



2024 UT System Environmental Health & Safety/ Emergency Management Annual Report

This report includes an annual review of environmental health & safety and emergency management from the UT System, our campuses in Knoxville, Chattanooga, Martin, Pulaski and the Health Science Center in Memphis as well as the Institute for Public Service and the Institute of Agriculture

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EXECUTIVE SUMMARY

The University of Tennessee Environmental Health & Safety and Emergency Manager is responsible for providing university officials with guidelines to assist campuses and institutes in the development and maintenance of plans and procedures that meet emergency prevention, mitigation, preparedness, response, and recovery requirements within the National Incident Management System, the Tennessee Emergency Management Plan, the Occupational Safety and Health Administration (OSHA) and the Tennessee Occupational Safety and Health Administration (TOSHA).

These plans and procedures help ensure that all campuses and institutes are able to respond appropriately in the case of emergencies or disasters that could occur within or around the University community in order to minimize negative effects on persons and property and facilitate recovery from these incidents. Most immediate emergency response actions that involve protection from harm to persons and property are executed at the local and regional levels. In addition, the University works diligently to ensure a safe and healthy workplace for all.

Therefore, the UT System Environmental Health & Safety and Emergency Management program provides general guidelines that assist campuses and institutes in responding to emergencies establishing procedures, and monitoring the emergency preparedness activities, and the safety and well-being of all University of Tennessee students, faculty, and staff statewide. The system guidelines specify requirements that campuses and institutes must meet to adhere to state and federal requirements.

This report will provide an overview of the various campus-level events, exercises, successes, and challenges for the 2024 calendar year. It will also provide a look ahead to the 2025 calendar year by listing the goals of each campus and institute as well as priorities for the UT System Environmental Health & Safety and Emergency Management office.

Special thanks to all of our campus emergency managers, police officers, and environmental health and safety officers for their around-the-clock efforts in planning and ensuring that our campuses remain safe environments for UT students, faculty, staff, and the general public on an annual basis.

UT SYSTEM ACHIEVEMENTS

- Hosted two off-site retreats to discuss emergency management and safety protocols with our campuses and included one retreat with all institutions of higher education within the state of Tennessee.
- The winter 2024 retreat included a two-day “EHS Academy” that was hosted by Bob Emery from the University of Texas System.
- Conducted quarterly safety visits to each campus.
- Conducted safety visits to all IPS office locations statewide.
- Revised all internal emergency response plans both for UT System employees at the UT Tower and for how the system office would respond to events at the campus level.

UT SYSTEM EVENTS IN 2024

Actual Disaster, Emergencies and Disruptions

- UT Tower was closed during the first week of January 2024 due to snow and inclement weather in the Knoxville area.
- The following are graphs charting both lost workdays and accident rates throughout the UT System covering the past 5 years. The lost workdays are the total number of lost hours due to on-the-job injuries and the OSHA recordable accident rate is per 100 employees.

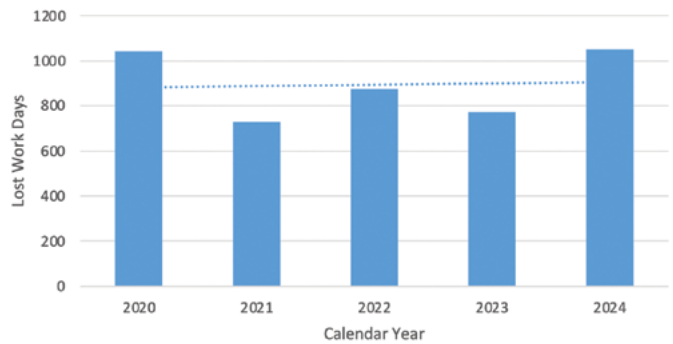
UT SYSTEM TRAINING

- Completed annual requirements for the Tennessee Emergency Services Coordinator, which is a series of training and exercises that are required by the Tennessee Emergency Management Association.
- The Director was recertified to teach a TEEEX risk management course for large-scale events.

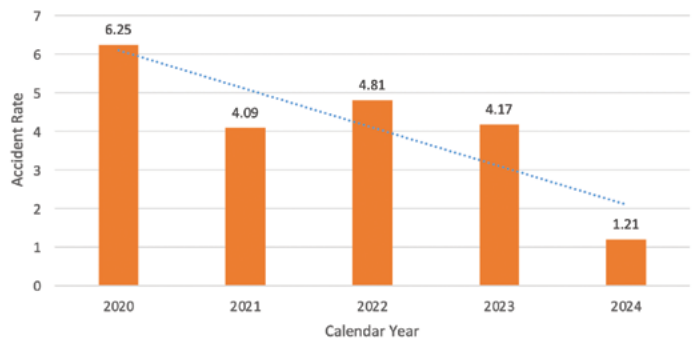
UT SYSTEM GOALS FOR CALENDAR YEAR 2025

- Host two annual in-person meetings of system-wide emergency managers, one of which will include emergency managers from the Tennessee Board of Regent schools.
- Refine continuity of operations plans based on review from the audit team.
- Define and implement new key performance indicators for the environmental health and safety teams.
- Revise all safety policies and procedures at the system level. Provide campuses with a roadmap for campus procedures.
- Administer system-wide safety training for faculty and staff focusing on evacuation and sheltering in place.

Lost UT System Work Days from 2020-2024



OSHA Recordable Accident Rate 2020 - 2024





INSTITUTE FOR PUBLIC SERVICE

IPS ACHIEVEMENTS

- Two SDS Weather Stations were installed at IPS providing the institute with real-time regional and local monitoring of weather conditions. One station is located at the IPS Oak Ridge office and another station is located at the IPS Knoxville office. Information from these stations are integrated into the broader SDS Weather service to provide data from our different regions to other campuses and institutes within the UT system.
- For the first time in IPS history, conducted an institute-wide safety walkthrough accompanied by the UT System and IPS Emergency Manager to all 12 locations in nine cities which include Knoxville, Johnson City, Oak Ridge, Cookeville, Nashville, Chattanooga, Memphis, Jackson, and Martin.
- Successfully passed a fire drill with no infractions at the IPS Knoxville location.
- Completed and submitted the IPS Continuity Readiness Plan while identifying opportunities for improvement.

IPS GOALS FOR FY 2025

- Install an SDS Weather Station at the IPS Nashville Polk Avenue location.
- Create a schedule to conduct IPS safety walkthroughs on an annual basis.
- Continue to improve the IPS Continuity Readiness Plan to identify strengths and opportunities for improvement.

UT KNOXVILLE CAMPUS ACHIEVEMENTS — EMERGENCY MANAGEMENT

Includes UT Knoxville, UT Institute of Agriculture and UT Space Institute

- Launched an interactive basic preparedness scenario-based training that was mandatory for staff.
- Launched a new personal safety app Safe at UT and significantly increased participation by the campus community.



- Office of Emergency Management (OEM) director and associate vice chancellor of public safety designated Certified Sport Security Professionals.
- UT Space Institute (UTSI) successfully relocated the hazardous waste storage facility to a remote, secure location, meeting all state and federal regulations and adding laboratory space for new faculty.
- UTSI and Estill Springs Fire Department tested all active fire alarm systems and hydrant systems.
- UTSI provided secure space for local police departments and the Tennessee Highway Patrol to train K9 dogs and perform active shooter response training in unoccupied buildings.
- UTSI has successfully secured all laboratory and research buildings with access control devices.
- UTSI has added emergency lockdown buttons in the main academic building (8101).



PREVENTION AND MITIGATION

- UTK installed an Unmanned Aircraft System (UAS) detection system.
- UTSI performed laboratory cleanouts during a lab safety week to remove outdated machinery/lab equipment and hazardous materials. This improved evacuation routes and created safer work environments.
- Added a digital information sign for guests and visitors at UTSI entrance.
- UTSI has maintained an adequate supply of personal protection equipment to support the needs of the campus.

- Added security cameras to reduce blind spots around buildings and student outdoor recreation areas.
- Successfully installed a generator in the physical plant building (8105).

UTK EVENTS IN 2024

Actual Disaster, Emergencies and Disruptions

- Conducted limited activations for winter weather.
- Campus successfully managed a balanced response to protest activities that allowed free speech while minimizing campus disruption. Additionally, lessons learned were applied through preparation and education that improved the campus' capacity to manage new protest activity going into the fall semester.



- Activated the disaster relief management team to coordinate campus activities related to supporting the flooding in northeast Tennessee caused by Hurricane Helene.
- College of Veterinary Medicine led the animal feed collection effort and deployed both the mobile veterinary and large animal ambulatory clinics to impacted areas.



UTK TRAINING

- Conducted the OEM planning workshop with multiple campus partners.
- Activated the incident management team for election monitoring and training.
- OEM personnel continued professional development by attending the Tennessee Emergency Management



Agency Emergency Services Coordinator workshop, the SEC Police Chief and Emergency Manager Conference, the National Sports Safety and Security Conference, and the University and College Caucus of the International Association of Emergency Managers.

- OEM personnel attended TEEEX Mgt 456 cybersecurity training, ICS 300 and 400 intermediate and advanced incident management courses, O305 All Hazards Incident Management Team, and Mgt 315 Conducting Risk Assessments for Critical Community Assets.
- UTK trained 12,610 campus personnel in a variety of emergency preparedness-related deliveries.
- UTSI hosted two certification training sessions for AED, CPR, and first aid for faculty, staff, and students.
- UTSI conducted successful evacuation/fire drills for the main academic building, laboratory buildings, and the Student Center (student housing facility).
- UTSI held an active shooter tabletop exercise with the incident command team.
- Trained 181 faculty, staff, and students in UTSI-specific emergency preparedness.

