

# ***Iowa State University College of Engineering Safety Commitment***

## **1. Introduction**

The safety of all Iowa State University (ISU) students, faculty, staff, and visitors is the highest priority of Iowa State University ([www.ehs.iastate.edu/publications/policies/univsafety.pdf](http://www.ehs.iastate.edu/publications/policies/univsafety.pdf)). Iowa State University's College of Engineering is committed to providing an environment that supports the health and safety practices of its community (faculty, staff, students, visitors) and empowers the community to be responsible for the safety of others. This safety commitment document outlines the commitment to maintain a safe learning and working environment in all engineering college spaces and off-campus activities of the engineering college. This includes shops, labs, classrooms, and offices.

## **2. Roles and Responsibilities**

Realization of a safe and healthy work environment requires attention and accountability of individuals at every organizational level, including the Dean, Associate Deans, Department Chairs, Directors, Faculty, Principal Investigators, Laboratory and Shop Supervisors, all other employees and students.

### **2.1. ISU Employees**

Every ISU employee is expected to follow all applicable practices and procedures contained in ISU safety manuals and policies which includes, at a minimum, completing designated training and reporting hazardous or unsafe conditions to the laboratory or shop supervisor, principal investigator, department safety contact, and/or professional from the Iowa State University Department of Environmental Health and Safety (EH&S). All employees working in areas that may expose them to substances or conditions that could be hazardous to health, must be evaluated by EH&S for exposure and associated risk. Any questions regarding substances or conditions that are of concern should be addressed to EH&S.

### **2.2. Environmental Health & Safety**

While safety is a responsibility that is shared across all individuals, the professionals of EH&S are the main source of domain area expertise that guides our safety culture. The EH&S Department has the authority and responsibility to promote compliance with all University, federal, state, and local regulations by interpreting standards and disseminating procedures and policies to assure University compliance. EH&S professionals are responsible for monitoring compliance, evaluating potential health hazards, and depending on severity, lead or assist with investigating safety incidents. EH&S professionals partner with administrators, principal investigators, staff, laboratory and shop supervisors, instructors and students to support a strong, positive safety culture. They offer collaboration and support in meeting the responsibilities of this commitment. EH&S roles and responsibilities include but are not limited to:

- Develop compliance assistance programs for ISU based on federal, state and local rules and regulations.
- Oversee the adoption and implementation of the Laboratory Safety Manual and/or Shop Safety Manual by individual departments.
- Designate a Chemical Hygiene Officer to oversee the laboratory safety program.
- Conduct periodic safety surveys in accordance with EH&S safety manuals.
- Update and administration of relevant training through LEARN@ISU.

### **2.3. College and Department Leadership**

Leaders of the college should ensure that the areas of research and education undertaken by the institution are ones it has the ability and capacity to perform safely. Deans are responsible for the safety of the activities and locations under their administrative control by ensuring the adoption and

implementation of the ISU Safety Manuals and policies. Roles and responsibilities include, but are not limited to:

- Effectively communicating the importance of a strong culture of safety to all members of the college.
- Working collaboratively with department chairs, faculty and staff toward the common goal of supporting a strong culture of safety.
- Working collaboratively with EH&S personnel.
- Leading by example, by modeling good safety behavior.
- Convening the College of Engineering Safety Committee.

Department Chairs are responsible for the safety of the activities and locations under their administrative control by ensuring the adoption and implementation of the ISU safety manuals and policies. To assist with this, chairs may designate a department safety contact. The department chair will clarify any additional responsibilities and authority of the department safety contact. The chair will also communicate these responsibilities to faculty, staff and students.

Roles and responsibilities include, but are not limited to:

- Effectively communicating the importance of a strong culture of safety to all members of the department.
- Working collaboratively with faculty and staff toward the common goal of supporting a culture of safety.
- Working collaboratively with EH&S personnel.
- Leading by example, by modeling good safety behavior.
- Ensuring that all safety incidents are reported and investigated.

#### 2.4. Department Safety Contact

Department chairs must designate a Safety Contact that will act as a point of contact for this effort for the department. The department chair shall be the Safety Contact unless otherwise designated.

The Departmental Safety Contact (DSC) assists laboratory and shop supervisors in adapting requirements of ISU Safety Manuals and policies to laboratories and shops. Roles and responsibilities include, but are not limited to:

- Assist laboratory and shop supervisors in adapting the requirements of ISU safety manuals and policies to individual laboratories and shops.
- Disseminate information published by EH&S to departmental faculty and staff.
- Ensure appropriate safety protocols are in place for all students.
- Act as a conduit of departmental information and concerns to EH&S.
- Help facilitate EH&S safety surveys for all spaces under their administrative control.
- Act as department representative on the College of Engineering Safety Committee.

