

Therkildsen Industrial Engineering Building Governance

SECTION A: General Information

Facility Name and Location

- Therkildsen Industrial Engineering Building, 531 Bissell Road, Iowa State University

Mission statement

- The mission of the Therkildsen Industrial Engineering Building is to provide a safe, welcoming space for learning, exploration, and innovation for students, faculty, and staff

Governing Body Composition

- Facility manager: Mr. Aaron Jordan
- IMSE Department Chair: Dr. Sarah Ryan
- Representative on College of Engineering Safety Committee: Mr. Aaron Jordan
- Representative on College of Engineering Information Technology Committee: Mr. Mike Renze
- Associate Chair for Undergraduate Education: Dr Frank Peters
- IMSE Graduate Program Coordinator: Ms. Jess Severe

Relevant Regulatory Compliance Standards

- Laboratory Safety Standards (ISU EH&S):
<https://www.ehs.iastate.edu/>
- International Traffic in Arms Regulations (ITAR)
<https://www.policy.iastate.edu/policy/export>
- Family Educational Rights and Privacy Act (FERPA):
<https://www.registrar.iastate.edu/resources/policies/ferpa-need-to-know>
- Institutional Review Board (IRB):
<https://compliance.iastate.edu/research-ethics-compliance/irb/>



SECTION B: Overview

1. Operational Policies and Procedures

- Building Access and Security
 - Open to the public from 7:00 am until 11:59 pm Sunday through Thursday, 7:00 am until 9:00pm Friday and Saturday during the academic year, except university holidays
 - Open to the public from 7:00 am until 5:00 pm Monday through Friday during the summer
 - Open to faculty, staff, and graduate students 24/8 with ISUCard access
- Building Culture
 - The 5S culture is encouraged throughout all spaces in the building. This philosophy will be facilitated in shared and public spaces.
- Equipment Maintenance and Replacement
 - For building/facility emergency situations call ISU Building Maintenance (515-294-5100).
 - For issues with laboratory equipment contact the department's teaching lab specialist: Mr. Aaron Jordan.
 - For issues with information technology equipment contact the department's information technology specialist: Mr. Mike Renze.

2. Space Allocation and Maintenance Policies

- General Principles
 - Space allocation to specific rooms in the Therkildsen IE Building will be dynamic, on an as needed basis and will be set by the department chair.
 - Many of the spaces in the Therkildsen IE Building will be shared among faculty, staff, and students. Any conflicts related to space usage, cleanliness, inter-personal etiquette should first be addressed by the individual parties, then the supervisor of the space and finally the department chair.
- Allocation of Space
 - Human Factors and Ergonomics Labs: Space will be allocated by consensus among the HF/E faculty. If agreement cannot be reached, the department chair will be the final arbiter.
 - Graduate Student Offices: Space will be allocated by the department's director of graduate education with the assistance of the graduate support specialist with input from the faculty supervising the graduate students. Graduate student office space is a privilege that can be revoked.
 - Flex-Lab Space: Space will be allocated by the department chair, who will develop a process of applying for the space for a designated period of time.
 - Conference Rooms, Huddle Rooms, Teaming Rooms and Study Rooms: These spaces can be reserved through the central online reservation system. Huddle Room doors will have a physical "Occupied/Available" sign posted.

3. Change Management

- Equipment Replacement:
 - For issues with IMSE-owned equipment contact with the associate chair for undergraduate education.
 - For issues with information technology equipment in university classrooms, see ISU ITS.

4. Safety and Health

- General
 - The diversity of spaces and uses throughout the Therkildsen IE Building requires that all users have full training in the use of any resources that may be available in each individual space. If you are uncertain of your understanding of the safety issues involved, speak with the owner of that space for an understanding of the full training needs to be safely functional in the space. See Section F below for detailed expectations and policies.

SECTION C: Operational Policies and Procedures

1. Equipment Maintenance and Replacement

Laboratory (Teaching and Research) Equipment. Maintenance and replacement of laboratory equipment will be managed by the department's Teaching Lab Specialist. Requests for the necessary funding for these efforts will be made to the department chair.

Information Technology Equipment. Maintenance and replacement of laboratory equipment will be managed by the department's Information Technology Specialist. Requests for the necessary funding for these efforts will be made to the department chair.

2. Building Access and Security

General: The Therkildsen Industrial Engineering Building will be open to the public from 7:00 am until 11:59 pm Monday through Friday and 7:00 am until 9:00 pm Saturday and Sunday during the academic year. It will be to the public from 7:00 am until 5:00 pm Monday through Friday during the summer.

Faculty and Staff: All faculty and staff of the Department of Industrial and Manufacturing Systems Engineering will have 24/7 access through their ISU ID Card.

Graduate Students: Graduate students of the Department of Industrial and Manufacturing Systems Engineering will have 24/7 access through their ISU ID Card.

Undergraduate Students: Undergraduate students will have access to the building during public hours.