UTK GOALS FOR CALENDAR YEAR 2025

- Complete implementation of comprehensive UAS program.
- Complete building emergency action plans for all major UTK facilities.
- Conduct outreach campaign focused on parents of incoming freshman and student organizations.
- Improve vehicle ramming and vehicle-borne improvised explosive device protection at campus events.
- UTSI to seek additional security upgrades in relation to the indoor security cameras and access control devices.
- UTSI to add a generator to information technology systems.
- UTSI to seek the addition of two dry hydrants near the student center and building 8185.
- UTSI to hold a building lockdown exercise.
- Seek additional opportunities for local police and fire departments to train on the UTSI campus.

UT KNOXVILLE CAMPUS ACHIEVEMENTS — ENVIRONMENTAL HEALTH & SAFETY

The UTK Environmental Health & Safety (EHS) Department strives to make a safe, healthful and environmentally responsible working and learning environment; uphold safety regulations and best practices; educate the campus community with effective safety training and outreach programs; and promote positive safety culture as a core institutional value. EHS programming includes environmental compliance (including hazardous waste management), fire and life safety, industrial safety, laboratory safety (including biological safety and chemical hygiene), occupational safety and radiation safety. EHS covers the flagship campus, UT Graduate School of Medicine at the UT Medical Center, the Institute of Advanced Materials & Manufacturing and the Institute of Agriculture (biological and radiological safety programs).

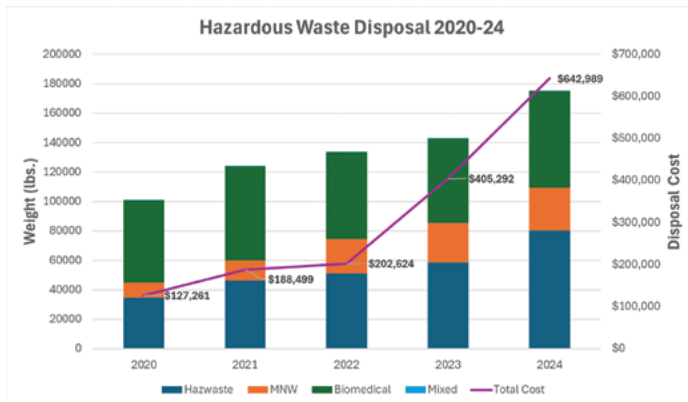


In 2024, EHS faced several administrative challenges with the retirement of the director, Sandra Prior, and business office manager, Kim Harmon, as well as staff turnover in several programs. Brian Payne, assistant director, provided interim leadership for several months. Brian Ranger was named as

the new director in August. James Harris was hired as the new business office manager in September, vacant positions were filled and new positions were created and hired in Environmental Programs, Fire & Life Safety, Laboratory Safety Services and Radiation Safety to augment the capabilities of the respective program.

Despite leadership transitions and other operational challenges, EHS had an incredibly productive year. Accomplishment highlights included:

- Over 2,800 building and facility inspections.
- Over 42,000 equipment inspections.
- Over 85 evacuation/fire drills.
- Over 500 research safety assessments.
- Over 11,000 trainees.



- Over 65 outreach and engagement events.
- Passed 14 regulatory inspections (minor administrative findings).
- Reduced year-over-year (YoY) total laboratory findings by 13% and findings rate (findings per inspection) by 15%.
- Reduced OSHA lagging indicators: total reportable injuries (-33% YoY) and days away/restricted/duty transfer (DART) rate (-8% YoY). • Several EHS staff received professional certifications or credentials.

Areas of improvement identified through significant incidents and disruptions included:

- Laboratory commissioning and decommissioning.
- Chemical inventory management, particularly for time-sensitive chemicals.
- Hazard waste management and hazardous waste reduction awareness training.
- Warehousing and equipment auction safety considerations.

PROGRAM-SPECIFIC HIGHLIGHTS

2024 performance metrics and notable accomplishments for each program area included:

Environmental Programs (ENV)

- Inspections, assessments and walkthroughs:
 - o 470 central accumulation area inspections.
 - o Roughly 30 satellite accumulation area inspections.
 - o Five building site inspections for universal waste, construction dust and/or stormwater concerns.
 - o Two semiannual lead-based paint inspections at the UTK Early Learning Center.
 - o Two third-party EPA-related audits: RCRA hazardous waste and EPCRA Tier II programs.
 - o Passed two Tennessee Department of Environment & Conservation (TDEC) Division of Solid Waste Management regulatory inspections (minor administrative corrections).
- Coordinated and oversaw the removal of 175,000 pounds of waste, including RCRA hazardous waste, managed nonhazardous waste (MNW), biomedical waste, and radiation mixed waste (see Figure 1).

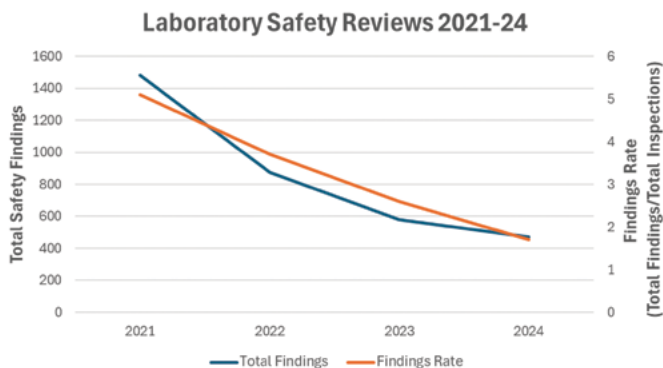
Figure 1. Hazardous Waste Disposal by Weight and Cost 2020-2024

- o Total weight equaled 175,075 pounds (+23% YoY; +74% since 2020)
- o Total cost equaled \$642,989 (+59% YoY; +405% since 2020)
- o YoY increased waste and waste costs attributed to:
 - Increased research and instructional laboratory use of hazardous chemicals and biological hazards.
 - Rising costs of hazardous waste removal and treatment (contractor costs).
 - Lab decommissioning and large legacy chemical cleanouts, particularly in 2023 and 2024.
 - Removal of high volumes of dichloromethane in anticipation of new EPA regulations.
 - Discontinuation of hazardous solvent bulking due to safety and personal exposure concerns.
- Responded to 325 service requests (hazardous waste, chemical spills and hazmat shipping).
- Coordinated and led four environmental compliance committee meetings.

- Conducted 26 accident and incident investigations, including coordination of hazardous waste removal from routine solid waste dumpster (inappropriate disposal).
- Completed and submitted 12 regulatory reports (initial or follow-up).
- Hired a new hazardous waste specialist.

FIRE & LIFE SAFETY (FLS)

- Inspections, assessments and walkthroughs:
 - More than 1,800 building walkthroughs, for an annual completion rate of 93%, which exceeded the target rate of 85%.
 - Around 44,700 portable fire extinguisher (PFE) inspections, for an annual completion rate of 88% of total deployed inventory, which exceeded the target rate of 85%.
 - Six-year maintenance and service on 550 PFEs.
 - Hydrostatic testing on roughly 160 PFEs.
 - Coordinated monthly checks on roughly 150 automated electronic defibrillators (AEDs) and stop-the-bleed kits.
 - Conducted 61 evacuation/fire drills — excluding residence halls — for an annual completion rate of 83%, which exceeded the target rate of 50%.
 - In Fall 2024, supported student housing by conducting 26 residence hall evacuation/fire drills, covering a potential occupant load of around 16,000 residents.
- Coordinated purchase and deployment of 12 new AEDs to various campus locations.



- Benchmarked more than 50 SEC, comparative and aspirational institutions and compiled a report on best practices and recommendations for improving the FLS program.
- Began compiling a comprehensive fire safety risk matrix, with 23 of 144 buildings completed.

- Began formal assessments of PFE and AED distribution.
- Hired a new FLS technician.

INDUSTRIAL WORKER SAFETY (IWS)

- Inspections, assessments and walkthroughs:
 - 115 building and facility assessments (initial and follow-up), including machine rooms, to ensure safe practices and compliance with Occupational Safety & Health Administration (OSHA) general industry standards; worked with facilities services to resolve concerns related to confined space entry, walking and working surfaces, slips and trips, ladder safety and fall prevention and protection.
 - More than 80 inspections (initial and follow-up) of shops, academic makerspaces, and/or laboratories containing powered equipment, pressurized devices or other relevant industrial safety-related risks; worked with space owners to resolve various concerns, including machine guarding.
 - Over 50 campus safety walks to review worker visibility, lawn equipment safety, hearing protection, safety harnessing (as appropriate), and integrity of sidewalks, stairs, railings, etc.
 - More than 30 indoor air quality (IAQ)/mold assessments (as per reported concerns or complaints).
 - Conducted around 40 property damage assessments.
- Conducted roughly 100 accident/incident investigations (most common included slips/trips/falls, cut/puncture, sprains/strains and struck by/struck against).
- Worked to reduce costs associated with the respiratory protection program (medical evaluation and fit testing) and IAQ/mold assessments.
- Developed an IWS stakeholder committee, including a draft charter and bylaws (commencing operation in 2025).
- Refilled vacant IWS senior specialist position

LABORATORY SAFETY SERVICES (LSS)

- Inspections, assessments and walkthroughs:
 - 300 laboratory safety reviews covering biological safety, chemical hygiene, equipment safety and documentation (see Figure 2).