#### 2.5. Principal Investigators, Laboratory and Shop Supervisors, and Instructors

Principal Investigators, Laboratory and Shop Supervisors, and Instructors are responsible for ensuring ISU safety manuals and policies are strictly followed by all employees, collaborating researchers, visitors, and students under their jurisdiction. They are also responsible for the implementation of all recommendations made by the EH&S professional during safety surveys.

Roles and responsibilities include but are not limited to:

- Work with Department Chair to identify and allocate resources as deemed appropriate and needed for implementation and maintenance of laboratory or field safety needs.

- Ensure that supervisors and lab personnel understand and implement responsibilities as listed and assumes responsibility for workplace and/or laboratory space, including field sites, and safe operation.
- Participate in appropriate safety training.
- Implement the curricular goals for safety education of students.
- Ensures that principle-based safety education and specific safety training is provided to students, laboratory and shop personnel, and staff within their workplace and/or laboratories.

## 2.6. Undergraduate and Graduate Student Employees, Postdoctoral Scholars, Staff and Research Personnel

Undergraduate and graduate student employees, postdoctoral scholars, staff and research personnel are expected to observe all applicable safety practices and procedures contained in the ISU safety manuals and policies, complete all designated trainings, and report any unsafe or hazardous conditions. Roles and responsibilities include, but are not limited to:

- Be mindful of the potential risk to their safety and those of their neighbors in the lab, field, shop, studio and in the classroom.
- Stop any experiment that is potentially unsafe and notify their supervisor.
- Immediately report all accidents and incidents to their supervisor.
- Follow all verbal and written laboratory safety rules, including the appropriate use of personal protective equipment (PPE), regulations, and standard operating procedures required for the tasks assigned.
- Conduct a hazard assessment prior to conducting any experimental procedure.
- Incorporate considerations of safety into presentations and lab meetings.
- Discuss lessons learned from accidents, incidents, and near misses with supervisor(s) and fellow researchers.

## 2.7. Student Organization Advisor

Student Organization Advisors are responsible for ensuring that the requirements and guidelines established in the ISU safety manuals and policies are strictly followed by all students in the organization(s) they advise. They are also responsible for the implementation of all recommendations made by the EH&S professional during safety surveys. Roles and responsibilities include, but are not limited to:

- Understand and abide by the Student Organization Recognition Policy (SORP) and applicable ISU Polices, local, state and federal laws.
- Be aware of university policies and attitudes of the faculty and administration and help the organization understand limits, restrictions, and avenues for achieving its objectives in a safe manner.
- Understand the organization, its purpose and goals and help the organization evaluate its purpose and goals with respect to the program(s) it is providing.
- Be aware when a student organization is traveling, using university vehicles, hosting activities where youth are present, engaging in higher risk activities, or submitting documentation during the event authorization process.
- Ensure all verbal and written safety rules, including the appropriate use of personal protective equipment (PPE), regulations, and standard operating procedures required for the tasks assigned, are being followed.

## 2.8. Off-Campus Activity Supervisors

In addition to the roles and responsibilities of faculty and academic laboratory and shop supervisors, supervisors of activities that occur off campus must follow all relevant ISU policies for such activities and should consult with ISU EH&S whenever possible to ensure that these activities conform to all relevant standards.

### **3. Surveys**

EH&S performs routine laboratory and shop surveys for safety hazards and compliance. These surveys will involve an EH&S professional as well as a member of the accountability team for that space. The results of this survey will be shared with all members of the accountability team. The EH&S professional will recommend corrective actions for identified hazards. The Principal Investigators and Shop Supervisors will be responsible for implementation and follow through on corrective actions.

### **4. Laboratory & Shop Safety**

Working safely in a laboratory or shop does not happen by accident. Planning laboratory or shop processes will help identify hazards, establish hazard control measures and ultimately increase personnel safety. Process planning must begin with the Principal Investigator, laboratory group, or laboratory or shop supervisor completing a hazard assessment and developing standard operating procedures.

#### **4.1. Standard Operating Procedures**

A standard operating procedure (SOP) is a set of written instructions that describes, in detail, how to perform a laboratory or shop process safely and effectively. Principle investigators or supervisors are responsible for ensuring that accurate SOPs are developed and implemented in their laboratory or shop.

#### **4.2. Site-Specific Safety Manuals**

Every shop and lab space is required to have a safety manual available on demand that outlines all relevant policies and standard operating procedures for the space. For laboratories, refer to ISU's Laboratory Safety Manual and for Shops refer to ISU's Shop Safety Manual. These safety manuals can be found on ISU's EH&S's website ([www.ehs.iastate.edu](http://www.ehs.iastate.edu)).

#### **4.3. Safety Data Sheets (SDS)**

Safety Data Sheets are required to be accessible in every shop and laboratory for each chemical present. These must be maintained and updated. These will be checked and confirmed as part of the annual inspection of each space.

