POLICY STATEMENT

Furman University will make every reasonable effort to promote, create, and maintain a safe and healthful environment for faculty and staff, students, and visitors. This will be accomplished through adherence to basic safety principles, management commitment, safety and health training, encouraged employee involvement, and compliance with applicable federal, state, and local standards on health and safety.

Health and Safety should be one of the primary considerations in the planning and conduct of all college activities, and in the design and construction, and in the modification or renovation of all college buildings and facilities. Through a strong commitment to safety, Furman University can minimize its losses, increase morale and productivity, and reduce pain and suffering. No job or course of academic study is so important and no request so urgent that one cannot take time to perform that function safely and in compliance with regulations.
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1. INTRODUCTION

1.1 PURPOSE
It is the policy of Furman University to provide a safe and healthful working environment and to enhance the protection of lives and property through effective use of college and campus community resources. This goal cannot be realized without first developing a comprehensive program that strives to eliminate or reduce hazards. The purpose of this manual is to provide guidance and direction for the environmental health and safety program at Furman University. Specific objectives of this manual include the reduction of accidents and injuries, encouragement of active involvement by all employees in a continuing safety effort, and compliance with Federal, State, and Local regulations.

1.2 SCOPE
Health, safety, and environmental protection are everyone's concern. Each employee must regard health, safety, and environmental procedures as part of their job requirements. As such, this Safety Manual applies to all faculty, staff, and students at all administrative and work levels throughout Furman University. This program is managed by the Risk Management Office and will be reviewed annually to meet the appropriate needs of the University.

1.3 ENFORCEMENT
Employees who violate health, safety, or environmental procedures will be subject to disciplinary action as outlined in the Disciplinary Policy in the University Policy and Procedures Manual. Disciplinary action will include the use of verbal and written reprimands or warnings, suspension and termination. All employees shall report safety violations committed or observed to their immediate supervisor. If the violation is one of an extremely serious nature, it shall also be immediately reported to the Risk Management Office by the immediate supervisor. The circumstances surrounding the violation will be reviewed and action taken to avoid future violations through training, procedure changes, equipment, etc.
2. RESPONSIBILITY

2.1 FACULTY AND ADMINISTRATION
Faculty and management are responsible for demonstrating leadership in developing proper attitudes toward environmental health and safety, and providing necessary resources to conduct activities safely and assure environmental compliance. The University's goal is to present the general precepts on which the supervisors can develop their own health and safety procedures and practices, specific guidelines that must be observed as a minimum for operations involving specific hazards, and support for employee training to follow the procedures and practices.

2.2 SUPERVISORS
Supervisors are responsible for assuring that employees are properly trained and experienced in recognizing the potential health and safety hazards of their jobs. Supervisors are also responsible for showing the proper regard for their own health and safety and that of their subordinates and/or co-workers. In addition, supervisors are responsible for seeking advice and assistance on safety related problems and questions that may arise, as well as, reporting violations to management. Supervisors are further responsible for setting a positive example for their subordinates in their attitude toward safety and the attention that they give to health and safety in their work.

2.3 EMPLOYEE
All employees must comply with the rules and regulations that have been published or adopted by the University. Employees are responsible not only for following written and verbal instructions on health and safety, but for developing their own awareness of potential health and safety problems in their assigned work. They should also pre-plan work with health and safety as a principal consideration in work layout and design. All individuals are directly responsible for their own personal safety, both on and off the job. They are encouraged to actively participate in the safety program by helping supervisors identify, control, and eliminate deficiencies in health and safety practices. Employees who repeatedly violate health and safety requirements will be disciplined in a progressive manner up to and including termination.

2.4 PUBLIC SAFETY DEPARTMENT
The Public Safety Department is responsible for the development, administration, review, and analysis of the University security programs. Activities include the provision of law enforcement, physical security, and assistance to members of the University community to assure their safety.

2.5 RISK MANAGEMENT OFFICE
The Risk Management Office is responsible for the evaluation of hazards and risks in the activities of faculty, staff, and students. Activities also include the proper disposal of hazardous materials, inspection of buildings for compliance with fire and safety codes, maintenance and analysis of records and documentation necessary for effective administration and compliance with the rules of the regulatory agencies and management of University insurance programs.

2.6 CONTRACTORS
Contractors are expected to abide by applicable OSHA, EPA, State, and University regulations and guidelines. Contractors must take steps to protect the health and safety of employees, students, and visitors while performing their work. University supervisors will be responsible for informing contractors of any applicable hazards associated with any on-site chemicals, location of MSDS's, or any other hazardous situations they may encounter (such as the location of confined spaces or asbestos-containing materials).
3. OCCUPATIONAL SAFETY

3.1 PURPOSE
The purpose of the Occupational Safety and Health Administration (OSHA) is "to assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health; and for other purposes." OSHA attempts to meet this goal by requiring employers to comply with safety and health standards covering conditions and operations in the workplace, and to maintain the workplace free from recognized hazards when no standard is applicable to the situation.

3.2 SCOPE
The state enforces the standards covering most occupational activities for which federal OSHA has promulgated standards. The South Carolina Plan covers all employees in the state, except employees of the federal government. Both employers and employees have a duty to comply with all specific standards and regulations promulgated under the Plan.

3.3 ENFORCEMENT
Congress passed the William-Steiger Occupational Safety and Health Act into law in 1970. The OSH Act is administered primarily by the U.S. Department of Labor's OSHA. When OSHA was created, it superseded all state safety and health programs. Since then several states, including South Carolina, have developed federally approved plans for the administration and enforcement of their own safety and health laws that are "at least as effective" as the federal OSHA program. OSHA approved South Carolina's Plan on December 6, 1972, and declared it operational as of May 9, 1975.

Enforcement of the employer's obligations is accomplished through workplace inspections by compliance officers. Inspectors may enter the premises at any reasonable time and without advance notice, conduct inspections, discuss findings or questions with employers and employees, and review employer-kept OSHA-related records. Where violations of the Act, standards or regulations are found, citations are issued and civil, or sometimes criminal, penalties proposed.

3.4 RECORDKEEPING
The University is required to record, and in some cases report, job-related injuries and illnesses to aid in the enforcement of the Act, and in the development of information on the causes and prevention of such incidents. Human Resources maintains the Bureau of Labor Statistics (BLS) "Log and Summary of Occupational Injuries and Illnesses" (OSHA Form No. 300), and the BLS "Supplementary Record of Occupational Injuries and Illnesses" (OSHA Form No. 300A) for the University. The annual summary of occupational injuries and illnesses is completed within one month following the end of the calendar year, posted in the workplace for at least one month no later than February 1, and retained by Human Resources for at least 5 years. Human Resource’s is responsible for providing the summary to each department and they are responsible for its posting.
3.5 INSPECTIONS
To ensure compliance with Federal and State OSHA Safety Standards, OSHA Compliance Officers of the State Division of Labor may inspect the University periodically. In addition, the State Fire Marshal Office (SFMO) conducts an annual inspection of all campus facilities. These inspections will be made to determine conformance with OSHA, the American National Standards Institute (ANSI), and the National Fire Protection Association (NFPA) as they pertain to conditions of buildings and other facilities, equipment, operational practices, and recordkeeping procedures. In accordance with the law, these inspections will be made on a "no-notice" basis but during reasonable hours. Risk Management shall be contacted immediately upon notification of an inspection and they shall accompany the inspectors. All personnel shall fully cooperate in order to make each visit as beneficial as possible.

3.6 AMERICANS WITH DISABILITY ACT
The American’s with Disabilities Act (ADA) prohibits discrimination against disabled persons in public activities, services, or programs and became effective in July 1992. Furman University acknowledges that every person has a right to equal treatment with respect to employment without discrimination because of handicap, and is committed to the principles of ADA. Compliance with the ADA is handled jointly by Disability Services, Human Resources, and Facilities Services. To comply with the Act, the University:

• Reviews policies and procedures regarding employment to ensure equitable treatment and reasonable accommodations for disabled employees, applicants, and students.

• Reviews and updates job descriptions to reflect the essential functions of the job and the minimum qualifications, including physical requirements.

• Provides education to supervisors responsible for hiring and making work assignments regarding their responsibilities for providing reasonable accommodations.

• Modify buildings, restrooms, sidewalks, etc. to provide access to disabled persons.
4. ENVIRONMENTAL SAFETY

4.1 HAZARD COMMUNICATION

The purpose of the Hazard Communication Program is to provide information to employees about hazardous substances at their workplace and how to work with these hazardous substances safely. The goal of the program is to reduce the incidence of illness and injuries from chemical exposure. Hazardous chemicals are used throughout the University to include laboratory chemicals in the Science Departments of Townes Science Center, paints and solvents in the Art and Drama Departments, cleaners and disinfectants at Dining Services, pesticides in Grounds Departments, and solvents, thinners, pesticides and cleaners at Facilities Services. Requirements of OSHA’s Hazard Communication Standard include the following components:

**Written Program**
The University program will comply with CFR 1910.1200 and include provisions for chemical inventory, Material Safety Data Sheets (MSDS), labeling, and employee training. RISK MANAGEMENT is responsible for managing, reviewing, and updating the Program as necessary. Supervisors are responsible for compliance with the program within their area. The Hazard Communication Manual is available within applicable departments and Risk Management.

**Chemical Inventory**
Chemical inventories are maintained by all departments that use hazardous chemicals. Each department is responsible for maintaining updated lists. A complete list of hazardous chemicals used at the University is maintained by Risk Management. The master list is updated as necessary, or at least annually.

**Material Safety Data Sheets (MSDS's)**
A MSDS is a document that provides pertinent information about the safety, health, and fire hazards of substances or chemicals. A MSDS must be obtained for all hazardous substances or chemicals used at the University. MSDS's are maintained by all departments that use hazardous chemicals at the University. RISK MANAGEMENT periodically inspects departments to ensure that MSDS's are available for all hazardous chemicals. In addition, access to many MSDS are available online.

**Labeling**
Supervisors will ensure that incoming hazardous chemicals received at the University are properly labeled with the name of the chemical, appropriate hazard warning, and the name and address of the manufacturer or responsible party. The University will rely on the container labels prepared by the manufacturer or distributor for its in-house labeling requirements. Supervisors will ensure that secondary containers are also properly labeled. Risk Management will periodically inspect departments to ensure that labeling requirements are being met.

**Training**
Employees working with, or potentially exposed to, hazardous chemicals will receive information and training on the requirements of the Hazard Communication Standard, the hazards of chemicals in their work area, and safety procedures. Training shall be performed at the time of the employee's initial assignment, whenever a new hazard is introduced into their work area, and on an annual basis. Periodic training is conducted by Risk Management while initial and supplemental training is provided by department supervisors.
Contractor Notification
Supervisors will be responsible for informing outside contractors of any hazards associated with on-site chemicals, location of MSDS's, or any other applicable hazardous situations (such as location of asbestos-containing fireproofing). The contractor will be responsible for training their employees in the hazards of chemicals they bring to the work area, and providing MSDS for those chemicals upon request.

4.2 HAZARDOUS MATERIAL STORAGE
Hazardous material storage areas must meet the following conditions:

General Storage
• Flammable storage shall comply with the conditions outlined in Section 5, “Fire Prevention and Response.”
• Storage facilities must be stable and secure against sliding and collapse, and housekeeping in the storage area must be neat and orderly.
• Chemicals should be stored at eye level or below whenever possible to avoid chemical spilling onto the face. Corrosive materials must never be placed on upper shelves. Storage for larger containers should be provided on a low shelf, preferably in a tray adequate to contain spills or leakage.
• Chemicals that are not compatible will be stored apart from one another.
• All containers shall bear a label clearly indicating the contents and the contents and date the container was placed into storage.
• Open containers are prohibited.
• All hazardous material storage areas must be posted, and no eating, drinking, or smoking will be allowed in the area.
• Explosion-proof refrigerators are required for chemical storage, and food must not be stored in a refrigerator containing chemicals.
• Photosensitive chemicals must be stored in amber glass or opaque containers depending on their degree of photosensitivity.
• All storage areas must be neatly maintained, and all aisles and exits properly cleared.

4.3 HAZARDOUS WASTE MANAGEMENT
Hazardous waste is any solid, liquid, or contained gaseous material that is no longer used and could be dangerous to human health or the environment if disposed of improperly. Hazardous waste is strictly regulated by the Environmental Protection Agency (EPA) under the Resource Conservation and Recovery Act (RCRA), and the South Carolina Department of Health and Environmental Control (SCDHEC). Regulations mandate a "cradle-to-grave" system for managing hazardous waste. It applies to those who generate, store, transport, treat, recycle, or dispose of hazardous waste. The purpose of the hazardous waste management program at Furman University, which is managed by Risk Management, is to protect human health and the environment from improper waste management practices. The University Hazardous Waste Management Program is designed to coordinate the collection, classification, analysis, labeling, packing, and shipping of waste chemicals generated at the University. A Hazardous Waste Management Manual which describes procedures for the proper handling, collection, storage, and disposal of hazardous waste is available for review at Risk Management and at departments which generate hazardous waste.
**Hazardous Waste Streams**
The University is currently a small quantity generator producing between 100 and 1000 kilograms of hazardous waste per month and has an assigned EPA identification number. Departments most likely to generate hazardous waste include Art, Biology, Chemistry, Drama, EES, Golf Course, Facilities Services, and Printing. A waste minimization plan has been implemented at the University in an effort to reduce the generation of hazardous waste and increase the use of less toxic materials.

**Emergency Response**
Emergency procedures for hazardous waste spills have been written and are included in the Hazardous Waste Management Manual. Emergency spill kits have been distributed to departments which use hazardous chemicals. Risk Management serves as the primary emergency contact in the event of a spill. Generators are trained at the appropriate level depending on their involvement with hazardous waste. Response to large spills of hazardous materials will involve the Duncan Chapel Fire Department, which has been designated as the initial University Emergency Response Team, and Contractor emergency crews.