Figure 2. Summary of Lab Safety Review Total Findings and Findings Rate (2021-24)

- Total findings equaled 470, a 13% annual reduction (68% reduction since 2021).

- Findings rate (findings per inspection) equaled 1.7, a 15% annual reduction (67% reductions since 2021).
- Findings closure rate = 97% (comparable to calculated rates 2021-23); most unclosed findings are facility-related deficiencies or infrastructure challenges.
- Most common findings included improper chemical waste management, expired training, time-sensitive chemical dating, overdue safety shower inspections and outdated door signage.
- Over 1,200 fume hood inspections and flow verification checks.
- Liaised nine USDA permit regulatory inspections (no major findings).
- Commissioned or decommissioned 100 laboratory spaces.
- Conducted about 100 laboratory-related incident/accident investigations.
- Completed biosafety and chemical safety assessments for over 120 material transfer agreements and sponsored projects.
- Completed biosafety and chemical safety assessments for 52 Institutional Animal Care and Use Committee (IACUC) protocols.
- Coordinated nine Institutional Biosafety Committee (IBC) meetings, including performing technical reviews and risk assessments for 131 registrations.
- Coordinated eight meetings of the Laboratory Safety Committee.
- Created a guidance document on centrifuge safety and published to the EHS safety manual.
- Coordinated and delivered around 65 outreach and engagement events (examples below).
- Created and hired a new laboratory safety compliance committee manager.
- Created three new systems for respiratory protection program management, radiation safety dosimetry management and hepatitis B vaccine offers.
- Training development:
 - Completed training gap analysis: Around 110 courses were evaluated across 28 assessment criteria for training matrix development; Roughly 100 courses were identified for external (campus) clients.
 - Created an internal procedure for training course development, which included program management structure, workflow and supporting documents.
 - Established a training course development prioritization process weighed by risk, needs and organizational readiness factors.
 - Developed a vetting procedure to evaluate third-party safety training courses hosted in K@TE.
- Communications:
 - Developed internal communications tools including a departmental calendar and monthly internal newsletter.
 - Worked to develop the EHS hub page (UTK intranet feature).
 - Improved communications by creating unifying media, common talking points and evaluation criteria.
 - Ensured congruent style and language across multiple domains including physical media, training banners and social media content templates.
 - Established evaluation rubrics for in-person events to ensure continuous improvement.

RADIATION SAFETY (RAD)

- Inspections, assessments and walkthroughs:
 - Around 160 open-source laboratory inspections.
 - Around 240 licensed sealed source inspections.
 - Around 50 X-ray generating device or particle accelerator inspections.
 - 16 Class 3-B/4 laser inspections.
 - 100 radiation detection instrument calibrations.
 - Passed three separate regulatory inspections (various radioactive materials licenses) conducted by the TDEC Division of Radiological Health with no findings for the 13th consecutive year.
- Met annual ALARA (as low as reasonably achievable) goals of less than 10% of allowable personal exposure limits for all personnel working with radiological materials or devices, with no reported injuries or overt radiation exposures (ionizing or non-ionizing).

OCCUPATIONAL HEALTH & SAFETY SYSTEMS (OHSS)

- Data and information management:
 - Maintained 15 active data and information management systems.
 - Finalized and fully implemented Safety Stratus chemical inventory and biosafety modules.
 - Developed three new Safety Stratus modules: assets (included data preparation for over 40,000 PFEs), inspections and occupational health (respiratory protection).

- Supported the regulatory permitting, user safety training and standard operating procedures development for three particle accelerators in the Nuclear Engineering Department.
- Conducted monthly Radiation Safety Committee meetings to manage volume and expedite approval timelines. Positive outcomes included the approval of 28 new radiological use permits or amendments (the typical approval time was between 30–45 days)
- Completed radiation safety and compliance assessments for 56 sponsored projects.
- Received, accessioned and delivered over 100 radioactive packages to campus end users.
- Created and hired two new senior radiation safety specialist positions to support radiation-related research growth and demands (note: a third senior radiation safety specialist was hired to fill a previously vacated position).

TRAINING, ENGAGEMENT AND OUTREACH

Departmental training, engagement and outreach accomplishments in 2024 included:

- Training statistics (all modes):
 - Alternative vehicles: 500 trainees
 - Fire safety: 670 trainees
 - General industry: 3,140 trainees
 - Hazardous waste: 1,175 trainees
 - Laboratory safety and biosafety: 4,050 trainees
 - Radiation safety and laser safety: 1,600 trainees
 - Shipping and permits: 25 trainees
- Developed comprehensive interactive e-training modules, including UTK Hazardous Waste & Chemical Spills Management (2025), Safe Sharps Use & Management, Bloodborne Pathogens Awareness and UTPD Hazmat Awareness.
- Created three new radiation safety training modules to support the research needs of the Nuclear Engineering Department.
- Vetted content of roughly 40 contractor-provided safety training modules related to industrial worker safety and OSHA general industry standards.
- Provided invited safety talks for several academic courses.
- Created and issued 10 Mindfulness Minutes (lab safety communiques) covering eye protection, power strips, risk maturity models, chemical fume hoods, biosafety cabinets, sharps waste management, chemical storage,

flammable storage in refrigerators and freezers, synthetic nucleic acid research regulatory updates and glove selection.

- Hosted Campus Safety, Health and Environmental Management Association (CSHEMA)-sponsored Laboratory Safety Awareness Week activities, including joint safety/researcher presentations on viral vectors, the American Chemical Society's RAMP model, and Safety Culture and Risk Maturity.

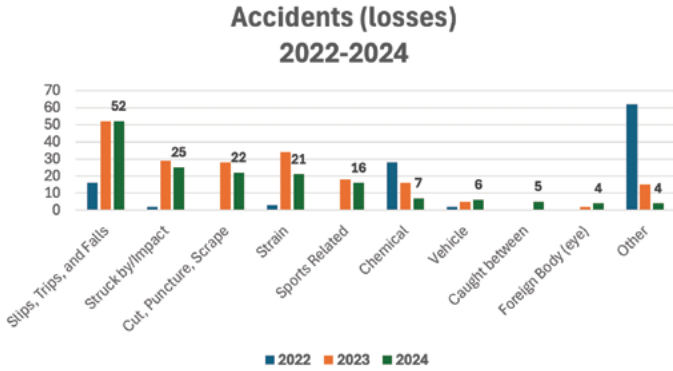


- In partnership with the Office of Research Innovation and Economic Development, coordinated the second annual Laboratory Safety Culture Awards program, with quarterly challenge topics: 1) creating a meme to compare safety vs. safety culture; 2) spring cleaning; 3) teamwork; and 4) stress management strategies.
- Laboratory Safety Culture Awards recipients honored at second annual celebratory banquet and awards ceremony, with Bill Dunne, Tickle College of Engineering (TCE) associate dean for research and facilities, providing the keynote address. Details can be found here: <https://ehs.utk.edu/index.php/2025/01/31/congratulations-2024-lab-safety-culture-award-winners/>
- In partnership with TCE, began a multi-year initiative for building a positive safety culture framework.
- LSS, IWS and ENV programs collaborated to hold an inaugural Laboratory Spring Cleaning Day in April 2024.
- Provided annual spill, prevention control and countermeasure training to fleet management and parking services.
- Partnered with facilities services to host the second annual Facilities Services Safety Fest, which featured heat injury and illness awareness, industrial hygiene sampling and monitoring, personal protective equipment, and safety vendor demonstrations.
- Collaborated with facilities services zone maintenance to reduce hazards associated with rooftop work.

ACCIDENTS, INCIDENTS, EMERGENCIES AND DISRUPTIONS:

In 2024, EHS responded to and investigated 217 accidents, incidents, emergencies and other disruptions. The top 10 categories resulting in recordable losses are shown in Figure 3.

Figure 3. Top 10 Accident Categories Resulting in Losses 2022–2024 (2024 values provided for reference)



There was a YoY reduction in overall incidents with recordable losses (188 in 2024 vs. 260 in 2023; -28%), and there was a reduced number of occurrences in most categories.

Standard OSHA lagging indicators are illustrated in Figure 4 (total recordable incident rate, TRIR), Figure 5 (recorded days away, DA) and Table 1 (OSHA lagging indicator summary).

