



What is the SH&E Profession?

Safety, health and environmental (SH&E) professionals prevent harm to people, property and the environment by applying principles from engineering, education, psychology, physiology, enforcement, hygiene, health, physics and management. The SH&E professional uses appropriate methods and techniques of loss prevention and control and works in all industries worldwide.

What is Safety Science?

Safety science is a 21st century term for everything that goes into the prevention of incidents, illnesses, fires, explosions and other events, which harm people, property and the environment.

The following are knowledge areas of safety science:

- > **Chemistry and biology** – provide knowledge and effects of hazardous substances
- > **Physics** – tells people about energy that must be controlled to ensure safe use
- > **Ergonomics** – concerned with designing work according to human needs and performance limits, engineering out the risk
- > **Environmental sciences** – provide knowledge about pollution sources and their control, waste disposal, impact studies, environmental alteration and ecology
- > **Psychology** – helps people understand human behaviors that can lead to or avoid incidents
- > **Physiology, biomechanics and medicine** – help people understand the mechanics of injury and illness and how to prevent them
- > **Engineering, business management, economics, sociology and geology** – give people the knowledge to help improve safety in our society and contribute to productivity, quality and profit and incorporate safety management into overall business strategy

What do SH&E Professionals Do?

SH&E professionals have many roles and responsibilities and do at least several of the following:

- > Hazard recognition
- > Inspections/Audits
- > Fire protection
- > Regulatory compliance
- > Health hazard control
- > Ergonomics
- > Hazardous materials management
- > Environmental protection
- > Workers' compensation
- > Training
- > Accident and incident investigations
- > Advising management
- > Record keeping and evaluating
- > Emergency response
- > Managing safety programs
- > Product safety
- > Security
- > Planning, engineering out risk

Salaries and Professional Outlook:

Salaries range from about \$30,000 for safety inspectors to \$150,000+ for highly qualified individuals in demanding positions.

According to *Safety+Health's* 2005 salary survey, 78% of survey respondents earn more than \$50,000 per year. Of those with 5-10 years of safety experience, 48% made between \$50,000 and \$80,000 per year. 36% of SH&E professionals with more than 20 years of experience are making more than \$100,000 per year. The U.S. Department of Labor (DOL) noted the median annual earnings of occupational safety and health specialists and technicians were \$54,920 in May 2006.

According to the DOL 2008-09 Occupational Outlook Handbook, "Employment of occupational health and safety specialists and technicians is expected to increase 9% during the 2006-16 decade."

How to Become a SH&E Professional?

High School Preparation:

- > Learn about ASSE Chapters and Student Sections near you, attend meetings and talk to SH&E professionals about their careers.
- > As you learn about safety problems, incidents or disasters in the news, consider how these events could have been prevented.
- > Do a science project on job safety or health, consumer product safety, traffic safety, fire protection, etc.
- > Check out ASSE's NexSteps at www.nexteps.org for SH&E job openings, a good way to view the qualifications employers are looking for.
- > Consider SH&E degree programs from accredited colleges and universities. For more information on higher education accreditation visit the ASSE listing of colleges that offer degrees in safety and related specialties at www.asse.org, the Council for Higher Education Accreditation at www.chea.org, the U.S. Department of Education at www.ope.ed.gov/accreditation, or the Accreditation Board for Engineering and Technology (ABET) at www.abet.org.

Community and Technical Colleges, Universities and Graduate Study:

Many community and junior colleges offer an associate degree in safety or a related field. A bachelor's degree (usually four years) in SH&E provides a solid foundation for work as a SH&E professional. About 40% of today's safety professionals have advanced degrees, some graduated with a bachelor's degree in a non-safety field.

Continuing Education and Certification:

Because safety professionals have a direct impact on public safety and health, many organizations encourage SH&E professionals to achieve credentials in addition to their educational degrees. These credentials might include licenses, registration and professional certification. The ASSE Foundation offers scholarships for continuing education and new students.

Where SH&E Professionals Work?

SH&E professionals work in a wide range of sectors, including manufacturing, transportation, mining, government, schools and hospitals. Examples of companies that employ SH&E professionals include: Disney, NASA, Hasbro, Kraft, GM, CNA, AON, Madison Square Garden, Nike, Toyota, and numerous small companies.

It is common for companies to employ SH&E professionals at particular worksites. In recent years, SH&E professionals are working more in diverse and non-traditional worksites as many job opportunities expand to government, construction, transportation, service industries and consulting practices, among others. SH&E professionals have opportunities to become corporate safety managers/directors/vice presidents with responsibilities for leading and managing the safety functions at a corporation or organization.

Based on a 2008 Board of Certified Safety Professionals (BCSP) salary study, SH&E professionals work in:


- > 38.3% in Manufacturing
- > 18.8% in Insurance and Finance
- > 10% in Professional, Scientific and Tech Services
- > 8.8% in Public Administration and Government
- > 8.4% in Construction
- > 5.2% in Mining
- > 5.1% in Utilities

Specialty Areas:

SH&E professionals work in many industries, job settings and specialties. Here are examples of some specialty areas:

- > Occupational Safety & Health
- > Industrial Hygiene
- > Environmental Safety
- > Fire Protection Engineering
- > Ergonomics
- > System Safety
- > Risk Management
- > Loss Control, Loss Prevention and Risk Control
- > Chemical Process Safety
- > Construction Safety
- > Institutional Safety Management
- > Transportation Safety
- > Mining Safety
- > Safety Research and Risk Assessment
- > Workers' Compensation
- > Radiation Safety

For More Information Go To:

- > The American Society of Safety Engineers (ASSE):
www.asse.org
- > ASSE's NexSteps career site:
www.nexsteps.org
- > ASSE Foundation's Career Guide to the Safety Profession:
www.asse.org/foundation/publications/careerguide.php
- >  ASSE's North American Occupational Safety and Health (NAOSH) Week and Occupational Safety and Health Professional Day site:
www.asse.org/naosh
- > The Board of Certified Safety Professionals (BCSP):
www.bcsp.org
- > The Accreditation Board for Engineering and Technology (ABET):
www.abet.org
- > The DOL Occupational Outlook Handbook, 2008-09, "Occupational Health and Safety Specialists and Technicians":
www.bls.gov/oco/ocos017.html



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AMERICAN SOCIETY OF SAFETY ENGINEERS

Protecting people, property and the environment since 1911.



YOUR GUIDE TO A CAREER IN THE

**Occupational Safety,
Health and
Environmental Profession**