**Storage**
Hazardous waste is stored in a hazardous waste storage facility in the Townes Science Center. Satellite storage areas are located in the Science Departments and Facilities Services. All waste containers must be properly labeled before being moved to the waste storage facility. The label must contain sufficient information to enable the waste to be handled and disposed of properly.

**Disposal**
The disposal of hazardous waste shall be accomplished in a manner that is in compliance with all federal and state regulations, and at the same time expresses concern for other issues such as the environment, economics, and liability. Risk Management should be contacted to arrange for the pickup and disposal of any hazardous waste. Hazardous wastes must be shipped off-site for proper disposal within 180 days of generation.

**Waste Minimization**
A waste minimization plan has been written that outlines procedures which departments can use to reduce the amount of hazardous waste generated. Recommendations include the purchase of smaller quantities, use of less toxic materials, recycling, microscale techniques, and inventory maintenance.

**Infectious Waste**
Infectious waste, containing human blood or other potentially infectious materials, shall be segregated from other wastes at the point of generation and placed into red plastic bags (double-bagged) and disposed by a licensed firm. Records of any disposal shall be forwarded to Risk Management.
4.4 RADIATION PROTECTION

The Radiation Protection Program assures the safety of students and employees who might be exposed to the sources of radiation in the course of their work or study. The major portion of the program works under the authority of Risk Management, which oversees all uses of radioactive materials on campus. The program coordinates and maintains licensing from the South Carolina Department of Health and Environmental Control to use radioactive materials on campus. Services include maintenance of inventory and control of all radioisotopes on campus, receipt and delivery of all radioactive material, and radioactive waste pickup and disposal. Additional services include survey instrument calibration, operation of the personnel dosimetry program, safety inspections, and guidance in the safe use of x-rays, lasers, and microwave devices.

4.5 COMMUNITY RIGHT-TO-KNOW

Under Section 312 of SARA Title III, the University is required to file a Tier II report for all hazardous chemicals that are present at the University in amounts greater than threshold planning quantities. To meet these regulations, Risk Management is responsible for completing the Tier II report and the emergency notification report prior to March 1 of each year.

4.6 INDOOR AIR QUALITY

Air quality is an important component of a healthy indoor environment. Facilities Services is responsible for supplying quality indoor air by the introduction and distribution of adequate ventilation air, control of airborne contaminants, and maintenance of acceptable temperature and relative humidity. Indoor air quality complaints shall be handled jointly by Facilities Services and Risk Management.

4.7 OUTDOOR AIR QUALITY

The University contributes to air pollution through releases from sources such as laboratory fume hoods, boilers, and vehicles. Facilities Services is responsible for maintaining permits and compliance with the Clean Air Act.

4.8 SMOKING POLICY

It is recognized that smoke from cigarettes, pipes and/or cigars is hazardous to health. As such, the University prohibits smoking in all indoor locations and stadium stands during sporting events. In an effort to promote health and safety of students and employees, the University periodically offers smoking cessation programs as announced through newsletters, posters, mailings, etc.

4.9 SANITATION

The University Food Service's operation has standard operating procedures. Procedures have been written for inspections, recognition of food contamination, and pest contamination. In-house sanitation inspections are conducted periodically by the contracted dining staff. Items identified for inspection include food, food protection, personnel and training, food equipment and utensils, garbage and refuse disposal, insect, rodent and animal control, and materials storage. The operation is also inspected periodically by the county health department.

4.10 SWIMMING POOL

The University has one swimming pool located in the Physical Activities Center (PAC) building. The Director of the PAC is responsible for the indoor pool and its maintenance. The pool is periodically inspected by the County Health Department. Water samples are taken on a periodic basis to ensure proper chemical balance. All lifeguards and managers have received training in CPR/First Aid and OSHA's Bloodborne Pathogen Standard.
4.11 LAKE
The Director of the PAC is responsible for boating activities on the lake. No swimming is allowed in the lake. Facilities Services is responsible for wildlife, physical environment, and facility maintenance. The Public Safety Department is responsible for fishing regulations and enforcement.

4.12 PEST and ANIMAL CONTROL
Facilities Services contracts with a pest control company that makes periodic inspections and fumigation of campus facilities. Public Safety is responsible for contracting services for removal of stray dogs and cats. Facilities Services is responsible for all other wildlife on campus.

4.13 WATER QUALITY and USE
Water quality is periodically tested by the Greenville Water System to ensure quality consistent with accepted standards. Toxic chemicals are disposed through a licensed hazardous waste disposal company so that these chemicals are not poured down the drain or into the environment where they could pollute drinking water or endanger the groundwater.

4.14 SPECIAL ENVIRONMENTAL HAZARDS
There is constant research in the field of environmental health by government agencies and research organizations. Risk Management is responsible for keeping abreast of current regulations and scientific findings. As hazards become known, they shall be responsible for identifying and evaluating the hazards applicable to the University. Some of these hazards are addressed below:

Asbestos
Asbestos has been identified in various buildings on campus primarily in the form of fireproofing, pipe and tank insulation, and floor tile. Employees shall take every precaution to prevent the release of fibers into the air. Risk Management maintains an Asbestos Management Program which is designed to identify the location of asbestos-containing materials (ACM), outline methods for safe clean up, and provide for the proper removal and disposal of ACM, as necessary. Risk Management shall be consulted prior to any renovation or demolition to ensure that asbestos is not disturbed.

Radon
Radon is a chemically inert gas that is part of the indoor environment of most structures. In general, the health risk of radon is roughly equivalent to that of smoking. Risk Management has a program which periodically measures levels on campus and alerting occupants if they are excessive.

P.C.B.
Facilities Services has a program to identify, label, and eliminate polychlorinated biphenyl’s (P.C.B.’s) identified in campus transformers. Equipment containing transformers (i.e. X-ray equipment) shall be checked by the responsible department and/or Risk Management for P.C.B.’s prior to removal from buildings. A list of the known locations of PCB-containing transformers is located at Risk Management.

Mercury-containing Fluorescent Bulbs
Mercury-containing lamps include fluorescent, high pressure sodium, mercury vapor, and metal halide lamps of all sizes and shapes. The storage, handling, and processing of these lamps are generally considered hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA) because of their mercury content. Facilities Services maintains a program where lamps which exceed the quantity of mercury allowed under RCRA are recycled.
by an approved vendor, instead of being handled as a hazardous waste. The University complies with the handling requirements set forth by South Carolina DHEC.
5. FIRE PREVENTION AND RESPONSE

5.1 GENERAL
Risk Management is responsible for ensuring that all facilities comply with applicable fire codes by reviewing proposed construction plans, performing site inspections, investigating fires on campus for cause and origin, and ensuring that fire safety systems are properly installed, tested, and maintained in a safe and operational condition. The Fire Safety Plan developed by the University is designed to provide instructions for identifying, monitoring, and addressing fire safety issues. The Plan describes emergency procedures, drills, inspections, training, and procedures to use in the event of a fire. The Plan is evaluated and revised annually by Risk Management.

5.2 STANDARDS
All fire protection equipment must meet requirements as stated in the Occupational Safety and Health Act for Fire Protection, Subpart L, as amended and State Fire Marshal Rules and Regulations.

5.3 RESPONSE

Reporting Fires
Fires may be reported by activating pull alarm stations located in all major campus buildings. Pulling of an alarm station transmits a signal directly to the Public Safety Office, where a dispatcher immediately notifies the Duncan Chapel Fire Department, unless notified otherwise. After pulling the fire alarm, a call should be made to Public Safety (2111) giving the exact location of the fire, if known. Whenever reporting a fire, arrange for someone to direct the Fire/Rescue Team to the scene of the fire when they arrive in the area.

Emergency Evacuation
Emergency procedure posters and evacuation plans are posted in each building. Fire drills will be performed each semester in all Residence Halls and periodically in other major campus buildings. Public Safety Officers will assist in the evacuation of each floor, closing of all doors, keeping persons at a safe distance from the building, and directing the fire department to the scene fire.

Fire/Rescue Teams
Duncan Chapel Fire Department, which is responsible for responding to fires and other emergencies, is located approximately one-third of a mile from the campus entrance. A regular training program is maintained for all firemen. The Fire Department has three pumper trucks, one ladder truck, one tanker truck, and a mini-pumper truck which adequately serves the daily needs of the Furman campus. The Fire Department also has mutual assistance agreement with Parker Fire Department and the City of Greenville Fire Department should the need ever arise.

Fire Lanes
Fire lanes, which prohibit parking, are established in congested parking areas and narrow roads to maintain roadway access for fire department vehicles when responding to emergencies.
Fire Detection Equipment
Campus buildings contain all or some of the following to detect fires: Heat Actuating Devices (HAD), smoke detectors, and sprinkler alarm systems. Fire alarm systems are installed, repaired, and tested by licensed contractors, Risk Management, and Facilities Services. All alarms are transmitted directly to the Public Safety Office.

Fire Suppression Equipment
The University maintains appropriate fire suppression systems in each building to include: fire extinguishers, sprinkler systems, and fire hydrants. Risk Management is responsible for training, inspecting, testing, and recharging fire extinguishers.

Fire Extinguishers
Know the location and use of the various types of fire extinguishers in your work areas. Only trained personnel should use a fire extinguisher. If an extinguisher is used or you observe a discrepancy with an extinguisher, do not hang it on its hanger, rather report the discrepancy to Risk Management so the extinguisher can be inspected and recharged. Fire extinguishers are visually inspected on a monthly basis and by a certified annually by a licensed contractor.

Classes of Fires
Class A: Ordinary combustibles such as wood, cloth, paper, and many plastics.
Class B: Flammable liquids such as gasoline, oil, paints, and flammable gas.
Class C: Energized electrical equipment such as wiring, fuse boxes, circuit breakers, machinery, and equipment.
Class D: Combustible metals such as magnesium, potassium and sodium.

Use of Fire Extinguisher
Use the proper fire extinguisher. Keep your back to an exit and stand six to eight feet away from the fire. If the fire does not begin to go out immediately, leave the area at once.

- Pull the pin.
- Aim low, at the base of the fire.
- Squeeze the lever above the handle to discharge extinguishing agent.
- Sweep from side to side and work toward the fire while discharging.

*If in doubt, immediately pull the fire alarm* to sound evacuation procedures and contact Public Safety.

5.4 FIRE PREVENTION

Inspections
Risk Management conducts periodic inspections of all campus facilities. In addition, the State Fire Marshal Office usually conducts an annual inspection of all campus facilities. These inspections will be made to determine conformance with OSHA and the National Fire Protection Association (NFPA) as they pertain to conditions of buildings and other facilities, equipment, operational practices, and recordkeeping procedures.
Training
Risk Management and supervisors within departments will train employees in emergency evacuation procedures, use of fire extinguishers, and proper storage of flammable and combustible materials.

Smoking Rules
Smoking is not allowed within 25 feet of any campus facility. Also the use of open flames of any kind around flammable or combustible material, is prohibited.

Decorations
Decorations and furnishings placed in buildings (usually during holidays in the residence halls) shall follow regulations such as the National Fire Codes and Southern Fire & Building Codes. In general, all exits and accesses must be maintained free of all obstructions, all decorations must be flame resistant, and electrical cords, wires and lights cannot be hung on walls or doors.

Tips to Prevent Fires from Occurring
• Keep storage and working areas free of trash. Place oily rags in covered cans.
• Flammable or volatile chemicals should not be stored above or near gas burners, near a heat source, or in direct sunlight.
• Large amounts of flammable liquids in drums must be stored in a room with an automatic extinguishing system, explosive-proof lighting, and adequate ventilation.
• When a flammable liquid is withdrawn from a drum, or when a drum is filled, both the drum and other equipment must be individually electrically grounded and bonded to each other.
• Use flammable liquids only in well-ventilated areas.
• Only minimum quantities of flammable liquids will be kept for immediate use as suggested by OSHA guidelines. Contact the Risk Management Office if there are any questions.
• Don’t refuel gasoline-powered equipment while it’s hot.
• Look for old wiring, worn insulation and broken electrical fittings. Report any hazardous condition to your supervisor and/or the Risk Management Office.
• Don’t overload wall outlets. Two outlets should have no more than two plugs.
• Investigate any appliance or electrical equipment that smells strange. Unusual odors can be the first sign of fire.
• Don’t misuse fuses. Never install a fuse rated higher than specified for the circuit.
• Heat-generating devices are not allowed in residence buildings to include space heaters, halogen lamps, etc.
• Open flame devices such as candles, gas stoves, burning incense, etc. are prohibited in buildings with the exception of controlled use in the science labs and Chapel.
6. ACCIDENT REPORTING AND INVESTIGATION

6.1 REPORTING
Timely reporting of any injury, accident, or incident is mandatory. Ensuring proper employee benefits and liability adjustments at the lowest cost are dependent upon proper reporting. It is the responsibility of each employee to report all injuries, illnesses, or damage to or loss of property, or incidents that could have caused an injury, immediately to their supervisor. The supervisor is initially responsible for ensuring that the employee(s) receive prompt treatment as necessary through University-approved doctors. Supervisors shall properly complete an accident report and Accident Investigation for all accidents and incidents. All employee accident reports shall be forwarded to Human Resources. Student or visitor accidents are filed directly with Public Safety or generated through the Student Health Services, as appropriate.

Human Resources will file workers’ compensation reports with the insurance carrier and will forward all accident reports to Risk Management within 3 days, unless the accident involves an occupational fatality or accident that involves in-patient hospitalization of three or more workers. In this case it will be reported immediately to Risk Management, who will orally report to the nearest OSHA area office. Risk Management will review all accidents and incidents and investigate as necessary within five days.

6.2 WORKERS’ COMPENSATION
Workers’ compensation is a comprehensive approach to provide compensation and medical care to employees injured by accidents or diseases arising out of and in the course of their employment. The South Carolina Workers’ Compensation Commission is responsible for administering the Workers’ Compensation Act. Full and part-time University employees are covered under the Act.