Figure 4. UTK OSHA Total Recordable Incident Rate 2015–2024 (2023–2024 values provided for reference)

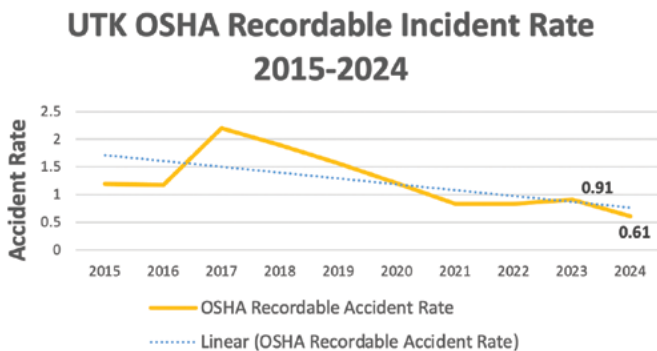


Figure 5. UTK Lost Workdays 2015–2024 (2023–2024 values provided for reference)

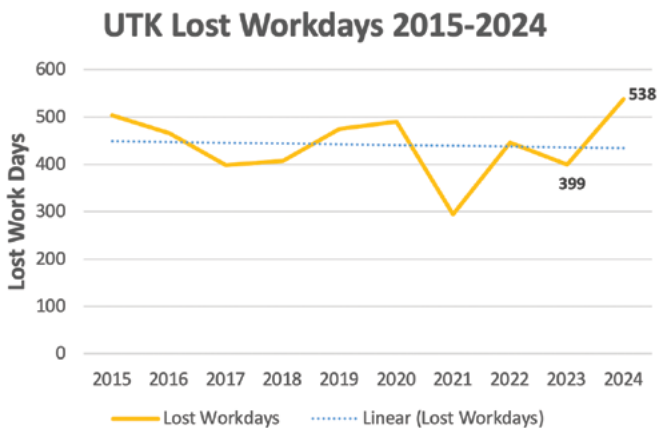


Table 1. Summary of OSHA Lagging Indicators

Incident Type	2023	2024	YoY %
Total Reportable Injury Rate (TRIR)	0.91	0.61	-33%
Days Away (DA)	399	538	+35%
Restricted Time (RT)	1784	1364	-23%
DART (Combined)	2183	1902	-13%
DART Rate	0.53	0.49	-8%

Incident Type 2023 2024 YoY %

Total Reportable Injury Rate (TRIR) 0.91 0.61 -33%

Days Away (DA) 399 538 +35%

Restricted Time (RT) 1784 1364 -23%

DART (Combined) 2183 1902 -13%

DART Rate 0.53 0.49 -8%

The continued downward trend of the OSHA TRIR is particularly notable as the 2024 rate (0.61) is significantly below the Bureau of Labor Statistics average incident rate for educational facilities (1.9). Additionally, all other OSHA lagging indicators showed a YoY decrease, except for a 139 day increase in days away. This increase is attributable to two serious injuries requiring surgical correction of torn tendons, a quadricep tear from a fall on ice and an Achilles tendon tear suffered while walking up the stairs (no fall reported).

There was only one OSHA reportable injury in 2024 wherein the injured worker tripped over a parking block and fell, resulting in a fractured leg. Although there were no findings relative to the size and placement of the parking block, and no other contributing factors were identified, all parking blocks were painted to increase contrast and visibility.

Additionally, there were three notable disruptions in 2024:

- On Feb. 5, 2024, a UTK warehouse auction customer attempted to remove a large industrial lathe from the physics and astronomy fabrication shop without proper rigging equipment. The lathe had been purchased as “auction-in-place” due to its large size and weight, estimated at over 3,000 pounds. However, the customer, who did not follow UTK warehousing procedures to secure a qualified



warehouse escort, attempted to load the machine on skates without proper rigging and minimal help. As the customer began to roll the machine, one of the skate wheels hit an irregularity in the floor causing the machine to fall over. While luckily nobody was injured, the toppled machine damaged the floor as well as a computer numerical control milling machine, resulting in expensive repairs. The incident led to an overhaul of warehousing onsite purchaser pickup procedures.

- In May 2024, several concerns were raised by LSS staff about a legacy chemical inventory left behind by a retired chemistry professor. Many of the chemical containers had begun to degrade and some time-sensitive chemicals showed visible signs of instability, particularly the formation of shock-sensitive peroxides. To ensure the inventory was safely removed, UT contracted a third-party hazardous waste contractor (Veolia) to conduct a high-hazard cleanout. The logistically complicated cleanout required multiple days of planning, a two-week remediation phase (July 29–Aug. 9) including a one-day building closure and numerous academic and research disruptions. The cleanout included removal of 8,000 pounds of hazardous waste from three storage areas and five heavily contaminated refrigerator and freezer units, incurring a total remediation cost of \$144,575. The incident has prompted increased emphasis on laboratory commissioning and decommissioning procedures, chemical inventory control and more stringent monitoring of time-sensitive chemicals.
- On May 31, 2024, facilities services staff reported illegal dumping of mixed construction and laboratory waste from a UT-marked pickup truck into a standard 20-yard solid waste dumpster located at Steam Plant Hill on the UTK campus. Discarded contents included paint and primer cans, latex sealers, calcium hydroxide and sodium hydroxide chemical containers, hot mix asphalt samples, and asphalt binders and aggregates. While the ensuing investigation did not indicate nefarious or criminal intent, the ensuing cleanup spanned through December and resulted in \$25,834.09 in contractor expenses (Veolia and Waste Management), in addition to over 100 hours of UTK staff labor to complete. The incident resulted in increased emphasis on hazardous waste identification and awareness training as well as increased security measures at the Steam Plant Hill dumpster site.

PROFESSIONAL DEVELOPMENT TRAINING

- EHS leadership completed a two-day Foundations of EHS for Colleges & Universities course provided by Drs. Bob Emery and Scott Patlovich, University of Texas Health Science Center at Houston (Nashville, TN).
- LSS staff completed courses in general biosafety, USDA APHIS plant and arthropod regulatory permits and export control through the American Biological Safety

Association and IBC management best practices through the Biosafety Administrator's Association.

- Multiple EHS staff participated in training sessions on various safety-related topics at Safety Fest hosted by Oak Ridge National Laboratory (Oak Ridge, TN).
- OHSS staff attended the Summer Educational Institute for Digital Stewardship of Visual Information, which covered copyright and intellectual property rights, project management, ethics, digitization and information architecture.
- OHSS program leader completed FEMA O-305 Type 3 All-Hazards Incident Management Team training.
- Radiation Safety staff attended courses in radiation safety program management and occupational radiation exposure monitoring programs.
- FLS staff collectively completed over 500 hours of continuing education and professional development via various courses.

CONFERENCES

- American Society of Safety Professionals (ASSP) annual conference (Denver, CO)
- Campus Safety, Health & Emergency Management Association (CSHEMA) annual conference (Tampa, FL), including a presentation by Linda Hamilton, LSS interim program leader, and Sarah Mobley, Civil & Environmental Engineering senior lecturer, on Safety Culture and Risk Maturity.
- CSHEMA Electrical Safety Symposium (Madison, WI)
- Centers for Disease Control and Eagleston 18th International Symposium on Biosafety (Atlanta, GA)
- Society for Nutrition Education and Behavior Annual Conference (Knoxville, TN); focused on educational principles, translation of scientific topics into recognizable, usable information and promotion of multiple methods by which to convey messages others will use to make behavior changes
- UTSA Safety Officers and Emergency Managers Spring and Fall Retreats (Nashville, TN)
- Southeast University Radiation Safety Officer Society (SEURSO) annual conference (New Orleans, LA)
- Southeastern Biological Safety Association (SEBSA) annual symposium (Auburn, AL), including presentations on Safety Culture and Risk Maturity (Linda Hamilton, interim LSS program leader) and Providing New Experiences to the People We Serve (Carolina Carter, LSS senior safety specialist)
- Tennessee Environmental Network Show of the South annual conference (Chattanooga, TN)

CREENTIALING

- Jamie Bowerman, FLS emergency preparedness, obtained International Code Council Fire Inspector 1 and State of TN Fire Inspector certifications and renewed the State of Tennessee Fire Extinguisher Specialist certification.
- James Cantu, OHSS program leader, successfully completed the Associate Safety Professional® certification exam and received the respective credential.
- Charlie Howard, ENV compliance coordinator, obtained the State of Tennessee Certified Lead-Based Paint Risk Assessor (Level 2) certification.
- Eric Lingerfelt, FLS supervisor, obtained International Code Council Fire Inspector 1 and State of Tennessee Fire Inspector certifications and renewed the State of Tennessee Fire Extinguisher Specialist certification.
- Shannon Loyd, ENV senior hazardous waste specialist, obtained the State of Tennessee Certified Lead-Based Paint Risk Assessor (Level 2) certification.
- Peyton Martz, ENV hazardous waste specialist, obtained a Level 2 Design Principles for Erosion Prevention and Sediment Control for Construction Site certification.
- Ryan Setzer, IWS supervisor, completed a BS in Occupational Safety and Health from Columbia Southern University and will graduate with honors in spring 2025 and is eligible for Graduate Safety Practitioner® designation.
- Dylan Whitaker, FLS technician, obtained the State of Tennessee Fire Extinguisher Specialist certification.
- Kyle Whitaker, FLS specialist, renewed the State of Tennessee Fire Extinguisher Specialist certification.
- Ethan Wilder, FLS technician, obtained the State of Tennessee Fire Extinguisher Specialist certification.
- Geoff Woolard, FLS program leader renewed the State of TN Fire Extinguisher Specialist and HSI CPR Instructor certifications.

2025 GOALS

- Review and update select EHS Safety Manual program plans, procedures and guidance documents (2024 goal extension).
- Fully implement Safety Stratus assets, inspections and occupational health modules (2024 goal extension).
- Implement recommended improvements from EnSafe RCRA Hazardous Waste and EPCRA Tier II audits.
- Implement new EPA dichloromethane (methylene chloride) user and environmental protection program.
- Determine maximum allowable quantities (particularly flammable liquids and gases) for research-heavy buildings and develop remediation plans, as applicable.
- Strengthen the laboratory commissioning and decommissioning program.
- Begin development of a coordinated occupational health program.
- Continue e-learning training improvements.
- Continue CSHEMA Laboratory Safety Awareness Week, Laboratory Safety Culture Awards, Facilities Services Safety Fest and TCE positive safety culture engagement initiatives.