3. Workplace Culture: 5S Philosophy

Management statement: The concept of 5S is used by many successful companies as a visual management tool based on standardized organization and cleanliness. It is used in a wide variety of industries, including but not limited to manufacturing, healthcare, government, and education. The 5S methodology was developed in Japan; generally accepted translations of the Japanese 5S words into English include sort, straighten, shine, standardize, and sustain. Successful 5S implementation and sustainment are foundational to all other types of success. Without continual attention by all building stakeholders to how the Therkildsen IE Building is organized, cleaned, and maintained, the ability of the Industrial and Manufacturing Systems Engineering department to achieve its mission is reduced. In addition, the Industrial Engineering program teaches 5S to its students and employers expect those students and graduates to both implement and practice 5S in their organizations. IMSE cannot expect students to fully invest in the concept if the department does not "walk the talk."

Stakeholders: Stakeholders include, but are not limited to current IMSE students, faculty, staff, IAC members; other ISU employees who use and support the building; donors who have made the building possible; partnering industries/organizations with courses like IE 4410; research collaborators who use the building; prospective students and their family members who visit the building; ISU and ISU Foundation employees who have invested their time and effort to make the building possible; suppliers/vendors who visit/support the building; people who park in the lot or on the street near the building; Howe Hall/Thielen/Beyer employees and visitors who see the building; anyone from the general public who walks through the building or uses it for any type of outreach or activity.

Expectations: All stakeholders are expected to respect the building and its purpose. Employees, students, collaborators, and visitors who spend significant amounts of time in the building should be committed to maintaining each of the 5S concepts (sort, straighten, shine, standardize, and sustain). They should do this without reminder, and they should provide reminders/education for those who need it.

Scope and Responsibility:

- Faculty and staff are responsible for their offices, lab spaces, classrooms where they teach, and community spaces like the kitchen.
- Students are responsible for the learning community room, lab spaces, classrooms where they spend time, and community spaces where they spend time.
- Collaborators and visitors who spend significant amounts of time in the building are responsible for their offices, lab spaces, and community spaces where they spend time.
- Everyone is expected to assist with hallways, restrooms, stairwells, etc. inside the building, as well as the outdoor space immediately surrounding the building.
- There will be monthly inspections of the spaces in the building. This will be conducted by a group of faculty, staff, and graduate students.

SECTION D: Space Allocation and Maintenance

1. General Principles

Space allocation to specific rooms in the Therkildsen IE Building will be dynamic, on an as-needed basis and will be set by the department chair. At any one point in time there will be one individual identified as the principal overseer of the space (herein called the “owner”) and that individual will be responsible for the maintenance and cleanliness of the room. The capacity limits of specific rooms are set by building codes. Spaces should always be maintained to a level that is presentable for tours of the families of prospective students and/or VIP visitors.

Many of the spaces in the Therkildsen IE Building will be shared among faculty, staff, and students. Any conflicts related to space usage, cleanliness, or interpersonal etiquette should first be addressed by the individual parties, then the supervisor of the space and finally the department chair. To reduce the risk of conflict among the users of spaces, occupants should follow a strict code of etiquette and personal behavior that recognizes the rights of others.

- i. Respect for Others: Each occupant is responsible for respecting others' privacy, belongings, and workspace.
- ii. Noise Levels: The owner of each space should establish guidelines for acceptable noise levels, including quiet hours and acceptable levels of background noise.
- iii. Personal Belongings: If occupants' personal belongings are going to be left in a shared space, these items should be kept in an orderly fashion and should be stored/locked away when not in the room.
- iv. Food and Drink: The owner of each room will establish guidelines for food and drink consumption in the shared space, including designated areas and cleaning procedures.
- v. Technology Usage: Rules regarding the use of technology in the shared space, such as phone calls or internet activity will be established by the room owner.
- vi. The consequences of violating shared space policies will be established by the department chair.

2. Space-Specific Policies

- Advanced Manufacturing Labs (First Floor): Access will be granted by the Advanced Manufacturing faculty and will be achieved by a physical key obtained through the ISU system.
- Human Factors and Ergonomics Laboratories (Third Floor): Access will be granted by the HF/E faculty and will be achieved by a physical key obtained through the ISU system.
 - i. A process will be established by the HF/E faculty to provide “quiet times” when human participant evaluations are being conducted in the lab.
- Operations Research and Analytics Teaming Rooms (Third Floor): Access will be granted by the OR/A faculty and will be achieved by a physical key obtained through the ISU system.
 - ii. A process will be established by the OR/A faculty to set up a process to reserve these spaces.
- Graduate Student Offices Space (Throughout Building)
 - i. Maintenance and Cleanliness: The department expects that all occupants will maintain a clean and tidy workspace, including regular tidying of desks, cleaning up spills, and taking out trash.
 - ii. Doors to graduate student offices should be closed and locked at all times. No propping doors open.
 - iii. Food Policy: Students are encouraged to eat meals in the graduate student kitchen or graduate student lounge. Students are allowed to eat snacks and drinks at their desks but must clean up thoroughly after eating. Perishable food should be stored in the refrigerator located in the

graduate student kitchen (Third Floor) and all trash that contains food remnants should be placed in the designated bins to avoid odors.

