FIRE & LIFE SAFETY

Introduction

The following sections provide fire and life safety guidelines and procedures. This chapter covers the following topics:

General Fire and Life Safety

Each year college and university students experience hundreds of fire-related emergencies nationwide. There are several specific causes for fires on college campuses, including cooking, intentionally set fires, and open flame. Overall, most college-related fires are due to a general lack of knowledge about fire safety and prevention.

UT Arlington is committed to providing a safe environment for building occupants and emergency response personnel. UT Arlington uses nationally accepted codes such as The National Fire Protection Agency, Life Safety Code, and The International Fire Code guidelines for inspections, testing, and procedures.

The Environmental Health & Safety Office (EH&S) is responsible for administering the University's Fire and Life Safety Program. This includes review of all new building construction and renovations to ensure compliance with University fire protection standards and applicable national, state, and local regulations.

EH&S conducts fire and life safety inspections throughout campus buildings. Additionally, fire exit drills are conducted in University residence halls and apartments. The purpose of these drills is to familiarize occupants with what actions to take if an emergency does occur. Remember, fire and life safety is everyone's responsibility.

The Effects of a Fire

Most fires produce an immense amount of smoke that is highly toxic. In fact, smoke is responsible for more fire fatalities than flames. A smoky fire can affect humans in the following manner:

Within 30 seconds - Disorientation
Within 2 minutes - Unconsciousness
Within 3 minutes - Death

Timing is critical during a fire. To ensure your safety, you must know how to prevent and respond to any fire emergency.

Fire Prevention

The greatest protection against property loss and injuries from fire is prevention. Follow these guidelines to promote fire and life safety:

- Minimize combustible storage.
- Store waste materials in suitable containers.
- Use flammable materials in well-ventilated areas.
- Use and store flammables away from ignition sources.
- Keep equipment in good working order.
- Have electrical wiring and appliances inspected regularly.
- Ensure that heating units are properly safeguarded.
- Do not attempt to locate gas leaks using an open flame, use approved gas indicators.
- Report and repair all gas leaks immediately.
- Test enclosed or confined spaces for flammable atmospheres.
- Use open flames carefully.
- Do not use open flames where flammable atmospheres may be present.

Fire Response

If you see a fire or smoke, or if you smell smoke, complete the following steps:

1. Pull the fire alarm pull station to activate the alarm and begin evacuation of the building.

2. If you are not in immediate danger, call the UT Arlington Police Department emergency number at 817-272-3003 to report the fire. Provide the operator with the following information:

    - Location – Building, room and/or area
    - Size and type of fire
    - Your name

3. If you are formally trained in firefighting techniques and are not in immediate danger, you may attempt to fight the fire using a fire extinguisher. However, do not place yourself or others in unnecessary danger.

4. Exit the building by following posted evacuation routes. Do not use elevators during a fire emergency.

In the event of an evacuation, building occupants must receive permission from the UT Arlington Police Department (UTAPD), the Arlington Fire Department (AFD), or the Environmental Health & Safety Office before re-entering the building.

Arson

If you suspect arson, no matter how small the incident, contact the UTAPD or EH&S. Do not alter the fire scene in any way, unless you are trying to extinguish a live fire.

Combustible Storage

By storing excess combustible materials improperly, employees not only increase the potential for having a fire, they increase the potential severity of a fire. To reduce the hazards associated with combustible storage, follow these guidelines:

- Eliminate excess combustible materials such as paper and cardboard.
- Do not store combustible materials in hallways, stairwells, or mechanical rooms.
- When stacking combustible materials, leave at least 24 inches between the top of the stack and the ceiling.

Portable LPG

The Texas Railroad Commission regulates the sale and use of Liquefied Petroleum Gas (LPG), including butane and propane. These regulations govern several types of LPG-powered equipment including the following:

- Forklifts
- Floor buffers
- Cooking and heating equipment
- Laboratory equipment

Exhaust fumes may contain carbon monoxide which can present a health hazard. Exhaust can also create smoke which may activate a smoke detector. Take special precautions to ensure adequate ventilation when using these machines indoors.

Because LPG is extremely flammable, it is a potential fire hazard. Do not store LPG near heat, flame, or other ignition sources.

In addition, do not leave portable LPG containers larger than 16 oz. in a building overnight. Instead, place portable LPG containers and LPG equipment outside in a storage area that is at least 25 feet away from other buildings, combustible materials, roadways, railroads, pipelines, utility lines, and the property line. This storage area should prevent unauthorized entry and have a portable fire extinguisher within 25 feet.

Emergency Access and Egress

Emergency access and egress are critical during an emergency situation such as a fire. During a fire, timing and quick response are essential to save lives and property. Effective emergency access ensures that fire trucks can reach a building in time to extinguish the fire. Unobstructed emergency egress ensures that building occupants can exit a building to safety.

