



The Value of Environmental Health and Safety at Colleges and Universities

In 2019 the CSHEMA Advocacy Council was asked to develop key messages for university leaders—including research, business, and facilities leadership—to help them understand the value and role of environmental health and safety (EHS) at their institutions. These messages explain why support for, and partnerships with, EHS facilitate their goals and the institution's greater mission.

College and universities operate more efficiently and effectively when EHS has sufficient resources, when it is included in EHS-related decision making, and when our expertise and capabilities are recognized and respected.

The Value of EHS

EHS' unique and core competencies with respect to other units on campus:

- Expertise in identifying and understanding the risks that could lead to accidents, injuries, property loss, and noncompliance with safety and environmental laws.
- Experience in designing and implementing programs that effectively minimize risks and maintain compliance and are practical for an academic environment.
- In-depth knowledge of safety and environmental laws, and their applicability and interpretation on a campus.
- Understanding and appreciation of the dynamics of scientific research and associated laboratory activities.
- Expertise in the identification of prerequisites, procedures, and systems that prevent research and laboratory accidents, injuries, and property loss.
- Expertise in multiple technical areas pertinent to teaching, research and campus operations, including health physics, recombinant DNA, chemistry, machine guarding, public health, and ergonomics.

EHS professionals attain these core competencies through specialized education, training and experience.

EHS' value proposition

- EHS' work prevents and minimizes campus accidents and injuries and property loss, thereby minimizing lost time, workers' compensation costs, property claims, and liability.
- EHS' work maintains compliance with safety and environmental laws, thereby reducing the risk of citations and fines.
- EHS can identify and plan for emerging risks.
- EHS activities serve to protect the image and reputation of the institution.

Messaging: Explaining EHS to Others

EHS has valuable expertise and skills. But EHS also cares deeply for the safety of our faculty, students, staff, and visitors—as well as protection of the environment.

Messaging EHS' Value

Safety, health, and environmental protection is integral to every person and unit on campus—faculty, staff, students, visitors, contractors and the local community, as well as all schools and departments—academic, research, and operations.

EHS works to ensure the college or university's compliance with OSHA, EPA, and NRC laws, as well as NIH standards and building codes. EHS also oversees compliance with many other federal, state, and local regulations for safety, health, and environmental protection.

Explaining How EHS Works

Operationally, EHS is typically divided among fire safety, research safety, environmental affairs, and occupational safety and health. The scope of some EHS programs include sustainability, emergency management, risk management, and healthcare safety.

EHS relates to other administrative units in the spirit of cooperation, partnership, and collaboration. We continually strive for a better understanding of research ambitions, strategic objectives, and obstacles to overcome—and are eager to help others.

Safety, health, and environmental protection constantly changes as the campus changes, as the risks of higher education and research change, and as standards change.

As a result, EHS is agile in their ability to expand their expertise and capacity and reallocate their resources.

Key Messages to University Leadership

- EHS has unique expertise, skills, and capabilities that reduces costs and risks.
- EHS is an investment in reducing accidents, injuries, exposures, workers' compensation costs, and property loss.
- EHS is an investment in preventing non-compliance, fines, and penalties.
- EHS provides critical "mission support" for teaching, research and service.
- EHS cost-effectively supports the faculty, which gives them more time to teach and conduct research.
- EHS provides necessary services to researchers and operations staff.
- EHS provides institutional oversight required for the use of radioactive materials and rDNA, and by other safety laws. The Radiation Safety Committee and the Institutional Biosafety Committee oversee millions of dollars of funded research.
- EHS facilitates institutional initiatives. Examples include code-compliant construction, the safety of maker spaces, field studies, and international travel, as well as compliance with export laws.

Key Messages to Research Leadership

- EHS has unique expertise and "boots on the ground" to provide helpful services, identify laboratory risks, and prevent accidents.
- Due to frequent interactions with researchers, EHS has a deep understanding of emerging science, and its risks and potential impacts.

- EHS facilitates international collaboration and research using nanomaterials, high-powered lasers, and new genetic engineering technologies. Examples include preventing laboratory accidents, promoting safety culture, facilitating shipments of research materials between collaborators, and the oversight of clinical trials and research using CRISPR.
- EHS ensures the safety of STEM engagement programs.
- Historically, the collateral damage of unsafe research has been all research. Serious accidents harm science's reputation and often result in more regulation.

Key Messages to Business Operations

- EHS has expertise in hazardous materials and laboratories and can mitigate incidents that involve them.
- EHS identifies, fixes, and prevents hazards, which reduces accidents, lost time, and workers' compensation costs. Examples include interventions in dining and research animal care to reduce slips, trips, falls, and back injuries.
- EHS has expertise in understanding complex environmental laws that set standards for drinking water, discharges, air emissions, and hazardous waste. EHS programs protect the environment and comply with existing and new laws.
- EHS has the skill to respond to campus emergencies and mitigate their impact. Examples include floods caused by the weather or a plumbing failure or responding to a power outage in a laboratory building.
- EHS is first to identify many of the emerging risks that might adversely affect the institution.

Key Messages to Facilities Leadership

- EHS evaluates the safety and OSHA compliance of the institution's buildings.
- EHS has special expertise in ventilation. EHS understands the safety standards for mold and other air contaminants, hoods, local exhaust, and biological safety cabinets. EHS has the capacity to measure contaminants and air quality. EHS has the expertise to resolve the sometimes-conflicting goals of sustainability and energy conservation, and the problems that arise from increasingly complicated HVAC control and balance systems.
- EHS oversees the environmental compliance of facilities operations and the institution's buildings. EHS obtains and maintains permits for remediation, air emissions, stormwater, and other water discharges. EHS can provide guidance on managing refrigerants to reduce maintenance and energy costs, reduce greenhouse gas emissions, and comply with EPA rules.
- EHS facilitates safety and OSHA compliance for facilities operations and staff. EHS implements programs and training in hazard communication, asbestos awareness, personal protective equipment, respiratory protection, fall protection, electrical safety/arc flash, lock out/tag out, machine guarding, hot work, forklift safety, ergonomics and lifting, and other specialized safety topics. EHS helps Facilities reduce OSHA recordable injuries and workers' compensation costs.

- EHS has special expertise in laboratory design, including biological containment (e.g., BSL-2), and code requirements for flammables, explosives, and gases. EHS' familiarity with both research needs and building systems helps them solve facility safety problems.
- EHS has other expertise to help design safe buildings. EHS staff are most knowledgeable of OSHA standards, and state and local building safety, life, health, and fire codes, and their interpretation and enforcement. Early EHS involvement in construction and renovation reduces costs by preventing changes and corrections.
- EHS partners with Facilities to respond to campus emergencies, such as fires, environmental releases, flooding, interior water damage, etc.

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