- iv. Space heaters are not allowed. If there is a concern about temperature in the office, please contact the IMSE graduate program coordinator.
- v. Noise level policy: Long telephone calls should be conducted in the phone booths provided outside of the graduate student offices. Music is to be enjoyed with headphones only. Keep conversations and phone calls to a minimum and use headphones for virtual meetings or loud activities. Move to conference room if possible. Long conversations should be held in one of the many meeting rooms throughout the building.
- vi. Conflict resolution: Take all concerns to director of graduate education.
- Flex-Lab Space (Third Floor): Allocation of space and access will be granted by the department chair and will be achieved through a physical key through the ISU system.
- ITAR Space (Fourth Floor): Allocation of space and access will be granted by the department chair
- Conference, Huddle, Team, Study Rooms: Reservations for short-term (less than four hours) use of meeting spaces throughout the building will be maintained through a central reservation system that will be available to faculty staff and students.
- Classrooms: Off-hours use of IMSE-controlled classroom spaces for events should be cleared through the office of the department chair. Use of the university-controlled classroom spaces should be cleared through room scheduling.
- Computer Labs: Off-hours use of IMSE-controlled computer labs should be cleared through the office of the department chair.

SECTION E: Change Management

1. Introduction

The ISU Department of Industrial and Manufacturing Systems Engineering is committed to providing an environment that supports a safe, organized and collaborative workspace for all (faculty, staff, students, visitors). This change management section is to outline the procedures for any machinery and furniture change that happens in the Therkildsen IE Building. This includes shops, labs, classrooms, and offices.

2. Roles and Responsibilities

It is the responsibility of all lab managers to work closely with department leadership to address changes in facility. The first point of contact for such needs is the associate chair for undergraduate education. As he deems appropriate he will direct the request to the Teaching Lab Specialist - for laboratory equipment – and the department's Information Technology Specialist – for all IT-related equipment – for any purchases or movement of equipment. Requests for the necessary funding for these efforts will be made to the department chair. Before executing equipment moves or purchases, clarity of the funding must be established. Listed below are some of the issues to be addressed through this management process:

- Laboratory equipment purchases
 - A list of equipment requirements needs to be provided prior to purchase to determine the needs for facility changes for all equipment (compressed gasses, house air water electricity).
 - Equipment orders that require more than 120v electrical requirements need an evaluation from Building Supervisor/ Lab Specialists to determine if the location of the equipment can support the power requirements. When equipment exceeds 40 lbs. of weight and needs specialty tools to move or lift, the evaluation from the Building Supervisor and Lab Specialists is needed.
- Laboratory equipment movement
 - Before transferring equipment to different locations in the building, equipment with more facility needs than 120V power need to be evaluated to determine the ability of the new space location. Spaces such as the flex lab will need department chair approval before moving equipment in and work to be started.
- Furniture purchases
 - All furniture purchases should be coordinated through the office of the department chair.
- Facility maintenance/ scheduling
 - Facility maintenance or repairs can be requested by the building supervisor, by requesting service via FP&M 515 294 5100 or by filling out a Famous 360 production ticket. All requests are directed to FP&M.
- Computer equipment purchases
 - Replacement of computer lab CPUs every 3-4 yrs, and cycle existing CPUs to grad/F&S offices/other lab spaces and will be performed by the department's information technology specialist.
 - Replace computer lab monitors every 6-8 yrs, cycle existing monitors to grad/F&S office/other lab spaces and will be performed by the department's information technology specialist.
 - AV equipment replacement needs will be managed by the department's information technology specialist.
 - Research computer/laptops/monitor and other IT-focused equipment will be the responsibility of the owner of the research lab

SECTION F: Safety & Health

1. Introduction

The safety of all students, faculty, staff, and visitors is the highest priority of Iowa State University. The ISU Department of Industrial and Manufacturing Systems 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 IMSE spaces. 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. Every IMSE 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.

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 safety training.

Principal investigators are responsible for the safety of the activities and locations under their control by ensuring the adoption and implementation of the ISU safety manuals and policies. To assist with this, the department's Space, Facilities, and Safety Committee is available. The department chair will clarify any additional responsibilities and authority of the Space, Facilities, and Safety Committee. Roles and responsibilities of this committee 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

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

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

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

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 Policies, 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

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 can be shared with all members of the accountability team upon request. 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.

- **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.
- **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).
- **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.
- **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 department. With that in mind there shall be safety awareness training integrated into the engineering orientation courses offered by the department.

- **General Safety:** All users of shops and labs in the Therkildsen Industrial Engineering Building and those that will be participating in an off-campus activities are required to have documentation of having taken and passed the general safety training within the recommended training interval.

- **Equipment-Specific Training:** All users of laboratories and shops in the department 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.
- **Materials-Specific Training:** All users of laboratories and shops in the department 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.

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.

- In the event of an emergency, call 911.
- 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.
- 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.
- 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. Therkildsen Industrial Engineering Building Safety Committee

The IMSE Governance Document defines the role of the IMSE Safety Committee, and it will be this committee that will oversee all work in the Therkildsen Industrial Engineering Building. 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. This committee reports to the department chair.

8. Safety Contacts

IMSE Aaron Jordan; ajjordan@iastate.edu
EH&S Cody Volkmann; cjvolk@iastate.edu