Employees are entitled to compensation weekly at the rate of sixty-six and two-thirds (66 2/3%) per cent of their average weekly wage for the preceding fiscal year. The length of these payments will continue depending upon the type of injury and length of time away from work as a result of the injury. There is a waiting period before benefits can be paid. The waiting period is the first seven (7) days after the accident. No compensation is received for these seven (7) days if the employee is disabled for only fourteen (14) days or less. If an employee is disabled for more than fourteen (14) days, they will receive compensation for the first seven (7) days. An injured employee must accept light work when it is offered, provided they are reasonably able to do the work offered. If the work is not accepted, all compensation may cease as long as the light work is not performed. After the injury has healed, the doctor will estimate whether any permanent disability has occurred. If permanent disability has occurred, the employee will receive additional compensation.

6.3 FORMS
All forms shall be completed with black ink or typed for quality copying. Risk Management shall review each accident report and, based on the report findings and review of any actions already taken, possibly recommend follow-up action be taken. The following forms are used by the University:

Accident Report Form
This report shall be completed by the immediate supervisor and shall include details of an accident. This report shall be completed prior to seeking medical care whenever possible.

Accident Investigation Report
This report shall be completed by the immediate supervisor and approved by an intermediate supervisor or department head who forwards it to Risk Management.

**Automobile Accident Report**
This report is completed by the immediate supervisor and approved by an intermediate supervisor or department head who forwards a copy to Public Safety.

**Visitor Accident Report**
This report is completed by either a Public Safety Officer or Student Health Services, and a copy is then forwarded to Risk Management.

**Student Accident Report**
This report is usually completed by either the responsible faculty member, Public Safety Officer or Student Health Services, and a copy is then forwarded to Risk Management.

### 6.4 INVESTIGATION
Risk Management conducts follow-up investigations on all employee and student accidents and incidents. Accident investigations are based on fact finding, not fault finding. Results of any follow-up investigation are sent to the respective department.

### 6.5 FOLLOW-UP ACTION
Based on the report findings, various actions may be taken to include:
1) A work order may be executed to make appropriate repairs and to eliminate an unsafe condition or hazard.
2) The employee or student may be counseled about safe practices.
3) A written safety program may be developed to formally address and develop guidelines in an attempt to eliminate unsafe conditions or acts.
4) Personal protective equipment may be issued.
5) Educational programs may be developed.

### 6.6 HAZARD IDENTIFICATION and INSPECTION
Inspections of all departments will be performed periodically by Risk Management, usually on an annual basis. Formal follow-up inspections shall be performed to verify corrective action has been taken. All personnel shall fully cooperate in the inspection program to assure that all areas are periodically covered and all hazards are itemized in writing. Emphasis shall be placed on unsafe acts and conditions, or facilities, equipment, and machines; as well as implementation of the overall program, such as:

- Good housekeeping
- Use of prescribed protective equipment
- Compliance with Federal, State, and University requirements
- Proper maintenance of equipment, tools, and protective guards
- Proper storage of flammable, combustible, and toxic materials
- Fire extinguishers, fire alarms, fire detectors, and emergency lighting
- Excessive exposures to sound, dust, mists, vapors, etc.

Written reports listing the problems discovered and recommended corrective actions are sent to the Department Head and/or responsible supervisor. Typically, imminent hazards must be corrected immediately, serious violations within 30 days, and non-serious violations within 60 days. Departments are expected to use their own funds to correct minor problems or seek a budget adjustment for more expensive items.
7. PERSONAL PROTECTIVE EQUIPMENT

Protective equipment, including personal protective equipment (PPE) for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

Risk Management with assistance from area supervisors, shall assess the workplace to determine if hazards are present, or likely to be present, which necessitate the use of personal protective equipment. Supervisors are responsible for obtaining the proper equipment for employees, ensuring that employees are properly trained prior to use of the PPE, ensuring that employees wear the appropriate PPE as outlined in this section, and inspecting safety equipment to ensure that it is in good operating condition. Employees are responsible for becoming familiar and complying with the rules and regulations concerning the wearing of PPE as outlined in this section. Training assistance and guidance will be provided by Risk Management. Furman University is responsible for supplying, at no cost to the employee, the necessary PPE to perform safely in the workplace.

The following guidelines summarize the use of particular PPE:

7.1 HEAD PROTECTION

Policy
The University shall provide protection for the head to individuals engaged in operations that could produce injuries from impact and penetration from falling and/or flying objects, and from limited electric shock and burn.

Standards
Head protection shall be provided as outlined in OSHA CFR 1910.135. The design, construction, testing and use of hard hats shall meet the requirements and specifications in ANSI standard Z89.1.

Procedures
1) Head protection shall be provided by the University, and the wearing of such equipment in the following functions shall be required, when there is reasonable probability of injury that could be avoided by such equipment.
   • Tree maintenance operations
   • Operations using front end loaders, tractors, excavating equipment, or any other similar equipment or duty.
   • Any work below where overhead work is occurring.
   • Entry into buildings where renovations or demolition are occurring.
2) Approved head protection shall be worn during all operations that may produce head injuries. Supervisors, keeping in mind the total safety of his or her employees, shall make this determination and employees shall be instructed accordingly.
3) Hard hats issued to employees remain the property of the University. The employee shall be responsible for this equipment and shall have this equipment in his/her possession, when required, at all times during working hours.
7.2 EYE and FACE PROTECTION

Policy
Furman University shall perform a hazard assessment to determine if there are hazards in the workplace that make the use of eye and face protection necessary. As necessary, the University shall select and provide, at no cost to the employee, hazard appropriate equipment (such as goggles and face shields) and train employees on when protective equipment is necessary.

Standards
Eye and face protection shall be provided as outlined in OSHA CFR 1910.133. The design, construction, testing and use of protective devices shall comply with American National Standards Institute (ANSI) standard Z87.1.

Procedures
1) Providing eye and face protection should not deter efforts by supervisors to eliminate the hazards at the source by engineering methods or by substitution of materials.
2) Supervisors and instructors should explain in their training sessions with employees and students the reasons why safety glasses and other protective equipment are required and the responsibility of supervisor’s to see that all regulations regarding the wearing of protective equipment are followed.
3) Each employee shall use appropriate eye or face protection, as prescribed by RISK MANAGEMENT, when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation. Visitors shall be provided eye and face protection when exposed to such hazards.
4) Each affected employee shall use eye protection that provides side protection when there is a hazard from flying objects.
5) Each affected employee who wears prescription lenses while engaged in operations that involve eye and face hazards shall wear eye protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.
6) Eye and face protection equipment shall be distinctly marked to facilitate identification of the manufacturer.
7) Each affected employee shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation.
8) Signs indicating "EYE PROTECTION AREA" shall be prominently displayed.
9) At a minimum, the following operations require eye and/or face protection:
   • Automotive fluid changes (goggles)
   • Use of compressed air (spectacles with side protection or goggles)
   • Welding (welding goggles or welding shield)
   • Operating portable power tools and machinery (spectacles with side protection or goggles)
   • Chemical Handling (goggles or face-shield for severe exposure)
   • Cutting, Torch brazing, Torch soldering (shaded spectacles or welding face-shield)
   • Wire Cutting (spectacles with side protection or goggles)
   • Chipping and Grinding (spectacles with side protection or goggles)
   • Paint spraying (goggles or full-face respirator)
   • Power Washing (spectacles with side protection or goggles)
   • Laser Operation (laser protective goggles or face-shield)
   • Weed wacking and power shrub trimming (spectacles with side protection or goggles)
   • Work around lawn mowing equipment (spectacles with side protection or goggles)
   • Pesticide application (goggles)
10) Furman University will provide prescription safety glasses to eligible employees in accordance with the “Safety Shoes and Glasses Policy” found in the appendix.

7.3 FALL PROTECTION

Policy
The University shall take every precaution to protect its employees against the hazards of working at heights. As necessary, the University shall select and issue safety equipment.

Standards
Fall protection equipment and procedures shall be provided as outlined in OSHA CFR 1926 Subpart M.

Procedures
1) Employees exposed to an elevated fall hazard higher than 6 feet where the use of ladders, scaffolds, catch platforms, or temporary floors is impractical shall use either guardrails, personal fall arrest, or safety nets when performing construction. In most cases, a personal fall arrest system such as lifelines, safety harnesses, and lanyards will be most practical.
2) Lifelines, safety harnesses, and lanyards shall be used only for employee safeguarding. Any lifeline, safety harness, or lanyard actually subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee safeguarding.
3) Lifelines shall be secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 pounds.
4) When using an aerial lift, a body belt shall be worn and a lanyard attached to the basket when working. Belting off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.
5) Safety monitoring may be used alone when working on low sloped roofs (slope less than or equal to 4 in 12, vertical to horizontal) which are less than 50 feet in width.
6) The use of guardrails, safety nets, and personal fall arrest systems are not required when an employee is only performing maintenance such as servicing mechanical equipment located on rooftops. However, if the employee is exposed to a potential fall, he/she shall be expected to use appropriate fall protection safeguards to eliminate the hazard.
7.4 FOOT PROTECTION

Policy
The University shall take every precaution to protect its employees against the hazards of falling or rolling objects, slipping, tripping, etc. The University shall perform a hazard assessment to determine if there are hazards in the workplace that make the use of foot protection necessary. As necessary, the University shall select and issue safety shoes.

Standards
Foot protection shall be provided as outlined in OSHA CFR 1910.136. The design, construction, testing and use of safety shoes shall meet the requirements and specifications in American National Standards Institute (ANSI) standard Z41.

Procedures
1) Safety shoes or boots with impact protection are required when carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped; and, for other activities where objects might fall onto the feet. Safety shoes or boots with compression protection is required for work activities involving heavy pipes or other materials which could potentially roll over an employee’s feet. Safety shoes or boots with puncture protection would be required where sharp objects such as nails, wire, tacks, screws, scrap metal, etc., could be stepped on by employees causing injury. Safety shoes with steel toes shall be worn by employees routinely exposed to objects weighing more than 15 pounds. Slip resistant shoes are required in areas that have a high potential for slippage (i.e. kitchens).

2) Foot protection shall initially be provided by the University and the wearing of such equipment in the following departments shall be required at all times.
   - Automotive
   - Carpentry
   - Custodial Delivery
   - Electrical
   - Golf Course
   - Grounds
   - Mechanical
   - Paint
   - Stockroom
   - Welding

3) Temporary employees shall not be assigned tasks requiring foot protection unless they wear safety shoes.

4) Sturdy shoes which protect the feet and minimize slipping and tripping shall be worn at all times by non-office employees. The following are not considered sturdy shoes; open-heeled shoes, open-toed shoes, beach sandals, and sneakers.

5) Faculty, staff, and students shall not wear open-toed shoes or sandals in laboratories where chemicals are used.

6) Furman University will provide safety shoes to eligible employees in accordance to the “Safety Shoes and Glasses Policy” found in the appendix.
7.5 **HAND PROTECTION**

**Policy**
The University shall take every precaution to protect its employees against hand hazards, and shall perform a hazard assessment to determine if there are hazards in the workplace that make the use of hand protection necessary. As necessary, the University shall make gloves available for use by its employees.

**Standards**
OSHA does not regulate hand protection specifically, but does regulate it under the general requirements for personal protective equipment found in 29 CFR 1910.138. There it specifies that protective equipment must be provided for various body parts, including "the extremities."

**Procedures**
1) Employees shall be protected by suitable gloves when it is necessary to protect the worker from hazards such as toxic or corrosive chemicals, sharp or rough objects, temperature extremes, infectious agents, radioactive materials, poisonous plants such as poison ivy/oak, and energized electrical hazards when equipment is unable to be de-energized. Supervisors should be consulted about suitable glove types for particular activities.
2) At a minimum, the following operations require the use of gloves or other suitable hand protection:
   - All employees and students handling toxic or corrosive chemicals such as pesticides, laboratory, art and custodial chemicals.
   - All faculty and students handling radioactive materials.
   - Grounds personnel when potential exposure to poisonous plants exists.
   - Student Health Service employees, Public Safety Officers, and other employees who come into contact with human blood and other potentially infectious materials in the course of work shall wear protective gloves.
   - Employees working with sharp objects such as box cutting knives and kitchen knives should use suitable gloves whenever possible.
   - Electricians, whenever electrical equipment cannot be de-energized in accordance with the "Electrical Safety" section of this manual. Any rubber gloves used for this purpose shall conform to ANSI Standards.
   - Faculty, staff and students using photographic chemicals to develop film whenever corrosive chemicals are used.
3) A listing of suitable protective materials for use with particular chemical substances can be found in the University Chemical Hygiene Program and Hazard Communication Program available at Risk Management and applicable departments.
7.6 HEARING PROTECTION

Policy
The University shall provide for a hearing conservation program, to include hearing protection and audiometric testing, for employees exposed to sound levels in excess of standards. Whenever possible, excessive noise shall be reduced first by engineering controls.

Standards
Noise exposure requirements shall be provided as outlined in OSHA CFR 1910.95.