#### **4.4. Personal Protective Equipment (PPE) Requirement**

The required personal protective equipment will be posted on the outside of the door of the laboratory or shop space. No one without the appropriate personal protective equipment should be allowed in the space. Appropriate personal protective equipment will be identified by completing a PPE Assessment Form or SOP.

### **5. Training Requirements**

The creation of a safety culture begins early in the time that an engineering student engages with the college. With that in mind there shall be safety awareness training integrated into the engineering orientation courses offered by the departments and the college to our undergraduates and there shall be a session in each departmental graduate seminar series focused on safety.

#### **5.1. General Safety**

All users of shops and labs in the engineering college or those that will be participating in an off-campus activity are required to have documentation of having taken and passed the general safety training within the recommended training interval.

## 5.2. Equipment-Specific Training

All users of laboratories and shops in the engineering college are required to have documentation of having taken and passed the equipment-specific safety training within the recommended training interval for all pieces of equipment that they plan to use. If there is equipment to be used on an off-campus activity, participants must have documentation of having taken and passed the equipment-specific safety training within the recommended training interval for all pieces of equipment that they plan to use.

## 5.3. Materials-Specific Training

All users of laboratories and shops in the engineering college are required to have documentation of having taken and passed the hazard-specific safety training within the recommended training interval for all hazards that may be encountered. This includes all chemical, biological, radiological and physical hazards. If there are hazards to be used on an off-campus activity, participants must have documentation of having taken and passed the hazard-specific safety training for the recommended training interval.

## 5.4. Travel

Individuals wishing to leave campus for university-related activities must meet all of the requirements as established by the Iowa State University Transportation Services (<http://www.transportation.iastate.edu>). Any questions or concerns regarding employees traveling to hazardous areas in the states or world should be addressed to the University's Risk Management office. All individuals traveling must follow the University's travel policies.

## 5.5. Documentation of Training

Documentation of completed training must be maintained in, or be accessible from, the facility in which the individual will be working.

# 6. Incidents

All work-related injuries, illnesses, exposures or near misses must be reported to the employee's supervisor, even when medical action is not required or is refused by the employee.

## 6.1. Emergency

In the event of an emergency, call 911.

## 6.2. Reporting

All incidents involving employee injuries must be reported through the ISU Incident Portal within 24 hours of the incident. Incidents involving non-employees (students & visitors), property damage, motor vehicle accidents and near misses can be reported through the [ISU Incident Portal](#).

## 6.3. Investigation

Upon receipt of an incident or near-miss event, the Supervisor will perform an investigation of the incident and determine the appropriate corrective actions. Upon the submission of an incident report through the ISU Incident Portal, the supervisor will receive an email with a series of questions to be completed and emailed back to the Incident Portal within 24 hours of receipt. Contact EH&S at (515) 294-5359 for guidance and assistance, especially when a serious injury or major loss occurs.

## 6.4. Student Incidents and Injuries

Students not employed by ISU who are exposed or injured (non-life threatening) in the classroom, laboratory, or shop should seek medical attention at Thielen Student Health Center. All incidents and injuries sustained by ISU students while in academic classes, shops, or events sponsored by the University must be reported to the Office of Risk Management by the student and a university representative using the ISU Incident Portal.

## 7. College of Engineering Safety Committee

This committee is established by the College of Engineering Dean. The role of this committee is to share best practices and advance initiatives that continuously improve the safety culture for all faculty, staff and students in the College. This committee reports to the Associate Dean of Operations & Planning. It consists of the safety contact from each department and the College EH&S representative. The committee meets at least once each semester.

### Accountability Matrix

Space/ Activity	Accountable			
	Local Supervisor	EH&S Professional	Safety Contact	Administrator
Teaching Lab	Lab Supervisor	EH&S Staff	Department Safety Contact	Department Chair
Research Lab Department Affiliated	Principal Investigator	EH&S Staff	Department Safety Contact	Department Chair
Research Center Department Affiliated	Center Director	EH&S Staff	Center Safety Contact	Department Chair
Department Lab – Shared Space	Individual defined by department	EH&S Staff	Department Safety Contact	Department Chair
Research Center College Affiliated	Center Director	EH&S Staff	Center Safety Contact	Associate Dean for Research
Student Organization Department Affiliated	Faculty Advisor	EH&S Staff	Department Safety Contact	Department Chair
Student Organization College Affiliated	Faculty Advisor	EH&S Staff	Director of Student Services	Associate Dean for Academic Affairs

### Department Safety Contacts

Aerospace Engineering  
 Agriculture & Biosystems Engineering  
 Chemical and Biological Engineering  
 Civil, Construction, and Environmental Engineering  
 Electrical and Computer Engineering  
 Industrial and Manufacturing Systems Engineering  
 Materials Science and Engineering  
 Mechanical Engineering

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