These definitions help clarify the concept of emergency access and egress:

Emergency Access:	Pertinent facilities and equipment remain available and unobstructed at all times to ensure effective fire detection, evacuation, suppression, and response.
Emergency Egress:	A continuous and unobstructed way to travel from any point in a public building to a public way. A means of egress may include horizontal and vertical travel routes, including intervening rooms, doors, hallways, corridors, passageways, balconies, ramps, stairs, enclosures, lobbies, courts, and yards.

IMPORTANT:

Each location within a building must have a clear means of egress to the outside. The following sections offer safety guidelines and procedures for maintaining emergency access and egress.

Corridors, Stairways, and Exits

An exit corridor and/or stairway is a pedestrian pathway that allows direct access to the outside of a building and/or allows access to a building entrance and subsequent pathways to the outside of a building (i.e., an exit corridor is the quickest, easiest, and most direct pathway for leaving a building.) Because exit corridors or passageways are the primary means of egress during an emergency, employees must follow the safety guidelines outlined in this section.

IMPORTANT:

There must be at least 44 inches clear width of unobstructed, clutter-free space in all corridors, stairways, and exits.

Follow these guidelines to promote safe evacuation in corridors, stairways, and exits:

- Keep all means of egress clean, clutter-free, and unobstructed.
- Do not place hazardous materials or equipment in areas that are used for evacuation.
- Do not use corridors or stairways for storage or office/laboratory operations.
- Corridors may not be used as an extension of the office or laboratory.

Fire Lanes

A fire lane is an area designated for emergency personnel only. It allows them to gain access to building and/or fire protection systems. Although most fire lanes on campus are clearly marked, not all fire lanes are easy to distinguish. UT Arlington has a program in place to clearly mark all fire lanes.

IMPORTANT:

Do not park in fire lanes or within 15 feet of fire hydrants and other fire equipment.

Fire Doors

A fire door serves as a barrier to limit the spread of fire and restrict the movement of smoke. Unless they are held open by automatic systems, fire doors should remain closed at all times. Do not tamper with fire doors or block them with equipment, potted plants, furniture, doorstops, etc.

Fire doors are normally located in stairwells, corridors, and other areas required by fire code. The door, door frame, locking mechanism, and closure are rated between 20 minutes and three hours. A fire door rating indicates how long the door assembly can withstand heat and a water hose stream.

Always keep fire doors closed. If it is necessary to keep a fire door open, a special automatic closure must be installed. This closure will connect the fire door to the building's fire alarm system, and will automatically close the door if the alarm system activates.

IMPORTANT:

Know which doors are fire doors and keep them closed to protect building occupants and exit paths from fire and smoke. Never block a fire door with a non-approved closure device such as a doorstop, block of wood, or potted plant. For fire doors with approved closure devices, make sure that nothing around the door can impede the closure.

Never alter a fire door or assembly in any way. Simple alterations such as changing a lock or installing a window can lessen and/or void the fire rating of the door.

Non-fire rated doors to offices, laboratories, and classrooms help act as smoke barriers regardless of their fire rating. Keep these doors closed whenever possible.

REMEMBER:

A closed door is the best way to protect your path to safety from the spread of smoke and fire.

Fire Detection and Notification

UT Arlington uses several types of fire detection and notification systems including heat detectors, smoke detectors, pull stations, horns, and strobe lights. The following sections discuss these components.

Heat and Smoke Detectors

There are two types of fire detection devices used on campus: heat detectors and smoke detectors. Please note the location of the detectors in your area and prevent damage and accidental activation.

Heat Detectors:

Heat detectors respond to the convected energy in hot smoke and fire gases (i.e., heat). Heat detectors are normally located in laboratories, mechanical rooms, storage areas, and areas that could produce high levels of dust, steam, or other airborne particles.

Smoke Detectors:

Smoke detectors respond to the solid and liquid aerosols produced by a fire (i.e., smoke). Since smoke detectors cannot distinguish between smoke particles and other particles such as steam or dust, building occupants must be aware of detector locations and be considerate when working around them. Smoke detectors are normally found in exit corridors, office areas, assembly areas, and housing units.

* If your work or activities will produce steam, dust, or an environment that could damage or activate a detector, before beginning contact the EH&S Office at 817-272-2185 to have them temporarily disabled.

Alarm Systems: Pull Stations

Fire alarm manual pull stations are installed to manually activate a building's alarms in addition to the automatic fire sensing devices. When pulled manually, a pull station activates the fire alarm system and notifies University personnel that an emergency exists. Pull stations are located near exit stairways and building exits.