Procedures
1) Sound levels will be periodically monitored by RISK MANAGEMENT using a standard sound level meter measured on A scale at slow response, in all work areas suspected of excessive noise.
2) When employees are subjected to sound levels exceeding those outlined in the OSHA standard (Table G-16), they shall utilize engineering controls or administrative controls (limit daily noise exposure through work scheduling). If such controls fail to reduce noise levels below OSHA standards, personal protective equipment must be provided and used to reduce sound within the levels indicated.
3) Hearing protectors such as ear plugs, canal caps, and ear muffs shall be provided by the University at no charge whenever the employee is exposed to noise above an 8-hour time-weighted average (TWA) of 85 dB (action level). Hearing protectors must be worn by all employees exposed to a TWA of 85 dB or more.
4) In order to minimize any employee's exposure to loud noise, the University shall provide and require the use of hearing protection with at least a 24 dBA noise reduction rating when working with any equipment that produces loud noises.
5) A list of all equipment known to produce noise requiring hearing protection is included in the appendix.
6) The University shall establish and maintain an audiometric testing program by making audiometric testing available free of charge to all employees whose exposures equal or exceed an 8-hour TWA of 85 dB.
7) Testing has indicated that employees in Facilities Services Grounds and Golf Course Grounds are routinely exposed to noise levels above a TWA of 90 dBA while operating leaf blowers and vacuums. As such, employees in this department shall be required to undergo a baseline audiogram within 6 months of their first exposure at or above the action level. This baseline audiogram will be used as a comparison for subsequent audiograms. At least annually after obtaining the baseline audiogram, affected employees shall obtain a new audiogram annually when exposure at or above the action level still exists.
8) Supervisors must provide training, with assistance from Risk Management, in the use and care of all hearing protectors provided to employees, ensure proper initial fitting, and ensure that hearing protectors are worn by all employees exposed to excessive noise levels.
9) Employees exposed to noise levels above the action level shall be enrolled in a continuing, effective hearing conservation program administered by Risk Management. Each employee shall be notified if monitoring results indicate an exposure at or above the 8-hour TWA of 85 dB and provided with annual training.
7.7 *RESPIRATORY PROTECTION*

**Policy**
The University shall take every precaution to protect its employees against harmful dusts, fogs, mists, fumes, gases, smokes, sprays, and vapors. Respiratory protection shall be accomplished, as far as is feasible, by accepted engineering control measures (i.e., ventilation or substitution with less toxic materials).

**Standards**
Respiratory protection shall meet the requirements and specifications established in OSHA Standard 1910.134. The University has developed and implemented a Respiratory Protection Program which is available for review at RISK MANAGEMENT and applicable departments.

**Procedures**
1) Respirators shall be provided by the University when such equipment is necessary to protect the health of the employee. The University shall provide the respirators, at no cost to the employee, which are suitable for the purpose intended.
2) Dust masks may only be used for nuisance dusts and mists. These masks are not to be used to prevent overexposure to chemical materials.
3) Employees in the following operations may require air purifying respirators:
   - Athletic and Campus Grounds - pesticides applicators
   - Golf Course - pesticide applicators
4) Off-campus rescue crews may require the use of supplied-air respirators (i.e., during confined space rescues or hazardous material spills). Breathing air shall meet at least the requirements of Grade D breathing air.
5) For safe use of any respirator, it is essential that the user be properly instructed in its selection, use, and maintenance. All employees using respirators, other than nuisance dust masks, shall be certified in their use by Risk Management. Certification includes attendance at a respirator training course and a qualitative fit test provided by Risk Management. Training shall be updated at least annually.
6) Employees should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. This shall be accomplished by participation in a medical surveillance program which includes a brief health history, pulmonary function test, and review by a local physician.
7) Respirators shall be regularly cleaned and disinfected, and stored in a convenient, clean, and sanitary location. Respirators shall be inspected during cleaning.
8) In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen-deficient atmosphere, at least one additional man shall be present. Communications shall be maintained between all workers.
8. GENERAL SAFETY RULES

Workers must be carefully instructed in the particular procedure to be followed in carrying out each specific task. Lack of instructions and confusion about procedures and practices are a primary cause of accidents and injuries. Supervisors are responsible for assuring that all newly assigned individuals receive adequate training to quickly prepare them to exercise their responsibilities in a safe and efficient manner. The operations identified in this section potentially involve significant hazard(s). The rules outlined in this manual are not complete. Standards and guidelines have been adopted for the implementation and operation of the University's safety program.

The following safety standards are referenced:

- Occupational Safety and Health Administration (OSHA) Standards:
  - General Industry Standards 1900-1910
  - Construction Standard 1926
- State of South Carolina, State Fire Marshall Rules and Regulations
- American National Standards Institute (ANSI), Safety Standards "A"-"Z"
- American Disability Standard (ADA), OSHA
- American Welding Society, AWS
- Atomic Energy Commission, Nuclear Regulatory Commission
- American Conference of Governmental Industrial Hygienists
- American Society for Testing Materials
- Compressed Gas Association

The following publications shall be used as safety guidelines:

- National Safety Council, Accident Prevention Manuals
- Industrial Hygiene Manual
- Other pertinent safety publications

Safety programs have been developed and implemented at the University in accordance with applicable rules and regulations. Copies of the written programs are available at Risk Management and applicable departments. A list of all written safety programs can be found in the appendix.
8.1 AERIAL LIFTS

Policy
Furman University shall take every precaution to protect its employees against possible injury while operating aerial lifts.

Standards

Procedures
1) All employees will be trained and certified by an experienced operator appointed by Risk Management prior to operating the lift. A copy of the “Operator Performance Test” can be found in the appendix. A copy of trained operators shall be maintained by Automotive.
2) Aerial lift equipment shall not operate within 100 feet of overhead power lines.
3) Fall protection equipment shall be used at all times when using an aerial lift.
4) Aerial lift equipment safety inspection shall be performed on an annual basis, or sooner whenever the equipment has been damaged, by an authorized vendor.
5) A certified load test shall be required following the replacement or repair of any major components of the lift.
6) Operators will avoid uneven terrain that may cause lift to tip-over or eject the operator.
7) Lifts will not be operated during high winds (>25 mph or in accordance with manufactures recommendations) or inclement weather such as hail, snow, or lightning.
8) Complete safe operating procedures shall be in accordance with the checklist found in the appendix.
8.2 ASBESTOS-CONTAINING MATERIALS

Policy
Furman University shall take every precaution to prevent the release of fibers into the air and, where indicated, to measure the air concentration of asbestos fibers that may be released. It is University policy to comply with all regulations and to control both occupational (direct) and environmental (indirect) exposures to protect its employees against possible exposure.

Standards
The Asbestos Management Program shall meet the requirements for general industry (29 CFR 1910.101) and construction industry (1926.1101).

Procedures
1) Facilities Services maintains an Asbestos Management Program for the University, and Risk Management provides guidance and technical expertise. The program is designed to identify the location of asbestos-containing materials (ACM), outline methods for safe clean up of asbestos materials previously released, prevent future release by minimizing the disturbance of ACM, monitor the condition of ACM, and provide for the proper removal and disposal of ACM, as necessary. A list of the known locations of asbestos-containing materials on campus is located at the Risk Management Office.

2) Employees working near, or potentially exposed to, ACM will receive at least an awareness training session on the hazards of asbestos exposure, locations of identified ACM, recognition of damage and deterioration of ACM, and safety precautions to use in order safeguard their health. Employees in the Electrical, Mechanical, Custodial, Carpentry, and Information Services department are primarily affected.

3) All known or suspected asbestos-containing materials which are located in areas where the ACM could be damaged by maintenance workers (i.e., mechanical rooms) shall be labeled in a manner that would allow employees to be alerted prior to disturbance of the ACM.

4) All ACM identified in the management plan shall be visually re-inspected and assessed by Risk Management annually in an effort to identify damaged or disturbed ACM before employee exposure occurs. Identified damaged or disturbed ACM shall be removed or repaired prior to re-occupancy of an area.

5) Prior to any building renovation, the supervisor in charge must provide a detailed assessment of the project area to identify any ACM that may be present. If ACM has been previously identified in an area to be renovated or is suspected, the supervisor will inform affected workers, and caution them against disturbance or damage. All areas undergoing significant renovation shall be inspected by the Risk Manager prior to disturbance.

6) A licensed contractor shall be utilized whenever ACM must be disturbed to perform maintenance (such as cutting pipe insulation), or if an employee is likely to be exposed to asbestos fibers in the course of work (such as lifting ceiling tiles beneath damaged friable asbestos-containing fireproofing). Risk Management should be contacted to determine appropriate work practices whenever questions arise. University employees shall be restricted from regulated areas until the contractor completes assigned tasks.

7) If ACM is discovered after renovations have begun, all work shall be stopped and the supervisor shall be informed. No work shall begin until the area has been inspected by Risk Management and conditions assessed.
8.3 BATTERY CHARGING and STORAGE

Policy
The University shall take every precaution to protect its employees from the hazards associated with the changing and charging of storage batteries.

Standards
The changing and charging of batteries shall conform to the requirements as stated in the OSHA Standard CFR 1910.178.

Procedures
1) Battery charging areas shall be located in areas designated and labeled for that purpose. The area shall be adequately ventilated for dispersal of fumes from gassing batteries, have adequate fire protection, and have means for flushing and neutralizing spilled electrolyte.

2) Smoking shall be prohibited in the charging areas. Precautions shall be taken to prevent open flames or sparks in battery charging areas.

3) Steps shall be taken to protect charging apparatus from damage by trucks.

4) When racks are used for support of batteries, they should be made of material non-conductive to spark generation or be coated or covered to achieve this objective.

5) Reinstalled batteries shall be properly positioned and secured.

6) A carboy tilter or siphon shall be provided for handling electrolyte.

7) When charging batteries, acid shall be poured into water; water shall not be poured into acid.

8) When charging batteries, the vent caps should be kept in place to avoid electrolyte spray. Care shall be taken to assure that vent caps are functioning. When charging batteries in vehicles, the compartment cover shall be open to dissipate heat.

9) Vehicles shall be properly positioned and brake applied before attempting to change or charge batteries.

10) Tools and other metallic objects shall be kept away from the top of uncovered batteries.
8.4 BLOODBORNE PATHOGEN’S

Policy
It is the policy of the University to prevent exposure incidents whenever possible. To protect workers, the University has established an Exposure Control Plan. The purpose of the plan is to identify tasks and procedures where occupational exposure to Bloodborne Pathogen’s may occur, to identify the positions whose duties include those tasks, and to implement controls to reduce the risk of infection. The written plan is available at Risk Management and applicable departments.

Standards
The University Bloodborne Pathogen’s Program shall meet the requirements as stated in OSHA Standard CFR 1910.1030. This standard governs occupational exposures to bloodborne pathogens including the hepatitis B virus (HBV) and the human immunodeficiency virus (HIV), which causes AIDS. The standard covers employees who may be reasonably anticipated to come into contact with human blood and other potentially infectious materials in the course of work. "Good Samaritan" acts such as assisting a co-worker who has a nosebleed would not be covered.

Procedures
1) Risk Management shall evaluate the duties, tasks, and procedures of all employees in each job classification to determine those who may have occupational exposure to bloodborne pathogens. This evaluation and exposure determination will be made without regard to personal protective equipment, and will be reviewed and updated annually. A list of occupational exposure positions at the University can be found in the appendix.
2) Employees who are occupationally exposed to blood or other potentially infectious materials will participate in a training and education program annually sponsored by Risk Management.
3) All employees will observe universal precautions when performing any task or procedure which may result in occupational exposure to blood or other potentially infectious body fluid.
4) When engineering controls and work practices are insufficient to control occupational exposure, the University shall supply, at no cost to employees, appropriate personal protective equipment. This equipment may include gloves, gowns, masks, eye protection, or additional equipment, as necessary.
5) Masks in combinations with eye protection devices, such as goggles or glasses with solid sideshields, or chin length face shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose or mouth contamination can be reasonably anticipated.
6) Do not bend, shear, break, remove, or recap any used needle or sharp. Dispose of used sharps in containers which are puncture resistant, properly labeled, and are leakproof.
7) All containers of regulated waste, refrigerators and freezers, and other containers used to store blood and other potentially infectious materials will be properly labeled or color coded.
8) Autoclaved infectious wastes, including sharps, must be placed into a biohazard box for disposal. Autoclaved infectious wastes may not be placed into the regular trash.
9) Vaccination for hepatitis B will be offered at no cost to employees who have an occupational exposure to blood or other potentially infectious fluid.
10) Disposal of infectious waste will be in accordance with State and Federal regulations. Contact Risk Management for details.
11) When an exposure incident (eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious material that results from doing one's job or providing first aid as a first responder) occurs it shall be reported to a supervisor,
Risk Management, and Human Resources, and followed by a confidential medical evaluation provided by the University medical provider.
8.5 CHAIN SAWS

Policy
Furman University shall take every precaution to protect its employees from the hazards normally associated with the operation of chainsaws. This includes requiring the updated purchase of chainsaws, personal protective equipment, and regular training in the proper use and care of chainsaws.

Standards
All chainsaw operations shall conform to the Occupational Safety and Health Standard, 1910.266. Operators shall follow manufacturer’s instructions as to safe operation and adjustment.

Training
All chainsaw operators must have received initial formal training in both the use of the saw and in the environment of use, and they must be competent as judged by their supervisor. The Risk Management Office will provide details on approved training providers. Following this initial “certification”, annual refresher training will also be required and will be provided by the Risk Management Office.

Maintenance
Proper maintenance is essential for safe use of chainsaws. All chainsaws shall meet all requirements of ANSI B175.1-1991. Saws must be regularly examined by someone who is competent. It is the responsibility of the department to ensure this is carried out. If a chainsaw fails the pre-use inspection, notify the supervisor and remove the chainsaw from service by attaching a red tag that states “DO NOT USE.”

Users should check the following items for damage or excessive wear before use of the saw:
- Chain catcher;
- Guide bar, drive sprocket, and chain links;
- Side plate, front and rear hand guards;
- Anti-vibration mounts.

Other pre-use checks are:
- Chainsaw must be properly tensioned and sharpened;
- Low kickback chain must be installed;
- Stop switch must be labeled and must work;
- All nuts, screws, etc. must be tight;
- Chain brake must function properly;
- Must not be possible to squeeze the throttle trigger unless the dead man’s handle is pressed.
Required Personal Protective Equipment

Chaps – Leg protection apparel constructed of cut resistant material.
Foot Protection – Steel-toed safety shoes.
Hearing Protection – An approved muff that can be worn properly with other required PPE.
Face Shield – Wire mesh or clear plastic designed for impact protection.
Safety Glasses – Must have side shields and be designed for impact protection. Will be worn under the face shield.
Hand Protection – Appropriate gloves constructed of leather or other cut resistant material.