UT CHATTANOOGA CAMPUS ACHIEVEMENTS

- Reorganized the Department of Emergency Services into the Department of Public Safety (DPS). DPS includes the UTC Police Department, Office of Environmental Health & Safety, and Office of Emergency Management and Threat Assessment.
- Hired Sean O'Brien as associate vice chancellor for public safety and chief of police. Chief O'Brien came to UTC from the Chattanooga Police Department, after starting his career with the New Jersey State Police. He serves as the chief law enforcement officer and safety officer for the campus.
- Hired Brett Fuchs as director of emergency management and threat assessment, and public information officer. Fuchs came to the Department of Public Safety after eight years in the UTC Office of the Dean of Students.
- Hired Jason Patty as coordinator of emergency management. Patty came to UTC from the Hamilton County Health Department, where he served as an emergency planner. Prior to returning to the Chattanooga area, Patty served over 20 years as a federal air marshal with the Transportation Security Administration in the U.S. Department of Homeland Security,
- Fire Program Leader Joel Wands was awarded the campus Blue Ribbon Award for March. Wands was a leader in preparing the campus' housing water pipes to handle 10 consecutive days of freezing temperatures in January. Wands took the initiative to install new equipment before the freeze. The buildings' pipes suffered no damages or financial losses, despite seven straight nights with wind chill temperatures in the teens. The equipment he chose had an immediate financial payback for UTC and will continue to provide early detection and protection for many years. Similar temperatures in previous years resulted in damages in the tens of thousands of dollars, drastically displaced many students from their apartments for weeks, and damaged students' personal property.
- Partnered with the Division of Research to study pedestrian safety issues around campus using camera-based artificial intelligence. Once presented the results, the City of Chattanooga quickly installed new crosswalks and safety signage in areas of concern.
- Safety improvements were made to UTC's historic Jones Observatory following a minor arson. Lead-based paint and asbestos-containing materials were removed or encapsulated. The areas are in better condition now than they have been for many years.
- UTC police noticed a fuel leak from a waste hauler and tracked down the vehicle. Working with our state contractor, Belfor, after initial mitigation by the

fire department, cleaned up more than 20 gallons of diesel fuel that had flowed across a campus parking lot. EHS coordinated with parking services and housing to minimize impact to users of the parking lot, prevent entry of the spill to the storm water intake, and protect vehicles in the lot from the cleanup activity.

- Developed a new community safety training program that includes topics such as armed intruder response, verbal de-escalation, first aid/CPR/AED, Stop the Bleed, threat evaluation and reporting, and more.
- DPS piloted a new artificial intelligence tool that monitors the campus surveillance system for weapons, fights, suspicious persons, injured persons, occupancy levels, and more. The pilot will launch into partial implementation in 2025.
- Revamped the Department of Public Safety's social media presence.

UTC EVENTS IN FY 2024

Actual Disaster, Emergencies and Disruptions

- On Jan. 15-16, 2024, Chattanooga experienced hazardous winter weather, forcing the cancellation of Martin Luther King Jr. Day activities on Jan. 15 and class on Jan. 16.
- On April 2, 2024, a severe thunderstorm, expected to produce large hail, high winds, and possible tornadoes blew through the area. Classes and activities after 5 p.m. were cancelled.
- On April 23, 2024, a large fire off-campus caused significant air quality concerns. Individuals were advised to remain indoors due to the proximity to campus.
- On May 9, 2024, a critical power outage impacted campus and a large portion of Chattanooga. Classes and activities were cancelled. Significant steps were taken to restore power to campus as soon as possible, including to critical laboratory spaces which house freezers. While most research was saved, some were lost due to the outage.
- On Aug. 18, 2024, the campus experienced a complete loss of the campus network. This occurred in the midst of students returning to campus. This incident also resulted in the loss of emergency communications systems throughout campus. Service was restored within a few hours.
- On Sept. 26-27, 2024, hazardous weather was anticipated for the Chattanooga region. Classes and activities were cancelled beginning at 8 p.m. on Sept 26 and continuing through end-of-day on Sept. 27.
- Notice of Deficiency from the Tennessee Department of Environment and Conservation for portions of the 2022 and 2023 Annual Hazardous Waste Reports. Corrections were made and submitted before the deadline.

- Five minor cooking-related fires in housing. All successfully used fire extinguishers and there was no damage to campus property.
- A tree unexpectedly fell onto several vehicles in a UTC parking lot. Pedestrians on the adjacent walkway were not injured. An arborist's survey conducted the previous year indicated no concerns with the tree.
- Contractors unknowingly damaged a pad-mounted HVAC unit, which resulted in a small fire several hours later. Quick work by UTC police and city fire personnel extinguished the fire to prevent impact to the buildings.
- A severe spring storm across the city toppled a tree onto the main electrical feed to campus, which resulted in a prolonged power loss. Faculty and principal investigators suffered substantial loss of research specimens that thawed during the outage.

UTC TRAINING

- Full-scale armed intruder exercise with the Chattanooga Police Department, Hamilton County Sherriff's Department, Tennessee Highway Patrol, Tennessee Department of Homeland Security, Chattanooga Fire Department, Hamilton County Emergency Medical Service, and Hamilton County Office of Emergency Management.
- Life safety presentation for all incoming freshmen at campus orientation sessions
- Fire safety and extinguisher demonstration to housing staff and residents
- Fire drills twice each semester for all 10 residence halls
- Bloodborne pathogen training in English and Spanish
- Foot Protection safety show program for facilities staff
- Other trainings including:
 - o alternative vehicles
 - o forklift basics
 - o ladder safety
 - o lockout/tagout
 - o respiratory protection
 - o walking and working surfaces
 - o UTC-ALERT team refresher training

UTC GOALS FOR CALENDAR YEAR 2025

- Collaborate with Hamilton County Office of Emergency Management to conduct one live and two table-top drills in 2025.
- Grow Community Safety Training program.
- Build an index of safety training for students, faculty, and staff.
- Create a plan for the responsible stewardship of the fire safety systems.
- Hire a laboratory safety position to support teaching and research.
- Implement Safety Stratus.



UT SOUTHERN CAMPUS ACHIEVEMENTS

- Created template language to standardize messaging in the RAVE emergency alert system.
- Security personnel and residential staff received Narcan administration training from UT Southern clinic staff.
- The emergency response plan was finalized and formally implemented.
- Conducted a campus wide walk through with the Pulaski Fire Department to locate any fire hazards and safety concerns.
- Acquired two-way radios to streamline communication with local emergency dispatch, Pulaski Police Department, Giles County Sheriff's Department, and Pulaski Fire Department.
- Facilitated Stop the Bleed training, which was offered to students, security personnel, and residential staff.
- UT Southern EMA participated in local K-12 active shooter drills at Southside Elementary.

UT SOUTHERN EVENTS IN 2024

Actual Disaster, Emergencies and Disruptions

- Jan. 16 – 23: Campus closed due to severe cold and winter weather hazards. Snow accumulation remained for the entire week due to continued freezing temperatures.
- Jan. 21 – 28: Pulaski water system experienced a significant loss of water pressure due to multiple water lines failing throughout Giles County. The City of Pulaski issued a water boil advisory to campus and a majority of the county.
- Jan. 31st: Law enforcement notified security of a potential threat to campus. As a result, campus received an emergency alert to shelter in place. Law enforcement cleared campus and confirmed that there was not an active threat.
- Spring semester: Severe weather caused multiple brief power outages on campus. The outages disrupted communication on campus and required the science department to take additional steps to ensure aquarium habitats were not affected or damaged.

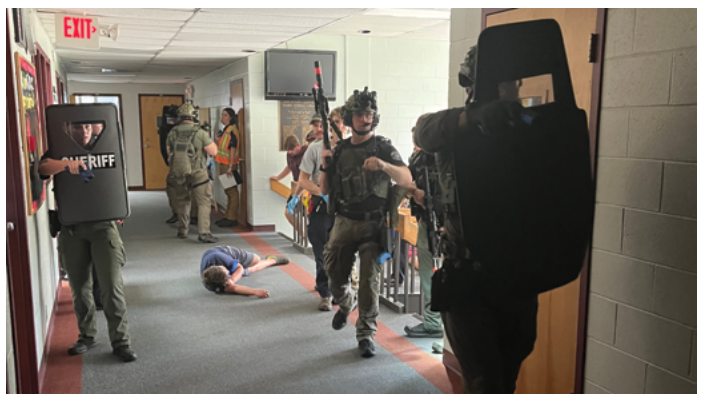
UT SOUTHERN TRAINING

- Fire and severe weather drills were conducted each semester at all on-campus residential locations.
- Local first responder agencies conducted an active threat drill at the Johnston Center in July 2024. This was the first time all response agencies attended a coordinated drill.

- A campus-wide active threat drill was conducted in October 2024. Local emergency agencies, the UT System, Homeland Security, the TBI, and the FBI participated.
- The emergency manager participated in Applied Suicide Intervention Skills Training and became a certified Question Persuade Refer trainer. The training was provided by the emergency manager to the Giles County Sheriff's Department.
- The UT System facilitated Radar Omega Training for all campus emergency managers.
- Campus Security Authority training was provided to all designated CSAs.
- CPR training was provided to security personnel and residential assistants and directors.