Alarm Systems: Horns and Lights

Emergency horns/bells and lights are located throughout University buildings with fire alarm systems. They are typically located near emergency pull stations. Do not block emergency horns or lights. Report damaged or defective horns and lights to EH&S.

Fire Suppression

UT Arlington uses various types of fire suppression equipment including portable fire extinguishers, sprinkler systems, and carbon dioxide systems. The following sections discuss each type of fire suppression equipment.

Fire Extinguishers

There are numerous types of fire extinguishers; however, most extinguishers contain water, carbon dioxide, or dry chemicals. Fires are classified according to three basic categories. Each type of fire requires

special treatment to control and extinguish it. Therefore, all fire extinguishers are clearly marked to indicate the class of fire they are designed to extinguish.

Fires are classified as indicated below:

Class A:
Fires involving ordinary combustibles such as wood, textiles, paper, rubber, cloth, and trash. The extinguishing agent for a Class A fire must be cool. Water and multi-purpose dry chemical fire extinguishers are ideal for use on these types of fires.

Class B:
Fires involving flammable or combustible liquids or gases such as solvents, gasoline, paint, lacquer, and oil. The extinguishing agent for a Class B fire must remove oxygen or stop the chemical reaction. Carbon dioxide or multi-purpose dry chemical fire extinguishers are ideal for use on these types of fires.

Class C:
Fires involving energized electrical equipment or appliances. The extinguishing agent for a Class C fire must be a nonconducting agent. Carbon dioxide and multi-purpose dry chemical fire extinguishers are ideal for use on these types of fires. Never use a water fire extinguisher on a Class C fire.

Class D:
Fires that occur in combustible metals, such as magnesium, lithium, or sodium. Special extinguishing agents and techniques are necessary for fires of this type.

Inspection, Testing, & Recharging Fire Extinguishers

EH&S inspects and tests fire extinguishers as required. Additionally, fire extinguishers must be recharged after every use. To report a missing or damaged fire extinguisher or to request a fire extinguisher be installed or relocated please contact EH&S at 817-272-2185.

Using Fire Extinguishers

Most fire extinguishers provide operating instructions on their label; however, the time to learn about fire extinguishers is before a fire, not during one. The sooner you know how to use a fire extinguisher, the better prepared you will be to handle an emergency situation.

NOTE:
Portable fire extinguishers are located throughout all University facilities. They are mounted in readily accessible locations such as hallways, near exit doors, and areas containing fire hazards. Make sure that fire extinguishers are accessible and securely mounted.

EH&S provides fire extinguisher classes. When using a fire extinguisher to fight or control a fire, aim the spray at the base of the fire. Because most extinguishers only work for a short time, employ a sweeping motion and work quickly to control the fire.

IMPORTANT:
Do not attempt to fight a fire unless it is small and controllable and you have been properly trained. Use good judgment to determine your capability to fight a fire. When fighting a fire, always maintain an escape route behind you. Never allow a fire to block your egress.

Sprinkler Systems

The purpose of water sprinkler systems is to help extinguish and minimize the spread of fires. Sprinklers are normally activated only by heat. They are not connected to emergency pull stations. To ensure that sprinklers are effective in the event of a fire, maintain at least 24 inches of clearance between any equipment or storage items and the ceiling. Anything close to the ceiling can defeat the sprinkler system by blocking the proper spray pattern of the sprinkler head. Never hang anything from a sprinkler head or sprinkler piping. Arrange work areas to facilitate sprinklers and allow for even water distribution.

Chemical Systems

Special work areas, such as computer rooms and chemical storage rooms, may contain specialized fire suppression systems. Areas with special fire suppression systems will be clearly identified on the room door. If you have any questions about supplemental fire suppression systems, please contact EH&S at 817-272-2185.

Hot Work Permits

Hot work is any activity that creates heat or sparks. Before beginning any hot work process a Hot Work Permit must be obtained from the EH&S office. Prior to beginning hot work, all individuals performing the hot work, as well as the required fire watch, must complete UT Arlington's Hot Work and Fire Extinguisher Awareness Training. Please call EH&S at 817-272-2185 for more information.

Grill Permits

The use of charcoal or propane grills at events held on the UT Arlington campus must follow fire and life safety guidelines, as well as University policies and regulations. A request to obtain a Grill Permit must be submitted to EH&S at least 48 hours prior to the scheduled activity. Please see Charcoal and Propane Grill Permit for requirements.

Tent Permits

Completion of an application to erect a tent on campus must be completed and returned to EH&S five (5) days before the scheduled event. Tents must be available to be inspected by EH&S prior to the event. See Tent Permit Request Form for more details.

Holiday Decorations

Materials used when decorating for the holidays can often be fire hazards. The University has developed a set of Guidelines for Decorative Displays to help increase safety when using holiday decorations in offices at UT Arlington.