Operating Requirements

1. Do NOT operate when tired or taking prescription medicine.
2. Always wear the appropriate personal protective equipment.
3. Keep other personnel away from immediate area while operating chainsaw but NEVER work alone.
4. Always start the chainsaw on the ground with chain brake engaged (NEVER drop start or start saw on knee).
5. Maintain a secure grip with both hands on the saw handles for control.
6. Always cut while standing to the left side and out of the plane of the chain and guide bar.
7. Keep legs and feet from under the chainsaw.
8. Do NOT cut near wire fences or into wood that contains nails or other metal objects.
9. Do NOT overreach or cut wood above shoulder height and NEVER use a chainsaw from a ladder or tree.
10. Always transport chainsaws with the engine stopped, chain and guide bar pointed backwards, and chain brake engaged.
11. Prevent kickback by never letting the nose of the guide bar (saw tip) contact wood surfaces and by making sure the cutting area is free of obstructions.
12. Always cut standing trees using the Open Face Notch Method, using wedges as necessary.
13. Always have two planned routes of escape when felling trees.
8.6 COLOR CODING and SIGNS

Policy
Furman University shall take steps to insure that safety signs and labels are prominently displayed in areas requiring them in accordance with universally accepted color coding.

Standards
The posting of signs and labels for marking hazards shall be in accordance with Occupational Safety and Health Standards 1910.120, 1910.145, and 1910.1200.

Coding System
Color Coding is a visual reminder system to warn, inform and guide employees. OSHA assigns specific meanings to certain colors. Colors can be a warning of a particular hazard or give information or directions. Unless specifically stated otherwise, the colors for OSHA signs and labels follow a general pattern:

RED indicates danger, stop or presence of fire protection equipment.

ORANGE marks the dangerous parts of machines or energized equipment which may cut, crush, shock, or injure employees. Orange emphasizes these hazards when the guards or enclosures around them are open.

YELLOW warns of physical hazards and means caution. A striped or checkered pattern of yellow and black may be used to help attract attention.

BLUE denotes caution and its use is restricted to marking out-of-service equipment which should not be used.

GREEN indicates either the location of safety equipment such as eyewashes, or conveys safety information.

PURPLE is used for radiation hazards. It may contain a combination of purple and yellow.

BLACK & WHITE, or a combination of the two, are used to designate traffic and housekeeping markings. Stripes, checkers, or other variations are often used.
8.7 COMPRESSED GAS CYLINDERS

Policy

Furman University shall take steps to insure the safe transfer, storage, and use of compressed or liquefied gas utilized on campus.

Standards

The transfer, handling, storage, and utilization of compressed gas shall be in accordance with Occupational Safety and Health Standards, Subpart H - Hazardous Materials, and any other agency referenced therein.

Procedures

1) Each employee shall determine that compressed gas cylinders under his/her control are in a safe condition to the extent that this can be determined by visual inspection.

2) Only keep those cylinders in the work area that are being used. Store full and used (empty) cylinders only in isolated areas that are ventilated and protected from direct sunlight, dampness, heat, fire, electrical contact, and vehicular traffic.

3) Compressed gas cylinders shall have pressure relief devices installed and maintained in accordance with regulations.

4) All cylinders in use or in storage shall be chained or strapped to a sturdy object, such as a wall, in an upright position.

5) All compressed gas cylinders shall be legibly marked with at least the chemical name or commonly accepted name of the material contained within. Markings shall be by means of stenciling or stamping. Any specific hazards associated with the gas, such as flammable gas, shall be prominently displayed by means of a placard or sticker.

6) Cylinders containing gases which have an affinity for one another and from explosive mixtures, such as oxygen and hydrogen, oxygen and acetylene, acetylene and chlorine, etc. shall be kept at least 20 feet apart when in storage.

7) Store empty and full cylinders separately and clearly indicate whether full or empty. Keep caps on all cylinders except when connected.

8) Compressed gas cylinders shall be transported in a vertical position. All cylinders shall be secured during transportation to prevent tipping, rolling, or striking together. The protective valve caps must be securely in place.

9) If a leak occurs in the valve assembly that cannot be controlled by closing the valve, the cylinder must be moved to a safe location outdoors, away from sources of ignition. Precautions to protect people from toxicity shall be taken.
8.8 COMPUTER WORKSTATION

Policy
Furman University recognizes the importance of designing the job and workplace to fit the worker. The University shall take steps to ensure that an employee’s computer workstation has been designed with sound ergonomic principles.

Procedures
Cumulative Trauma Disorder (CTD) is a condition of wear and tear on tendons, muscles and nerves which results from cumulative overuse and often results in producing pain. The three primary risk factors found in office environments which can lead to CTD are repetition, awkward posture, and force. These risk factors can be controlled by adjusting workstations to fit the individual (changing postures, reducing continuous repetitions and stretching).

To create a workstation that fits, try the following:
Use good posture
- Shoulders relaxed and comfortable
- Wrists straight
- Forearms/Thighs parallel to floor
- Lower back supported (don’t slouch)
- Feet settled on floor or footrest
Adjust your furniture to fit
- Adjustable height
- Adjust the angle of the back rest and seat tilt to an angle of 90-110 degrees
- Comfortable lumbar support
- Rounded front
- Comfortable seat pan with swivel
- It should be the right size
Keyboards should be adjusted to provide comfortable (neutral) posture
- Place keyboard at approximately seated elbow height
- Work with wrists straight
Place mouse/trackball next to keyboard to avoid stretching/reaching
- Keep wrists straight/neutral
- Using a padded wrist rest can help
Monitors should be adjusted to provide the most comfortable viewing position
- Position top of screen at or just below eye level
- Maintain a comfortable eye/monitor distance (generally an arm’s length)
- Decrease glare on screen
- Place VDT perpendicular to window
- Use anti-glarescreen
- Tilt screen
- Dim lights
- Keep monitor ventilated and clean
- Adjust color, brightness, contrast for eye comfort
Copy holders should be placed next to screen
- Distance and eye level from screen and copyholder to your face should be the same
Use safe and efficient work habits
- Reduce repetitions
- Encourage “break jobs” such as filing, telephone use and copying
- Take more mini-breaks instead of fewer long breaks
8.9 CONFINED SPACE

Policy

Furman University has complied with the Permit-Required Confined Space Rule by developing and implementing a written Confined Space Entry Program. The program includes provisions for employee training, hazard identification and control, permit system, and rescue procedures. Supervisors will ensure that the procedures described in this policy are followed and employees entering confined spaces are properly trained and equipped. Risk Management will provide technical guidance and training to individuals. The written program is available at the Risk Management Office.

Standards

The Confined Space Program shall meet the requirements as stated in the OSHA Standard CFR 1910.146. This standard is intended to protect workers from toxic, explosive, or asphyxiating atmospheres and from possible engulfment by small particles such as sawdust.

Procedures

1) A survey of the University has been conducted to identify confined spaces, and the inventory will be maintained at Risk Management, and updated as needed. Confined spaces which could be inadvertently entered will be labeled as a permit-required confined space. Obvious confined spaces, such as manholes, will not be labeled. A list of University confined spaces is included in the appendix.

2) All personnel involved in confined space work shall receive appropriate training from Risk Management, at least annually, in hazard recognition, personal protective equipment, communications equipment, and rescue procedures.

3) A responsible, trained supervisor and/or Risk Management must be notified prior to entering a permitted confined space. In addition, the Public Safety dispatcher shall be notified so that they can summon rescue teams in the event of an emergency.

4) A fully completed entry permit will be prepared by the qualified person in charge prior to entry into a permit-required confined space, and will be available at the work site outside the confined space. Hot work (potential ignition sources) shall be authorized on a separate hot work permit and attached and noted on the entry permit.

5) An entry permit is not required for confined space entry into areas where it can be demonstrated that the only hazard posed is an actual or potential hazardous atmosphere, and if it can be demonstrated that continuous forced air ventilation alone is sufficient to maintain the confined space safe for entry. All spaces shall be considered permit-required until the pre-entry procedures demonstrate otherwise. These confined spaces will usually include only communication manholes.
6) A written copy of the University confined space program and any entry permits shall be at the work site for the duration of the job.

7) An authorized attendant must be stationed outside permit spaces during entry, and maintain procedures in place to summon rescue, if needed, using a communications radio and prevent unauthorized personnel from attempting rescue. The attendant shall communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the confined space.

8) The confined space atmosphere shall be tested with a direct-reading instrument, for the following conditions in the order given; oxygen concentration, flammable gases and vapors, and known or suspected toxic substances. Testing shall be performed prior to entry by a qualified person. Continuous monitoring is required in all permit-required confined space and periodic monitoring (at least every 15 minutes) in non-permit required confined spaces. Risk Management must be notified immediately if atmospheric conditions are unacceptable. Entry will be prohibited until conditions are brought in acceptable limits.

9) Electrical and mechanical sources in a confined space that could be hazardous must be tagged and locked out at the source by each individual prior to entry. Electrical equipment used in a confined space must be appropriate for any hazards identified or anticipated, and meet the requirements of the National Electric Code.

10) To facilitate non-entry rescue, retrieval systems, such as a chest or full body harness attached to a mechanical retrieval device, shall be used whenever an authorized entrant enters a permit confined space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.

11) Rescue equipment, including self-contained breathing apparatus, will be immediately available if entry is into an atmosphere that is actually or potentially immediately dangerous to life or health. A rescue team will be provided, if needed, by the Duncan Chapel Fire Department. University employees are not trained to perform emergency attendant entry for rescue and shall remain outside the confined space during rescue activities.

12) Contractors who send their employees into confined spaces shall have their own Confined Space Program which is at least as stringent as the University’s, to include notification Public Safety dispatcher. Contractors will be informed of the potential hazards, safety rules, and emergency procedures in effect at the University. A copy of the University's Confined Space Program will be made available to contractors upon request. Contractors are expected to comply with safety and health standards issued by the South Carolina Department of Labor.
**8.10 CUSTODIAL and MAINTENANCE IN SCIENCE LABS**

**Policy**
Furman University shall take every precaution to protect its custodial and maintenance staff when working around hazards associated with laboratories such as hazardous chemicals and equipment.

**Entering Laboratories**
Before entering the laboratory, employees must read the caution signs on the door to learn what hazards may be encountered while they are in the laboratory.

**Symbols**
Symbols on doors do not mean that the employee will be exposed to a hazardous situation. It means that an emergency situation such as knocking over and breaking a jar, or touching a laboratory bench surface can lead to special problems. Questions concerning any symbols should be directed toward their supervisor or Risk Management.

**Fume Hoods**
No custodial work should be performed in fume hoods. However, in special cases custodial staff may have to change light fixtures, etc. and they should take the following precautions:
- Make sure there are no chemicals or equipment in the hood.
- Wear goggles and gloves as a further precaution.
- Get a signed, dated statement in writing from the laboratory supervisor that the hood contains no toxic chemicals and if radioisotopes have been used there, that the area has had wipes taken that show no contamination.

**Custodial Tasks Done in Laboratories**
1) Be certain that broken glass has been packed in a puncture-resistant box marked GLASS or designated "glass" trash containers.
2) Remove empty containers and jugs **ONLY** after all labels have been removed and the container has been washed out completely.
3) Tasks which must **NOT** be done by custodians include:
   - cleaning laboratory benchtops and desks;
   - cleanup chemical spills (no matter how small)
   - remove laboratory glassware which is not properly packed or washed.
4) **Do Not** eat or drink in any laboratory.

**In Case of Spilled Liquid or Solid**
The first thing employees must do when they have noticed a spilled liquid or solid is to leave the area immediately and close the door to avoid unnecessary exposure to vapors, then notify the laboratory supervisor or department supervisor. If none of these personnel can be reached, call Risk Management or Public Safety dispatcher. Even if no laboratory person is available to which to report the incident, notify all nearby personnel as to the problem. Under **NO** circumstances should the custodian or maintenance employee attempt to clean up the spill material or be expected to participate in the cleanup operations.

**Radioactive Materials**
1) Rooms that have the radiation symbol contain radioactive materials. You must be careful when working in these rooms. You can sweep, mop, and wax the floors and remove any trash that is not labeled with the radiation symbol, just as in any other room.
2) Any container (boxes, bottles, cartons, etc.) that has radioactive material in it will have the radiation symbol on it also. You must not touch these containers. If the contents of these containers are spilled **do not touch or attempt to clean them up**, call Risk Management.


8.11 ELECTRICAL SAFETY

Policy

Furman University shall take every precaution to protect its employees against possible injury while engaged in the installation and/or repair of electrical circuitry. In addition, the University has established a program to ensure that machinery or equipment is isolated from potentially hazardous energy, and locked or tagged out before employees perform any service or maintenance activities. The University Lockout/Tagout Program is available for review at Risk Management.

Standards

Electrical safety requirements that are necessary for the practical safeguarding of employees shall conform to OSHA CFR 1910 Subpart H. Electrical protective equipment shall conform to specifications established in OSHA CFR 1910.137 and the American National Standards Institute, ANSI J6.1-J6.7. The University Lockout/Tagout Program shall meet the requirements of OSHA CFR 1910.147.

Procedures

1) Live parts to which an employee may be exposed shall be de-energized before the employee works on or near them, unless the employer can demonstrate that de-energizing introduces additional or increased hazards or is not feasible due to equipment design or operational limitations (i.e. deactivation of emergency alarm systems).

2) If the exposed live parts are not de-energized, other safety-related work practices shall be used to protect employees who may be exposed to the electrical hazards. Such work practices shall protect employees against contact with energized circuit parts directly with any part of their body or indirectly through some other conductive object.

3) All machines or equipment that could unexpectedly start-up or release stored energy and cause injury to personnel during servicing or maintenance will be isolated and rendered inoperable by locking and/or tagging out the energy isolating source in accordance with the University Lockout/Tagout program.

4) Lockout devices shall be used if the machine is capable of being locked out. Tagout devices will be used only when it is not possible to lockout the equipment. All locks, tags, chains, ganglocks or other hardware will be provided by supervision for isolating, securing, or blocking machines or equipment from energy sources.

5) Overhead lines shall be de-energized and grounded, or other protective measures shall be provided before work is started near overhead lines.