UT SOUTHERN GOALS FOR CALENDAR YEAR 2025

- Upgrade and improve campus security infrastructure by installing electronic locks, adding security cameras, and improve lighting throughout campus.



UT MARTIN CAMPUS ACHIEVEMENTS

- UTM is continually making safety improvements by updating the camera system on campus.
- After transitioning to the Latimer Smith STEM building, UTM partnered with Veolia to dispose of chemicals and waste to update chemical inventories.
- The Weakley County Prevention Coalition distributed Narcan to students during multiple overdose prevention programs on campus.
- UTM conducted a Take Back the Night event focusing on sexual assault pledging to assist in increasing awareness and prevention of sexual assault on campus.



- UTM completed a domestic violence awareness and prevention program and display during October for Domestic Violence Awareness Month.
- The Weakley County Prevention Coalition partnered with student conduct and environmental health and safety to place Narcan at all 45 AED locations on campus to assist with emergencies.
- UTM added two additional AED units to campus.



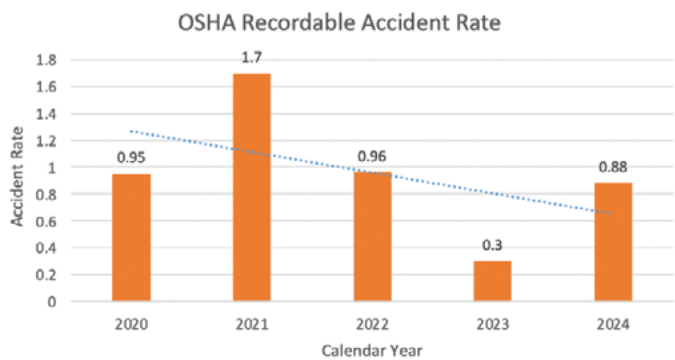
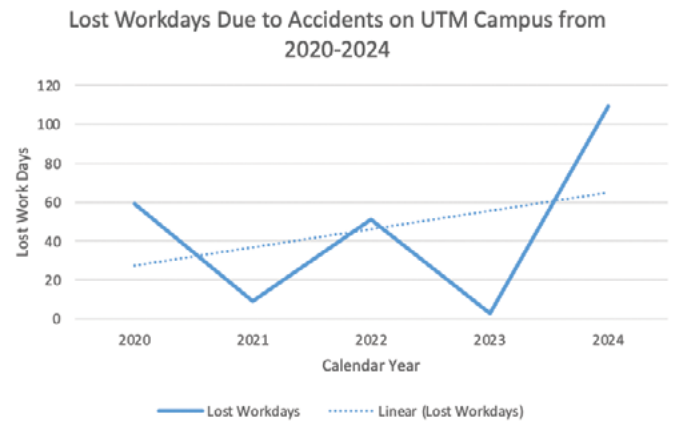
- UTM police received a grant for traffic enforcement focusing on pedestrian safety at crosswalks and for increasing awareness and enforcement of crosswalk safety.

UTM EVENTS IN 2024

Actual Disaster, Emergencies and Disruptions

- Jan. 16, 2024: the main campus and five regional centers were closed for inclement winter weather conditions.
- Jan. 17, 2024: the main campus and five regional centers were closed for inclement winter weather conditions.
- Jan. 18, 2024: the main campus and five regional centers were closed early due to inclement winter weather conditions.
- Jan. 19, 2024: the main campus and five regional centers were closed due to inclement winter weather conditions.
- Jan. 31, 2024: a steam pipe burst in the Andy Holt Humanities basement mechanical room causing a power outage. This required the building to close for multiple days to repair steam lines and electrical panels.

UTM ACCIDENT TRENDS 2020-2024



*Recordable Accident Rate per 100 employees

UTM TRAINING

- Multiple active shooter trainings were offered throughout the year for faculty, staff, and students to assist in preparing for and preventing an active shooter event.



- Housing resident assistants received fire safety training in the use of fire extinguishers in January and August during live fire training and hands-on fire extinguisher use.
- All housing residence halls conducted a fire drill each semester.
- On Aug. 12, 2024, UTM Emergency Management and the Department of Public Safety conducted an active shooter tabletop exercise for the chancellor's cabinet to increase awareness of campus emergency responsibilities and procedures.
- The Martin Fire Department utilized various locations on campus for confined space training to assist in emergency response on campus.
- The Martin Fire Department utilized various locations on campus for technical rope rescue training to assist in emergency response on campus.
- Information Technology Services conducted a tabletop exercise to focus on responding to phishing attacks that compromised the passwords and security of campus databases.
- UTM Safety and Emergency Management members attended the spring and fall UT System safety retreats.
- Safety and Emergency Management completed a training with the City of Martin Fire Department and EMS personnel in the Latimer-Smith building focusing on compressed air storage, locations of lab spaces, chemical storage locations, roof access, and overall building familiarity in the event of an emergency response.

- The UT Martin Jackson Center campus conducted an active shooter exercise with local emergency services including law enforcement, fire department, and EMS.

UTM GOALS FOR CALENDAR YEAR 2025

- Replace the tornado siren on the University Center to assist with emergency notifications.
- Continue overdose prevention and training with the Weakley County Prevention Coalition.
- Offer additional CPR and AED training on campus for faculty and staff.
- Continue to update the camera systems on campus to increase security measures.
- Crosswalk sensors and lights should be added to crosswalks on streets adjacent to campus to increase pedestrian safety.

UTHSC CAMPUS ACHIEVEMENTS

The Office of Safety Affairs is responsible for environmental health and safety and emergency management at the UT Health Science Center. This office is comprised of the Office of Research Safety Affairs, reporting up through the UTHSC vice chancellor of research, and the Campus Safety and Emergency Management department, reporting up through Finance and Administration. Although there are two different administrative reports, the work group functions as a single unit to meet UTHSC’s safety and compliance needs.

- UTHSC identified four goals to advance the campus environmental health and safety programs in 2024.
 - Transition the management of fire safety operations from facilities to safety affairs. This goal was completed.
 - Update the radiation safety manual and prepare online training solutions. This goal was completed.
 - Onboard a new biosafety officer and develop an updated training curriculum for the Regional Biocontainment Lab. This goal was completed.
 - Perform safety inspections in all research laboratories and campus buildings. This goal was completed.
- The campus identified five goals to advance its emergency management program in 2024.
 - Prepare an updated emergency operations plan for the campus. This goal was partially completed.
 - Campus police and safety affairs personal radiation detector training coordinated by the U.S. Office of Radiological Security. This goal was completed.
 - Provide campus leadership with training on the emergency operations plan. This goal was partially completed.
 - Train newly hired campus police personnel to operate the emergency operations center. This goal was completed.
 - Participate in the Silent Thunder tabletop exercise sponsored and coordinated by the U.S. Office of Radiological Security. This goal was completed.
- The reorganization of fire safety operations under safety affairs continued the expansion of campus responsibilities under the management of safety affairs. Responsibilities previously managed by five departments have been consolidated under one.

Departmental Responsibilities, by Delegation Date
• Biosafety (2017)
• Radiation safety (2017)
• Laboratory safety (2017)
• Occupational safety within the Office of Research (2017)
• Campus safety, including student safety and staff occupational safety (2020)
• Environmental compliance (2020)
• RBL biosafety and Federal Select Agent Program compliance (2022)
• Emergency management (2023)
• Fire safety (2024)
• Enterprise risk management (2024)

- Goals of reorganizing fire safety operations under the management of safety affairs included streamlining operations, standardizing procedures and improving customer service. Fire safety program modifications made this year resulted in substantial cost savings while maintaining a consistent level of service. Utilizing in-house staff rather than relying on vendors resulted in recurring cost savings of more than \$200,00 per year.
 - Emergency lighting inspections led to an annual cost reduction of \$153,000
 - Portable fire extinguisher inspections led to an annual cost reduction of \$56,000.
 - PFE training led to an annual cost reduction of \$2,400.
- The acquisition of a State of Tennessee branch license that enables us to perform annual PFE inspections will result in additional cost savings of \$10,000 per year beginning in 2025.
- Providing researchers with a safety and compliance platform is a major function of safety affairs. The effort includes maintaining policies, procedures and plans, safety training and performing safety inspections. Assisting researchers’ risk assessment efforts and supporting their work through the review of research protocols reflects a significant investment of time, effort and subject matter expertise. This effort is reflected in the table below.

IBC Protocol Reviews	154
IACUC Protocols Review	246
Radiation Safety Committee Protocol Reviews	14
Animal Hazard Form Reviews	60
Material Transfer Agreements (MTAs)	114
DEA/TNBOP Registration Monitoring	Quarterly
IRB/IBC Compliance Check	Quarterly

- The scope of the UTHSC laboratory safety inspection program includes 673 rooms under the supervision of 163 principal investigators. This year Safety Affairs identified a total of 614 safety findings in research labs – down 11% from the previous year. Lab personnel resolved 100% of these findings.

