis)

What are Certification Maintenance (CM) Requirements?



- Collect 40 points every 5 years
- Many ways to gather points
- Ethics (2 hours) required
- Education activities <u>required</u>
- Emphasis on knowledge/skills
- Writing papers/reviews
- Presentations/teaching
- CIH exam development
- Emphasis on volunteerism
- Serving the community
- Serving the profession

Updates to Certification Maintenance (CM)



- Management training, including Leadership, is now allowed, with 5 points (30 hours) cap per cycle
- "IH Ethics" has been changed to "Ethics", and the cap has been reduced from 5 points (30 hours) to 1 point (6 hours)
 - Annual company course must change each year to use more than once
- Local Section Committee Members now qualify for 0.5 CM points per year (scope of the committee must be related to IH

http://abih.org/sites/default/files/downloads/CM%20Changes %202018%20Summary.pdf

http://www.abih.org/maintain-certification/committees

Resources

• CIH Blueprint:

http://www.abih.org/sites/default/files/downloads/2015%20Domains%2 C%20Tasks%2C%20%20Knowledge%20and%20Skilll%20Statements %20Final.pdf

CIH Rubrics:

http://www.abih.org/sites/default/files/downloads/RUBRICDEFINITIONS.pdf

CIH Exam Resources:

http://www.abih.org/become-certified/prepare-exam
https://www.acgih.org/community/certification-exam-resources

QEP and EPI Exam Guide:

http://ipep.org/applications/written-exam/



BCSP Board of Certified Safety Professionals

- Since 1969 -

Thank you and stay safe!

Presenter:

Cheri Marcham, PhD, CIH, CSP, CHMM, FAIHA