6) When an unqualified person is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than specified by OSHA CFR 1910.333.c.3.
8.12 ERGONOMICS

Policy

Furman University recognizes the importance of designing the job and workplace to fit the worker. The University shall take steps to ensure that the ergonomic environment in the workplace is continually improved. Ergonomics is concerned with the design of working systems in which people interact with machines. Additional information can be found in the “Computer Workstation” section of this manual.

Standards

An OSHA standard on ergonomics in the workplace is being developed. Appropriate programs will be formalized when the standard is completed.

Procedures

1) Work methods, workplaces, and tools shall be analyzed, as necessary, by supervisors and Risk Management using basic ergonomic principles and identifying ergonomic problems. Emphasis shall be placed on manual material handling and repetitive motion injuries.

2) Employees at high risk for injury shall be educated and trained regarding the effects of ergonomic-related problems and symptoms and their prevention.

3) Poor work methods or poor work station and tool design shall be redesigned so that they allow workers to perform efficiently without permitting illness or injury to occur. Employees with functional limitations shall be temporarily or permanently reassigned in order to reduce or eliminate functional impairment.

4) All furniture such as chairs, desks, and tables should be ordered through the Purchasing Department to ensure that sound ergonomic principles have been considered.
**8.13 EXCAVATIONS and TRENCHES**

**Policy**
Furman University shall take every precaution to protect its employees against possible injury from cave-ins and other special hazards while working in excavations and trenches.

**Standards**
Procedures shall meet the requirements of OSHA CFR 1926 Subpart P - Excavations. The definition of "excavations" includes trenches.

**Procedures**
1) All surface encumbrances that are located so as to create a hazard to employees shall be removed or supported, as necessary, to safeguard employees. Barricade all open excavations and mark them with warning tape and/or flashers.
2) The estimated location of utility installations, such as sewer, telephone, electric, or water lines, shall be determined prior to opening an excavation.
3) Structural ramps that are used solely by employees and/or equipment as a means of access or egress from excavations shall be designed by a competent person.
4) A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for employees.
5) No employee shall be permitted underneath or near loads handled by lifting or digging equipment.
6) Confined space entry procedures outlined in this manual shall be followed if the excavation meets the requirements of a confined space as described earlier in this manual.
7) Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees.
8) Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions.
9) Each employee in an excavation shall be protected from cave-ins by an adequate protective system designed in accordance with regulations except when excavations are made entirely in stable rock or excavations are less than 5 feet in depth and examination of the ground by a competent person provides no indication of a potential cave-in.
10) The sides of trenches in unstable or soft material of 5 feet or more in depth shall be shored to protect employees Protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied to the system.
11) Excavated material must be shored or retained 2 feet or more from its edge. Banks more than 5 feet high shall be shored or laid back to a stable slope.
8.14 FORKLIFTS

Policy
The University shall take every precaution to ensure that forklifts are operated safely and that workers have received adequate training. Only qualified operators who have received training in safe operations will be permitted to operate forklift trucks.

Standards
Safety requirements relating to fire protection, design, maintenance, and use of forklift trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engine shall meet the requirements of OSHA CFR 1910.178. All powered industrial trucks shall meet the design and construction requirements established in ANSI B56.1. The University Forklift Safety Program is available for review at the Risk Management Office.

Procedures
1) Operators will be trained and authorized by Risk Management before operating forklifts. Refresher courses will be given annually.

2) Forklifts will be inspected by the driver prior to operation as instructed. In addition, forklifts shall be inspected regularly for defects by the Automotive shop.

3) Forklift equipment shall have horns and/or other warning devices as applicable such as auxiliary lighting and backup alarms.

4) Engines will be turned off before fuel tanks are filled and refueling will only be performed in specifically designated areas which are well ventilated. Battery-charging procedures shall be in accordance with the standards for “Battery Charging” found in this manual.

5) A truck in need of repairs, defective, or in any way unsafe, shall be taken out of service until it has been restored to a safe operating condition. Repairs shall be made by authorized personnel. Modifications and additions which affect capacity and safe operation shall not be performed without written approval from the manufacturer.

6) When gasoline powered trucks are used in enclosed areas, concentrations of carbon monoxide and other hazardous gases must not exceed OSHA permissible exposure limits. Operators should not allow gasoline powered trucks to idle for long periods in enclosed areas.

7) All traffic regulations must be observed including facility speed limits, safe following distances, and use of horns at aisles and obstructed areas. Forklifts shall not be driven up to anyone standing in front of any fixed object. Unauthorized personnel are not allowed to ride on trucks.

8) Brakes shall be set and wheel blocks shall be in place to prevent movement of trucks while loading or unloading.

9) Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
8.15 **HAND and PORTABLE POWER TOOLS**

**Policy**
The University shall take every precaution to ensure the safe condition of tools and equipment used by employees, including tools and equipment which may be furnished by employers.

**Standards**
Safety requirements relating to hand and portable powered tools and other hand-held equipment shall meet the requirements of OSHA CFR 1910.241 - 1910.247. All tools shall meet the design specifications established in the applicable ANSI standards as outlined in the OSHA standard.

**General**
1) Employees shall be trained in the proper use and handling of tools, and proper inspection techniques.
2) Before using a tool, the operator shall inspect it to determine to his satisfaction that it is clean, that all moving parts operate freely, and that it is free from obstructions.
3) Adequate safety guards shall be provided on all applicable equipment prior to use.
4) Operators and assistants using tools which could cause eye, face or hearing injury shall be safeguarded by means of eye, face and/or hearing protection as set forth in this manual.
5) There shall be a standard means of identifying the power levels of loads used in tools.

**Electric Power Tools**
1) Inspect cords, controls and body of tool for damage before each use.
2) Always disconnect tools from power source when making adjustments or repairs.
3) Use sharp bits and blades.
4) Make sure the tool is properly grounded.
5) Use properly sized extension cords to handle tool’s power requirements.
6) Keep cord away from the tool’s cutting surface.

**Hydraulic and Pneumatic Tools**
1) Inspect hoses, fittings and tools for damage prior to using.
2) Fully engage all hose connections prior to pressurizing tool.
3) Keep hoses away from the cutting surface of tools.
4) Use hydraulic tools at 80 % of the tool’s stated pressure.
5) Place hoses where they do not become a trip hazard to others.

**Power Actuated Tools**
1) Inspect the suitability of the surface material to be used.
2) Handle the tool as if it is loaded.
3) Test the function of the unit and its safety features for proper operation before working.
4) Meet the requirements of ANSI A10.3.
8.16 HAZARDOUS MATERIAL HANDLING

Policy
The University shall take every precaution to protect its employees, students, visitors, and property against the danger of hazardous materials. This policy presents information regarding the safe procurement, handling, storage, and use of hazardous materials.

Standards
The storage and handling of hazardous materials shall meet the requirements of OSHA Standards, Subpart H, "Hazardous Materials".

Procedures
Location - Though chemicals are used throughout the University, most hazardous chemicals are concentrated in specialized areas of the campus. These locations include laboratory chemicals in the Townes Science Center, paints and solvents in the Art and Drama Departments, cleaners and disinfectants in Custodial, pesticides at the golf course, and solvents, thinners, pesticides and cleaners at Facilities Services.

Storage - The storage of hazardous materials shall be in accordance with procedures outlined in section 4.2 of this manual.

Ordering - The potential hazards of a chemical should be known prior to ordering, and handling. To reduce waste disposal costs, only the smallest quantity of a chemical needed should be ordered. All chemicals shall be properly labeled, inventoried, and a material safety data sheet made available in accordance with the OSHA Hazard Communication standard as outlined in section 4.1 of this manual.

Inventory - All departments should maintain an inventory of incoming hazardous chemicals.

Training - Personnel working with, or potentially exposed to, hazardous chemicals must receive training from their supervisor on the hazards of chemicals in their work area and safety procedures. Training is to be provided at the time of the employee's initial assignment and prior to exposure to new hazards.

Chemical spills - Appropriate equipment for the proper handling of chemical spills should be readily available to personnel.

Transportation - Glass bottles of flammable solvents, corrosive, and toxic chemicals should be transported in rubber buckets or similar protective carriers.

Disposal - The disposal of hazardous chemicals shall be in accordance with all Federal, State, and University requirements as outlined in section 4.3 of this manual.

Controlled Substances - Authorization to use controlled substances for research purposes is normally held by the department head. The holder of the license must sign all purchases and maintain records of the purchase. Copies of the license must be provided to Risk Management.

Medical Consultation - Personnel shall receive medical attention whenever symptoms associated with a possible overexposure are noted or when monitoring shows an exposure routinely above the action level for an OSHA regulated substance.
8.17 HEAVY EQUIPMENT (EARTH MOVERS)

Policy

The University shall take every precaution to ensure that all heavy equipment is operated safely and efficiently, and is properly serviced and well maintained.

Standards

Heavy equipment operation and specification shall conform to Occupational Safety and Health Standard 1926.602, "Material Handling Equipment."

Procedures

1) All operators of heavy equipment shall be properly trained and authorized to use specific equipment by their supervisor and Risk Management.

2) All heavy equipment shall be inspected for defects by the Automotive Shop regularly.

3) Seat belts shall be provided on all equipment having roll-over protective structure or adequate canopy operation, and shall meet the requirements of the Society of Automotive Engineers (SAE), J386-1969, "Seat Belts for Construction Equipment."

4) All earthmoving equipment shall have a service braking system capable of stopping and holding the equipment fully loaded.

5) Pneumatic-tired, earth-moving haulage equipment (trucks, scrapers, tractor, and trailing units) whose maximum speed exceeds 15 mph, shall be equipped with fenders on all wheels to meet the requirements of SAE J321a-1970.

6) No employee shall move or cause to be moved construction equipment or vehicles upon any access roadway or grade unless the access roadway or grade is constructed and maintained to safely accommodate the movement of the equipment and vehicles involved.

7) Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.

8) All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine.

9) All work near energized lines or equipment shall conform to the requirements of "Electrical Safety" outlined earlier in this manual.
8.18 LABORATORY SAFETY

Policy
The University shall take every precaution to provide its employees, students, and visitors with a safe and healthful work environment within its laboratories. To assist the University in meeting this goal, it has established a Chemical Hygiene Program which sets forth procedures, equipment, personal protective equipment and work practices that are capable of protecting employees, students, and visitors from the health hazards presented in laboratory work (such as hazardous chemicals, radioactive materials, lasers, X-Ray generators). The written Chemical Hygiene Program can be found at Risk Management and all Science Departmental Offices.

Standards
At a minimum, the following standards are applicable to University laboratories:

- OSHA CFR 1910.1450 Hazardous chemicals in laboratories
- OSHA CFR 1910.97-98 Ionizing and Nonionizing Radiation
- OSHA Subpart H Hazardous Materials
- S.C. DHEC Regulation 61-63 Radioactive Materials

Fume Hoods
1) Check hood for proper function before each use. Don’t store materials on hoods or block vents or air flow. Risk Management will inspect all lab hoods at least biannually.

Personal Protective Equipment
1) Eye protection is required at all times in the laboratory and where chemicals are stored and handled.
2) Wear other appropriate personal protective equipment to include gloves that protect against specific substance used, long sleeves and apron/lab coat, and sturdy shoes that fully cover feet.

Chemical Use
1) The hazards of chemicals used should be known (e.g., corrosiveness, flammability, reactivity, stability, and toxicity). Properly label all chemical containers. Properly dispose of waste and coordinate collection of waste with Risk Management.
2) Store chemicals in labeled containers and regularly inventory lab chemicals. Store or dispose of what’s not needed.
3) Store highly toxic substances or opened containers in unbreakable secondary containers. Never store more than 5 gallons of flammable liquids in a lab unless it is stored in a flammable storage locker.

General Guidelines
1) Horseplay, pranks, or other acts of mischief are prohibited. Be neat and orderly in all laboratory work; keep work area cleared of unnecessary equipment.
2) Eating, drinking, and smoking are not allowed. Always wash face, hands, and arms with soap and water before leaving the laboratory.
3) Unauthorized experiments are prohibited. Never perform experimental work when alone in the laboratory.
4) Only operate equipment you have been trained to use and immediately report any equipment that is not working properly.
5) Mouth suction must never be used to fill pipettes, to start siphons, or for any other purpose.
6) Know the location of Material Safety Data Sheets (MSDS), Chemical Hygiene Program, emergency/escape routes, fire extinguishers, eye washes, emergency showers.
8.19 LADDERS

Policy
The University shall take every precaution to protect its employees against the hazards normally associated with the use of ladders.

Standards
Care and use of portable wooden, portable metal, and fixed ladders shall conform to OSHA Standards 1910.25, 1910.26, and 1910.27.

Care of ladders
• Ladders shall be maintained in good condition at all times. Movable parts shall operate freely without binding or undue play.
• Safety feet, non-slip surfaces and other auxiliary equipment shall be kept in good condition to ensure proper performance.
• Rungs shall be kept free of grease and oil.
• Ladders shall be stored in such a manner as to provide ease of access or inspection, and to prevent danger of accident when withdrawing a ladder for use. Ladders should also be stored at a location where they will not be exposed to the elements, excessive heat or moisture, or in a position conducive to sagging.
• Ladders will be carefully inspected by the user prior to each use and immediately following certain mishaps, such as tip over or if exposed to chemicals. Any ladders which have developed defects such as missing or broken steps, rungs, or cleats, broken side rails, or other faulty equipment shall be withdrawn from service for repair or destruction and tagged or marked as "DANGEROUS, DO NOT USE." Improvised ladders are prohibited.
• Ladders will periodically be inspected by applicable departments. Faulty equipment will be tagged or marked and withdrawn from service for repair or destruction.