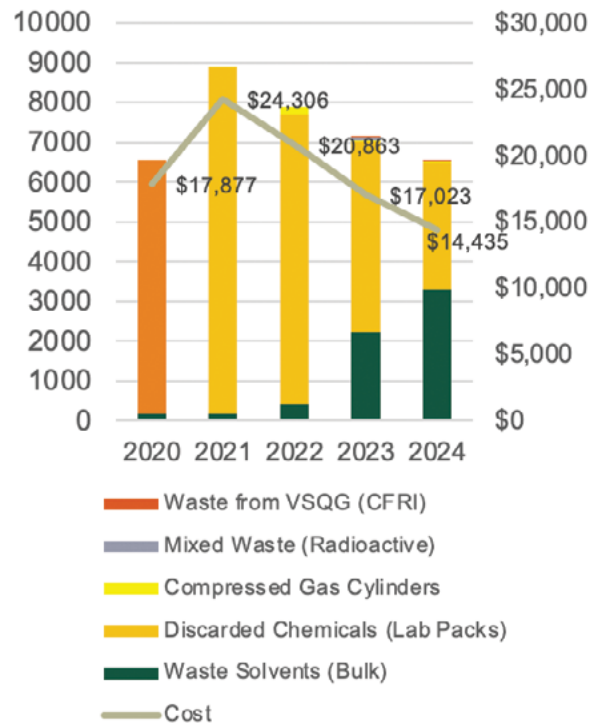
Top 10 Most Frequently Cited Lab Safety Findings	
1	Hazard communication
2	Universal lab safety practices and housekeeping
3	Chemical management
4	Training completion
5	Emergency equipment
6	Waste Management
7	Engineering control use and evaluation (e.g., biosafety cabinets)
8	Emergency procedures
9	Personal protective equipment (PPE)
10	Compressed gas management

- The campus safety program included an inspection of all campus buildings. During these inspections, Safety Affairs personnel identified 279 safety findings with 88% of these findings having been resolved. Unresolved issues are being tracked by Safety Affairs or have been escalated in accordance with the Safety Affairs escalation procedure for unresolved issues.

Top 5 Most Frequently Cited Safety Findings (Non-laboratory)	
1	Electrical
2	Fall protection
3	Mold
4	Emergency equipment blocked
5	Universal waste management

- Hazardous waste generation (kg) has reduced by 26% since 2021. Disposal cost reductions have outpaced the reduction in waste volume, decreasing by 40%. The adoption of waste management practices, including the utilization of more cost-effective waste streams and use of alternate vendors, have helped drive down program costs.
- Safety Affairs provided 199 respirator fit tests to students, faculty and staff. Students who require N95 fit tests before entering patient care settings are the individuals most commonly fit tested.
- Biosafety cabinet certification and repair services provided by Safety Affairs resulting in \$36,000 in revenue while providing outstanding service to the campus community at two-thirds the cost of commercial vendors.
- Formaldehyde exposures in the gross anatomy lab have been controlled by working with the Facilities Department to maximize laboratory ventilation and

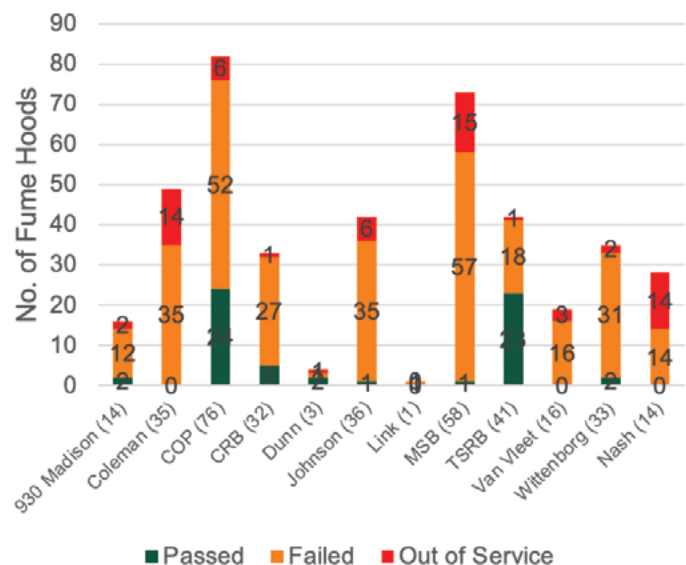
Hazardous Waste Generation (Kg) and Disposal Cost



with personnel from the Anatomy Department to split the course into two sessions. This short-term solution is necessary to maintain exposures below the TOSHA legal limit of exposure. Funding has been secured for the long-term solution of constructing a new gross anatomy lab in the General Education Building.

- Safety Affairs evaluated the performance of 359 chemical fume hoods for compliance with the institutional performance standard based on ASHRAE and ANSI/ASSP guidelines. Overall, 17% of the

UTHSC Fume Hood Status 2024



chemical fume hoods on campus met the criteria for certification. This is a decrease of 67% since 2019, the first year for which this data was available.

- The scope and accomplishments of the campus radiation safety program are listed below:
 - Thirteen authorized users of radioactive material or equipment containing sealed radioactive material sources.
 - Campus received 31 radioactive material shipments.
 - Dosimetry for 110 individuals (students, faculty and staff).
 - Obtained 10 new personal radiation dosimeters from the federal government.
 - Amended the state license to include one additional isotope.
 - Thirteen generally licensed devices containing radioactive material.
 - The program has 117 x-ray units.
- Concluding a three-year effort, Safety Affairs completed the UTHSC water intrusion plan by providing building-specific information for all buildings on the Memphis campus.
- Building-specific emergency action plans were completed for 16 Memphis campus buildings.
- Prepared the UTHSC alert notification plan articulating the utilization of the UTHSC alert notification system and providing notification templates for emergency campus communications.
- Prepared emergency management procedures for campus winter weather events and Facilities Department winter weather response.

UTHSC EVENTS IN 2024

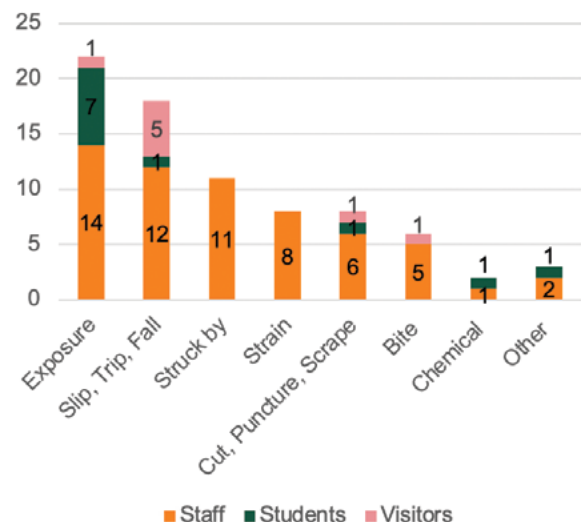
Actual Disaster, Emergencies and Disruptions

- Regulatory agencies and accrediting organizations inspected the UT Health Science Center to assess compliance with regulatory requirements. Inspection results are summarized in the table below.

Agency	Scope	Outcome
AAALAC	Animal Care	Full accreditation
TDEC	Radiation Safety	No findings. No fines levied.
TDEC	Air Pollution	One finding: equipment not operating to specification. Fine pending.
TDEC	Underground Storage Tanks (USTs)	No findings. No fines levied.
TDEC	UST (Capital Project)	Three findings: lack of commissioning tests for newly installed equipment. Response accepted, no fine levied.
Memphis Fire Dept.	Select Campus Buildings	Inspections on three occasions. No findings. No fines levied.
USDA	Animal Care	No findings. No fines levied.
TOSHA (Complaint)	West Tennessee Regional Forensic Center	Safety Affairs responded to an employee safety complaint. TOSHA accepted the response with no fines levied.

- Students, staff and visitors reported 146 injuries on UTHSC campuses this year. Medical residents reported 68 injuries, 64 of which were infectious exposures. The causes of non-medical resident injuries are detailed below.

UTHSC Injuries, Excluding Medical Residents

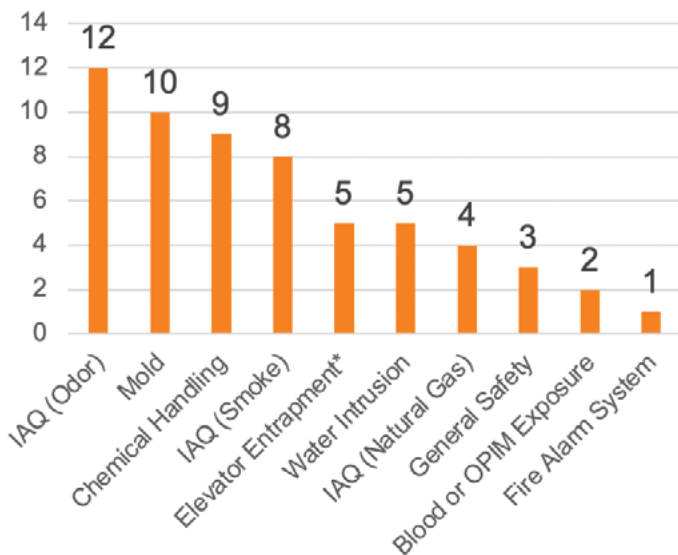


- TOSHA recordable injuries represent a subset of all injuries reported by UTHSC employees. TOSHA recordable injuries increased slightly from the previous year. Lost time injuries and lost time days decreased from the previous year.