Use of ladders
• Place the base of the ladder so the distance between it and the wall is equal to 1/4 the working length of the ladder. The ladder must be placed to prevent slipping or lashed or held in position.
• Never use ladders horizontally as platforms, runways, or scaffolds.
• Ladders shall not be used by more than one person at a time, nor with ladder jacks and scaffold planks for more than one man.
• Do not place ladders in front of doors opening toward the ladder unless the door has been blocked open, locked, or guarded.
• Do not place ladders on boxes, barrels, or other unstable bases to obtain additional height.
• When ascending or descending, the user should face the ladder.
• Tops of ordinary step ladders shall not be used as steps.
• No ladder should be used to gain access to a roof unless the top of the ladder extends at least 3 feet above the point of support, at eave, gutter, or roof line.
• Materials being hoisted up a ladder shall have a tag line.
• Ladders should not be used without extra precautions during windy, rainy, or severe weather.
• Metal ladders shall not be used near energized lines or equipment.
8.20 LAWNMOWERS and LAWN EQUIPMENT

Policy
The University shall take every precaution to protect its employees against the hazards normally associated with the lawnmowers and lawn equipment.

Standards
The use of power lawnmowers and lawn equipment shall conform to OSHA Standard 1910.243 and lawnmowers shall meet the requirements and specifications in ANSI standard B71.1-X1968.

Procedures

1) All power-driven chains, belts, and gears shall be so positioned or otherwise guarded to prevent the operator's accidental contact therewith, during normal starting, mounting, and operation of the machine.

2) There shall be no modification of equipment which could compromise safety features such as the removal of guards, shutoff devices, etc.

3) A shutoff device shall be provided to stop operation of the motor or engine. All positions of the operating controls shall be clearly identified.

4) Operators shall check the area being mowed prior to mowing to be sure all hazards are removed (rocks, sticks, and trash).

5) Lawnmower blades shall be enclosed except on the bottom and the enclosure shall extend to or below the lowest cutting point of the blade in the lowest blade position. Lawn mowers must run with the deflector in the down position. If a pedestrian approaches and is within range of the discharge, STOP and wait for pedestrian to pass.

6) When mowing on steep hills must be done, use mowers with four-wheel drive and make sure travel is up and down, NOT parallel along the hill where the operator could lose control and tip over. If a hill is considered too dangerous to mow, alternate methods will be used or the area will landscaped in a way that mowing is not required.

7) Operators of lawn equipment shall use ear plugs or ear muffs to reduce sound levels to an acceptable level (see Table G-16).

8) Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling and rolling objects, or objects piercing the sole.

9) Each affected employee shall use eye protection that provides side protection when handling lawn equipment.

10) Operators are not permitted to drive or otherwise use mechanical equipment if taking medication which may impair the safe operation of the equipment.
8.21 LIFTING

Policy

The University shall take precautions to identify and eliminate or minimize the risks associated with lifting.

Procedures

1) RISK MANAGEMENT, with assistance from supervisors, shall identify undesirable task requirements and/or awkward positions induced by workplace configuration. Identified tasks/workplaces shall be redesigned using practical engineering techniques whenever possible.

2) Material handling tasks should be designed to minimize the weight, range of motion, and frequency of the activity. Tasks requiring the lifting of greater than 75 pounds should be performed with a minimum of two (2) persons and/or using lift assist devices.

3) When lifting use the following guidelines:
   - Size up the load as to its weight, size and shape.
   - Place the feet about a foot apart and close to the object for good balance.
   - Using both leg and back muscles, lift the load straight up, smoothly and evenly. Push with the legs, and keep the load close to the body.
   - If you must bend then bend carefully - Most back injuries occur after a bending and twisting motion. Never bend and twist, and always flex the knees when bending from the waist.
   - Lift the object into carrying position, avoiding twisting movements until the lift is completed.
   - Turn the body with changes of foot position, making sure the path of travel is clear.
   - Using both leg and back muscles, comfortably lower the load by bending the knees. When the load is securely in place, release the grip. Setting down the load properly is just as important as picking it up.
   - If the back begins to hurt, stop what you are doing and relax.

4) High-strength push/pull movements should be avoided, however, pulling is better than pushing. Material handling equipment should be easy to move with handles that can be easily grasped in an upright posture and employees should be able to handle the loads easily.

5) Back belts, at this time, are not recommended by Risk Management since long-term studies of the usefulness of the back belts is lacking. If a department chooses to distribute back belts to its employees, they shall only be used by employees whose job tasks require repetitive lifting and who have had adequate education and training in the proper use of back belts. Back belts shall not be distributed randomly to employees.
8.22 LOCKOUT / TAGOUT PROCEDURES

Policy
The University has established a program to ensure that machinery or equipment is isolated from potentially hazardous energy, and locked and tagged out before employees perform any service or maintenance activities that could cause injury due to unexpected start-up or release of stored energy. Generally, lockout/tagout is needed whenever the potential exists for the remote or otherwise uncontrolled application or release of hazardous energy to include mechanical, electrical, hydraulic, and laser energy.

Standards
Procedures established to prevent hazardous energy releases while maintenance and servicing activities are being performed shall meet the requirements and specifications established in OSHA CFR 1910.147. A written program is available for review at Risk Management.

Procedures
Affected employees shall receive training in lockout/tagout procedures by Risk Management prior to implementing the following procedures:

1) Preparation for shutdown: Before authorized employees turn off a machine or equipment to lock or tag it, they must know the type, magnitude, hazards, and the method to control the energy. All switches, valves, and other devices that may inadvertently release energy must be identified to be certain which energy isolating devices will be locked or tagged out.

2) Notification: Affected employees in the immediate area will be notified by the person in charge that a lockout/tagout is beginning and the reason for the procedure. Notification shall be given before the controls are applied, and after they are removed from the equipment.

3) Equipment shutdown: The machine will be shut down by disconnecting the energy source.

4) Isolation: Secure equipment, put all appropriate energy-isolating devices in a safe state, secondary as well as main energy sources.

5) Lockout/tagout: All switches or other energy isolating devices will be locked if the device is lockable, and attach a “DANGER” tag. Only individually assigned and standardized devices shall be used. If a tag cannot be affixed to the energy isolating device, it shall be located as close as possible to the device, in a place that can be easily seen by the operator.

6) Stored energy: All potentially stored energy shall be relieved, disconnected, or otherwise made safe. All forms of potential energy should be removed and released as follows:
   - Turn all control switches off and lock controls where possible.
   - Short all capacitors and ground all inductors that may have significant stored energy.
   - Bleed the system of its energy (steam, air, water, springs, hydraulic cylinders, etc.)
   - Block raised dies, gears, or equipment that could descend or move when the energy is removed. Lower suspended loads to the floor or secure them independently.
   - If there is any possibility of re-accumulation of stored energy to a hazardous level, check the system frequently and continue doing so until the possibility of re-accumulation no longer exists, or until the lockout/tagout is cleared.

7) Verification of isolation: Prior to working on machines that have been locked or tagged out, the authorized employee will verify that isolation and de-energization have been accomplished. This will be accomplished by performing the following tests:
   - When working with fluids or gases under pressure, check all gauges.
   - When working with electrical energies, test the appropriate terminals with a voltmeter and/or verify that the main disconnect switch or circuit breaker cannot be turned on.
   - The effectiveness of the energy isolation should be tested by determining whether operating controls (such as on-off switches or buttons) are effective. (Return such controls to the “neutral” or “off” position before continuing.)

8) Perform the needed work: Especially in cases requiring several days of effort, remember to check the integrity of the lockout/tagout frequently.


8.23 MACHINERY and MACHINE GUARDING

**Policy**
The University shall take every precaution to protect its employees against possible injury from machinery, either while in the near vicinity of the machinery or while in the process of operating machinery. Machine guards suitable to the particular type of machine shall be installed and maintained on those machines needing such guards.

**Standards**
All machinery and machinery guards shall meet the requirements and specifications established in OSHA Standard 1910 Subpart O and applicable ANSI standards.

**Procedures**
1) One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Examples of guarding methods are barrier guards, two-hand tripping devices, electronic safety devices, etc.
2) Department heads, supervisors, and the employee shall ensure that all guards and/or ancillary equipment are installed, properly used and in good repair. Employees shall immediately report any missing, broken, inoperable guards and/or ancillary equipment to their supervisor.
3) No employee shall remove, and/or cause to be removed, any protective device on any machinery during its operation. No employee shall operate and/or cause to be operated any machinery without proper protective devices.
4) Before operation, each machine will be inspected to ensure that the following items are all found to be in satisfactory condition:
   - Cleanliness of machine and area
   - Secured properly
   - Guards properly attached
   - Adequate light level
   - Effective cut-off devices
   - Material flow
   - Acoustical guards where required
   - Proper electrical ground
5) Noise levels of operating machinery should be maintained as low as practical.
6) When installed, repaired, or replaced, guards must be checked to ensure:
   - Conformity to the standards of ANSI, federal, and state requirements.
   - Maximum protection.
   - Non-accessibility to the danger zone during operation.
   - Structure of the machine has not been weakened.
   - Durability, resistance to fire and corrosion.
   - Against hazards such as splinters, pinch points, shear points, sharp corner and rough edges.
7) Guards shall be affixed to the machine where possible and secured elsewhere if for any reason attachment to the machine is not possible. The guard shall be such that it does not offer an accident hazard in itself.
8) When the periphery of the blades of a fan is less than 7 feet above the floor or working level, the blades shall be guarded.
8.24 OFFICE SAFETY

Policy
The University shall take precautions to identify and eliminate or minimize the risks associated with work in office spaces.

Slips and Falls:
Never run; always walk. All phone, power lines, extension cords, file drawers, worn rugs, etc. should be maintained such that they are not a tripping hazard.

Strains from Overexertion:
Includes moving heavy objects (lifting, pushing, pulling, etc.), such as typewriters, file cabinets, and desks using sudden or awkward movements. You should get help, or have someone else in the office or Facilities Services move such objects. Make sure you follow the rules for lifting and carrying.

Computer (Video Display Terminal) Strain:
Extended periods of time working with video display terminals may result in varying degrees of eye, neck and back strain. Complaints range from mild to severe with some resulting in extended disability. Routine breaks away from the terminal greatly reduce the strain and reduce on-the-job injuries.

Electrical Safety:
Improper use of electrical appliances or overloaded circuits can cause fire and result in serious injury. Use only grounded appliances or those that are double insulated, do not use extension cords or multiple outlet adapters as a substitute for fixed (permanent) wiring, and have damaged or frayed power cords replaced or repaired.

Hazardous Materials and Fire Safety:
Understanding the materials (product machinery and chemicals) and their properties in addition to active fire prevention is important. Briefly, know what the Material Safety Data Sheet (MSDS) says, maintain your work area free of combustible materials, observe the no-smoking policy, and keep at least eighteen (18) inches between combustible materials and appliances like coffee makers, hot plates, etc.

Filing Cabinets and Bookshelves:
Improper loading of bookshelves and filing cabinets are a major source of office injuries. Most often the bottom shelf/drawer is under-utilized. The heaviest items should usually be stored in those drawers/shelves that provide access without stooping/bending. Use the bottom drawer for those heavy files and the bottom shelf for the full binders and larger books. Bookcases taller than 48 inches should be attached to the wall or other solid object to prevent them from falling in the event of a disaster such as a tornado, earthquake, or explosion.
8.25 PAINTING

Policy
The University shall take precautions to identify and eliminate or minimize the risks associated with painting to include health, fire, and explosion problems.

Identifying Hazards
1) Check label and MSDS for hazard and protective information before using any product.
2) Restore any missing, incomplete, or illegible labels.
3) Supervisors should alert employees of all potential hazards associated with paints and thinners.
4) Always wear adequate personal protective equipment, to include safety glasses and gloves, when handling chemicals.

Preventing Overexposure
1) Paint only in well-ventilated areas, away from heat and ignition sources.
2) Identify potential lead-based paint prior to disturbance by using lead detection kits available from your supervisor.
3) If lead-based paint is identified, only authorized personnel and appropriate work practices will be utilized.
4) Recognize short-term skin contact symptoms to include rashes, blisters, swelling, scaling, etc.
5) Recognize short-term inhalation symptoms to include shortness of breath, eye irritation, nausea, dizziness, flu-like symptoms.
6) Recognize long-term overexposure hazards to include liver, kidney and lung damage, digestive or central nervous system damage.
7) Wear recommended protective gloves, eye and face protection.
8) Wear respirators in spray booths.
9) Move into fresh air if you have inhalation-related overexposure symptoms.
10) Wash skin thoroughly with soap and water. Do not use solvents or thinners to remove paint from skin.
11) Use water-based rather than oil-based paint whenever possible.

Preventing Fire and Dangerous Reactions
1) Paint only in well-ventilated areas.
2) Do not use anything that could spark or flame when in a spray booth.
3) Do not smoke in areas where paint is used or stored.
4) Keep paint containers closed and tightly sealed when not in use.
5) Check MSDS for paint reactivity to avoid mixing with substance that could create dangerous reaction.
6) Clean up all paint leaks and spills immediately and properly.
7) Dispose of combustible rags in proper, closed containers that are emptied daily.
8.26 PESTICIDE USE

Policy
The University has established a Pesticide Safety Program to permit employees to work safely with pesticides. In addition, the University will minimize the potential for pesticide poisoning and unwarranted contamination of the environment by using the least toxic and least persistent pesticide available that is effective for a given purpose. Employees in the Grounds Department and Golf Course maintenance are primarily affected.

Standards
The storage and handling of pesticides shall meet all requirements of the Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (SCDHEC).

Procedures
Storage - The storage of hazardous materials shall be in accordance with procedures outlined in section 4.2 of this manual.

Ordering - The potential hazards of a pesticide should be known prior to ordering. All chemicals shall be properly labeled, inventoried, and a material safety data sheet made available in accordance with the OSHA Hazard Communication standard as outlined in section 4.1 of this manual.

Inventory - All departments should maintain an inventory of pesticides.

Training - Supervisors of pesticide applicators shall be licensed and certified competent by the state by passing a written exam administered by the state and attending a number of approved training sessions or courses over a five year period. Personnel working with, or potentially exposed to, pesticides must receive training on their hazards and safety procedures by their licensed supervisors. Training is to be provided at the time of the employee's initial assignment, prior to exposure to new hazards, and at least annually.