UTHSC Employee Injuries, 2022-24			
Year	2022	2023	2024
TOSHA Recordable Cases	85	69	90
Lost Day Cases	3	5	3
Lost Days	206	167	79
Incidence Rate (Injuries/100 FTE/Year)	1.75	1.40	1.83

- A majority of reported injuries occurred on the Memphis campus (101), followed by Knoxville (37), Nashville (7), and, Chattanooga (1).
- Campus personnel reported 59 safety-related concerns. These reflect both campus conditions and community awareness about Safety Affairs' ability to respond to concerns. (*Data for elevator entrapment exists only for the period between October and December 2024.)

Reported Concerns

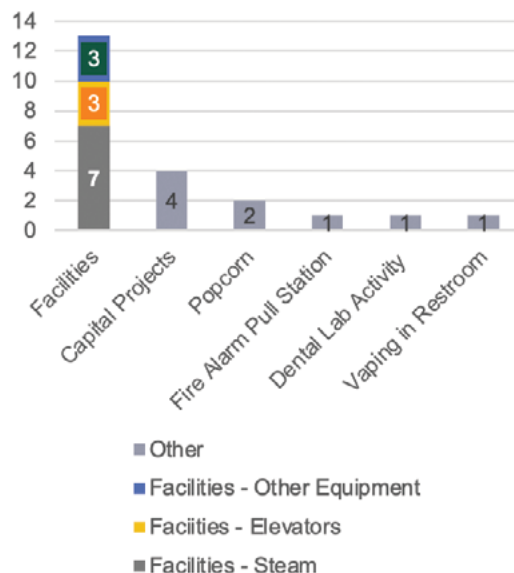


- 2 fires occurred on campus this year. The incidents are summarized below.

Event	Description
Laboratory handling of reactive chemicals	Post-doctoral researcher not trained to the SOP for handling pyrophoric materials experienced a small fire in a fume hood. The fire was extinguished using a PFE. The fire alarm was not activated, and the building was not evacuated.
Elevator motor fire	During a campus capital project to upgrade building elevators an in-use motor caught fire. Smoke alarms were triggered, the building was evacuated and the Memphis Fire Department responded.

- Safety Affairs performed 18 fire drills in 15 buildings. More than 50% of the buildings on the Memphis campus (27). This is an increase from seven fire drills performed in three buildings in 2023
- The Safety Affairs chemical spill team responded to two chemical spills involving laboratory chemicals. One involved a broken bottle of beta mercaptoethanol and resulted in the evacuation of the research building floor where the incident occurred. The other involved a bottle of isoflurane and was cleaned without a substantial disruption of operations.
- The Memphis Fire Department responded to 22 fire alarms on campus. One incident involved a fire (elevator motor). Together, UTHSC building systems and incidents on capital projects accounted for 77% of the fire alarm activations on campus.

Fire Alarms, by Cause



- Safety Affairs prepared after-action reports for four incidents that impacted campus. In each instance the after-action report identified recommendations for improvement that were followed through to completion.
 - January freeze and winter weather response (January 2024)
 - Personal Radiation Dosimeter (PRD) training and exercise (April 2024)
 - Silent Thunder Tabletop Exercise (August 2024)
 - 930 Madison Avenue flood (December 2024)
- In conjunction with the U.S. Office of Radiological Security, the UT Health Science Center coordinated and participated in a Silent Thunder tabletop exercise (Bluff City Thunder). More than 140 local, state and government officials participated in this exercise of the community's ability to respond to a radioactive material incident originating on the Memphis campus of the Health Science Center. This was the largest and best attended Silent Thunder exercise conducted to date.



UTHSC TRAINING

- Safety Affairs provides UTHSC personnel with training to meet regulatory requirements, comply with institutional procedures and promote a safe and productive place to work and learn.
- All employees are required to take Hazard Awareness and Emergency Response training as part of the annual mandatory training curriculum. This is intended to ensure that all personnel can recognize hazards and respond to campus emergencies.
- Hazard Awareness and Emergency Response Training is provided to new employees through the New Employee Orientation program. This provides basic hazard recognition and emergency response training while directing new employees to the appropriate resources for work area specific safety training.
- Researchers received training on Blackboard to cover the requirements of the UTHSC Chemical Hygiene Plan, Biosafety Manual and Exposure Control Plan. Lab-specific training must be provided by subject matter experts familiar with the research work being performed.

- Safety Affairs provided instructional support to students and faculty in the Colleges of Medicine, Dentistry and Health Professions by providing bloodborne pathogens and lab safety training to students in the Dental Technique Lab, Medical Laboratory Science Program, MSPA 510, and all third year medical students.
- The RBL Biosafety Officer prepared a A/BSL3 hands-on biosafety training curriculum for personnel working in this facility. The hiring of the RBL Biosafety officer and use of the new training curriculum has reduced the onboarding time for new RBL staff and researchers by more than 50%. The officer has also enhanced the awareness of hazards and safe working procedures in this high consequence research environment.

- Fire safety specialists provided hands-on portable fire extinguisher training to students, faculty and staff.



- The radiation safety officer (RSO) created a curriculum of radiation safety training on Blackboard courses including:
 - Radiation Safety Initial Training
 - Radiation Safety Annual Refresher Training
 - Laser Safety for Embedded Laser Systems
 - Laser safety for Open Beam Class 3B and Class 4 Lasers
 - X-ray Safety for College of Dentistry
 - Radiation Safety for Residents and Fellows
- Safety Affairs provided monthly training to facilities personnel covering a range of topics that addressed safety, compliance and institutional procedures. Topics are listed below.

Topic	2024 Month
Hazardous Waste Management	January
Asbestos Awareness	February
Bloodborne Pathogens	March
Lockout/Tagout	April
Electrical Safety	May
Hazard Communication	June
Machine Guarding	July
Hearing Conservation	August
Spill Prevention, Control and Countermeasures (SPCC)	September
Confined Spaces	October
Walking and Working Surfaces	November
Water Intrusion Plan and Inclement Weather Preparation	December

Professional development is a pillar of the 2023-2028 UTHSC Strategic Plan. Continuing education increases the value of our EHS professionals and enhances their ability to support the campus.

- All Safety Affairs staff members met the annual goal of completing at least 35 hours of professional development training.
- Mickey Phillips, senior health and safety specialist, completed OSHA 501/511 training to become certified to provide OSHA 10-Hour and 30-hour training for General Industry.
- The UTHSC RSO and members of the UTHSC Campus Police participated in U.S. Department of Energy National Nuclear Security Administration training class on the use of personal radiation devices when responding to a radiological incident or accident.
- Safety Affairs personnel completed FEMA IS120 and IS-200 training.
- Having completed training to provide HAZWOPER refresher training in 2023, Safety Affairs personnel prepared and participated in their own HAZWOPER eight-hour refresher. This saved UTHSC approximately \$2,000 in training fees and resulted in a learning experience geared towards the emergency response situations most likely to occur on campus.
- EHS academy training, prepared and presented by Dr. Robert Emery, was provided as part of the Winter Safety Officer's retreat. Five members of the Safety Affairs team participated in this training to better understand and provide EHS support in a university setting.



Certification by accredited professional organizations distinguishes our staff members as subject matter experts in their field. Several members of the Safety Affairs team prepared for and received professional certification in 2024.

- Mat Ellis, fire safety specialist 2, passed the exam to become NICET certified.
- Keith Hoover, environmental services coordinator, passed the exam to become a Certified Hazardous Material Manager (CHMM).
- All three fire safety team members passed the certification exam to become State of Tennessee licensed Portable and Fixed Fire Extinguisher System Specialists.

Engaging communities is another pillar of the 2023-2028 UTHSC Strategic Plan. Safety Affairs' involvement with local and professional communities included:

- Hosting and providing training to the Memphis Fire Department in a series of three training sessions covering a variety of topics including the inspection and operation of fire protection systems.
- In conjunction with the non-profit Laboratory Safety Institute, Inc., Safety Affairs staff provided a free webinar on the requirements of the U.S. EPA Toxic Substances Control Act (TSCA) Final Rule on Methylene Chloride. More than 500 EHS professionals, researchers and laboratory staff members participated in this event.
- At the request of the American Chemical Society, Safety Affairs staff presented a four-hour workshop providing tools and resources to facilitate compliance with the U.S. EPA Toxic Substances Control Act (TSCA) Final Rule on Methylene Chloride.

UTHSC GOALS FOR CALENDAR YEAR 2025

- Complete the UTHSC Emergency Operations Plan for the Memphis campus to replace the outdated UTHSC Emergency Response Plan.
- Develop and implement a UTHSC Enterprise Risk Management program.
- Support the migration of research protocols subject to review and approval by the IBC and RSC from iMedris to the Huron system.
- Complete building emergency action plans for all Memphis campus buildings.
- Conduct fire drills in 100% of applicable UTHSC Memphis campus buildings within a 12-month period.
- Comply with the U.S. EPA TSCA Final Rule for Methylene Chloride by implementing a compliant Workplace Chemical Protection Program (WCPP) and preparing a methylene chloride Exposure Control Plan in accordance with regulatory deadlines.
- Promote safety in academic laboratories through the implementation of the campus Instructional Lab Safety Program (GS5300).
- Implement a laser inspection program in alignment with the revised Laser Safety Program (LS01).
- Hire and complete basic proficiency training for a replacement health and safety specialist.
- Perform safety inspections in all laboratories and buildings on the UTHSC Memphis campus.

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