Disposal - The disposal of hazardous chemicals shall be in accordance with all Federal, State, and University requirements as outlined in section 4.3 of this manual.

Personal Protective Equipment - Workers required to handle pesticides shall wear the proper personal protective equipment (PPE), as necessary, to ensure that the health of the employee is not compromised. The pesticide label and pesticide safety manual should be consulted about required PPE.

Hygiene - Personal cleanliness is the first step in the prevention of pesticide poisoning. Pesticide handlers should wear clean clothes each day. Employees should be provided with facilities to wash thoroughly after exposure to pesticides. Workers should wash their hands thoroughly before eating, drinking, or smoking.
8.27 POISONOUS VEGETATION

Policy

The University shall take every precaution to protect its employees from exposure to poisonous vegetation such as poison oak, poison ivy, and poison sumac.

General Information

Poisonous plants emit a poisonous, oily irritant urushiol on the plant's stem, roots, branches, and leaves. The urushiol’s chemically "lock on" to skin proteins within 20 minutes after exposure to the plants (including dormant plants or long-dead prunings), contaminated clothes or tools. Contact with the oil produces a rash in three out of four people. The rash can begin within a few hours after contact, or it can start 3-5 days later. Left untreated, the rash will last 3-5 weeks. The poison oils do not evaporate and can remain active for a year or longer after being picked up on tools, clothing, animal fur, etc.

Procedures

1) When working around vegetation which has the potential to be poisonous such as work performed by the Athletic Grounds, Campus Grounds, White Oaks Grounds, and Golf Course personnel, adequate clothing shall be worn to prevent exposure. Clothing shall consist of long sleeves, long pants, and gloves whenever possible.

2) Poisonous plants shall NEVER BE BURNED since the poison oils can be in the smoke of burning leaves or brush. If these oils are inhaled, serious injury can result. If you think you have inhaled the oils, see a physician immediately.

3) At each break, or as a minimum, prior to lunch and at the end of the work day all potentially exposed employees shall wash all exposed skin with a cleansing treatment specially designed to remove poison oils.

4) Employees who were potentially exposed to poison oils shall remove and launder all work clothes at the end of the day so as to prevent the employee or family members from being exposed to poison oils.

5) All potentially exposed tools shall be cleaned with soap and water prior to reuse.

6) The employee shall report all exposures to their supervisor.

7) Affected departments shall maintain a list of known problem areas on campus and require appropriate procedures when working in these areas.
8.28 RADIATION

Policy
The University Radiation Safety Program has been developed and implemented to ensure that faculty and students who use radioactive materials and equipment in University laboratories keep exposures to radiation at a level that is as low as reasonably achievable. Individuals exposed to radiation in excess of 25% of a legal limit must receive a personal monitoring device and be enrolled in the University dosimetry program.

Standards
The storage and handling of radiation and radioactive materials shall conform to the standards set forth in SCDHEC Department Regulation 61-63 "Radioactive Materials" and OSHA Standard 1910.96 and 1910.97. In addition, Radiation, X-ray and Laser Safety Programs have been developed and implemented at the University, and the manuals are available for review at Risk Management and applicable departments.

Radioactive Materials
Radioactive materials are currently being used by the Biology, Chemistry, and Physics departments. To ensure that these materials are used properly, a Radiation Safety Manual has been developed. This manual describes the University radiation safety program, fundamentals of radiation, safety procedures, methods to reduce exposure, and State and University regulations concerning the safe use of radioactive materials. All persons using radioactive materials shall be trained and supervised according to State and University requirements. The radioactive materials program at the University is licensed by the State Bureau of Radiological Health and the Nuclear Regulatory Commission, and is subject to inspections from these agencies, as well as Risk Management. An inventory of radioactive materials at the University is located in the appendix.

X-ray Equipment
The Chemistry and Geology departments maintain analytical X-Ray equipment that is licensed and inspected by the State. In addition, the equipment is inspected by RISK MANAGEMENT at least biannually. The University has developed a safety manual for X-ray equipment. This manual describes the radiation safety program and regulations concerning the safe use of the equipment. Users of X-ray equipment are required to read the manual and pass a test administered by their instructor.

Lasers
The Chemistry and Physics Departments maintain several lasers which are registered with Risk Management. A manual for the safe use of lasers has been developed which is based on safety recommendations issued by the American National Standards Institute. Hazards associated with the use of lasers and safety guidelines are included. The laser safety program provides training to personnel and ensures that hazardous systems are operated safely. For example, Class III and IV lasers are required to be operated in a laser controlled area and users are required to wear appropriate eye protection. Users of Class III and IV lasers are required to read the manual and pass a test administered by the instructor. Risk Management conducts periodic inspections of laser systems to ensure compliance.
8.29 SCAFFOLDING

Policy
The University shall take every precaution to protect its employees against the hazards normally associated with the use of scaffolding.

Standards
Care and use of scaffolding shall conform to OSHA Standard 1910.28-29.

Procedures
1) Scaffolds shall be furnished and erected for persons engaged in work that cannot be done safely from the ground, solid construction, or ladders.
2) All erected scaffolds shall be inspected to make sure it is in good condition by the shop supervisor at the time of setup. The inspection shall include:
   • guard rails that are 2”x4” wide and 3 to 3 1/2 feet high.
   • guard rail supports every 10 feet on all open sides
   • toeboards that are 4” high on all open sides
   • screens between the guardrails and toeboards if people will pass underneath
   • ladder or other way to get on and off the scaffold
   • poles, legs, or other uprights that are plumb and secured
   • planks that extend 6 to 18 inches over the end supports on wooden scaffolds
   • cross braces on metal scaffolds
3) The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as boxes or concrete blocks shall not be used to support scaffolds or planks.
4) Scaffolds and their components shall be capable of supporting without failure at least four times the maximum intended load. The rope or wire used on a suspended scaffold has to be able to support six times the maximum intended load.
5) Scaffolds shall be maintained in safe condition and shall not be altered or moved horizontally while they are in use or occupied.
6) Any scaffold damaged or weakened from any cause shall be immediately repaired and shall not be used until repairs have been completed.
7) Scaffold planks shall extend over their end support not less than 6 inches nor more than 18 inches.
8) Materials being hoisted onto a scaffold shall have a tag line.
9) Overhead protection shall be provided for men on a scaffold exposed to overhead hazards and any employees remaining on the ground whenever there is a hazard of falling materials.
10) Employees shall not work on scaffolds during storms or high winds.
11) Employees shall not work on scaffolds which are covered with ice or snow, unless it has been removed and planking sanded to prevent slipping.
12) Tools, materials, and debris shall not be allowed to accumulate in quantities to cause a hazard.
13) Scaffolds shall be provided with a screen between the toeboard and the guardrail, extending along the entire opening, consisting of No. 18 gauge U.S. Standard Wire one-half inch mesh or the equivalent, where persons are required to work or pass under the scaffolds.
8.30 TEMPERATURE EXTREMES

Policy
The University shall take every precaution to protect its employees against the hazards normally associated with hot and cold work environments typically occurring outdoors during summer and winter months.

HOT ENVIRONMENTS

Symptoms of Heat Stress
- Dizziness
- Breathing problems
- Rapid heartbeat
- Great weakness
- Nausea
- Diarrhea
- Cramps
- Chest pain
- Headache
- Excessive Sweating

Symptoms of Heat Stroke (failure of body to regulate core temperature)
- High Temperature
- Hot red, dry skin
- Rapid pulse

Protection Against Hazards
1) Supervisors shall train their employees in the symptoms of heat disorders and how to protect them from its effects prior to the onset of hot weather.
2) Acclimatize employees to heat through short exposures followed by longer periods of work in the hot environment.
3) Use engineering controls to include general ventilation, spot cooling by local exhaust ventilation at points of high heat production (such as Boiler rooms) and shielding from radiant heat sources.
4) Employees should drink plenty of water and occasionally supplement with an electrolyte solution such as Gatorade.
5) Employees should be instructed in first aid training associated with heat stress disorders.
6) Alternating work and rest periods with longer rest periods in a cool area.
7) Employees shall be educated to make them aware of the need to replace fluids and salt lost through sweat and to help them recognize dehydration, exhaustion, fainting, heat cramps, salt deficiency, heat exhaustion, and heat stroke as heat disorders.
8) Use sunscreen whenever outside for prolonged periods.

When Heat Disorders Occur
1) Take immediate action if it’s hot and you feel weak, dizzy, sweaty, or nauseous. Pay attention to cramps and to anyone who tells you that you look pale.
2) In any and all of the above circumstances, get to a cooler area (shade or a cool building). Lie down, loosen clothing, and put cool compresses on your skin. Drink fluids.
3) If you have, or see someone with, heatstroke or sunstroke symptoms, fast action is a must. Get medical help by calling Public Safety. It’s important to cool the body down quickly by using cool compresses, water, or even a hose. Do not try to give fluids to an unconscious person.
4) If you get sunburned, rinse or soak with cool water or cold compresses. If you’re sunburned but haven’t blistered, you can use a mild non-medicated cream. But blisters can be serious so see a doctor.
COLD ENVIRONMENTS

Symptoms of Frostbite
Frostbite occurs when your body doesn’t get enough heat and the body tissues freeze. Body parts most often affected by frostbite are the nose, ears, cheeks, fingers, and toes. In very bad cases, frostbite can cause permanent tissue damage and loss of movement in the affected body parts. In the worst cases, you could become unconscious and stop breathing. Symptoms include:

• Feeling uncomfortably cold.
• Feeling numb.
• Feeling tingling, aching, or brief pain.
• Skin going from white to grayish yellow to reddish violet to black.
• Skin blisters.
• Unconsciousness.

When Frostbite Occurs
• Don’t rub body part or apply heat lamp or hot water bottles.
• Don’t go near a hot stove.
• Don’t break blisters.
• Warm frozen body part quickly with sheets or blankets or warm (not hot) water.
• Exercise warmed body part (but don’t walk on feet).
• Get medical attention if needed.
• Elevate frozen body part and cover with sterile cloths before moving.

Symptoms of Hypothermia
Hypothermia occurs when the body temperature gets dangerously low. It can take you by surprise because you can get it when the temperatures are above freezing. Windy conditions, physical exhaustion, and wet clothing can all make you more prone to hypothermia. Symptoms include:

• Feeling cold
• Pain in the extremities
• Shivering, numbness, stiffness, drowsiness, poor coordination
• Slow or irregular breathing or heart rate
• Slurred speech, confusion, apathy
• Puffy face, cool skin

When Hypothermia Occurs
• Call for Medical Help at Public Safety.
• Give artificial respiration if needed.
• Move into a warm area.
• Get out of frozen, wet or tight clothes and bundle in warm clothes or blankets.
• Drink something warm (no caffeine or alcohol).

Protection Against Hazards
1) Wear layers of loose, dry clothing and change wet clothing immediately. Be sure to cover head, hands, feet, and face.
2) Limit exposure to cold, especially if it’s windy or humid. Be especially careful if you’re older, overweight, have poor circulation, or take medications.
3) Silk gloves, or comparable material, should be used when handling cold metal objects to avoid freezing to the metal and still retaining good manual dexterity.
4) Employees should be cautioned that at temperatures below 15 degrees Celsius, the hands and fingers become insensitive long before the described cold injuries take place, and the probability of malfunction and accidents increases.
8.31 TRASH DISPOSAL

Policy
The University shall ensure that all workplaces are kept clean to the extent that the nature of the work allows and that the collection of trash is done in a manner that protects employees.

Standards
The University will comply with all provisions of OSHA Sanitation Standard 1910.141.

Procedures
1) Never reach into a wastebasket with your hands. Pick up a basket and pour the trash into the proper receptacle. Trash containers could contain sharp objects such as syringes, broken glass, razor blades, etc.

2) When handling trash bags where there is risk of being cut or stuck, use heavy duty gloves (ie leather or reinforced rubber) to prevent injury.

3) Do NOT let garbage accumulate so that the container is too heavy to lift. Use teamwork if loads are too heavy to manage by yourself. Use proper lifting techniques for all lifting.

4) Do NOT place asbestos containing materials (such as some floor or ceiling tiles), laboratory waste, bloody bandages, syringes, dead animals, batteries, fluorescent tubes, transformers, or liquids into trash receptacles.

5) Report any improper disposal of waste to your supervisor and/or Risk Management.
8.32 WALKING-WORKING SURFACES

Policy

The University shall take every precaution to provide its employees, students, and visitors clean, orderly, and well maintained walking and working surfaces.

Standards

Requirements for walking-working surfaces shall conform to OSHA Standard 1910 Subpart D.

Procedures

1) All places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition.

2) The floor of every workroom shall be maintained in a clean and, so far as possible, a dry condition. Where wet processes are used, drainage shall be maintained, and false floors (duckboards, platforms, mats, or other dry standing places) should be provided where practicable.

3) To facilitate cleaning, every floor, working place, and passageway shall be kept free from protruding nails, splinters, holes, or loose boards.

4) Where mechanical handling equipment is used, sufficient safe clearances shall be allowed for aisles, at loading docks, through doorways and wherever turns or passage must be made. Aisles and passageways shall be kept clear and in good repairs, with no obstruction across or in aisles that could create a hazard. Permanent aisles and passageways shall be of adequate width and appropriately marked.

5) Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.

6) All floor openings, ladderways, floor chutes, hatchways, manholes, and stairs shall be provided with appropriate rails or other approved protective devices.

7) All portable wood or metal ladders shall be maintained by each respective department in a safe condition and in accordance with the above referenced sections. Unacceptable ladders will be either replaced or upgraded.
8.33 WELDING, CUTTING and BRAZING

Policy

The University shall take every precaution in the use of cutting, welding, and brazing equipment and procedures for the protection of employees.

Standards

All cutting, welding, and brazing procedures and equipment shall meet requirements as stated in OSHA CFR 1910 Subpart Q of the Occupational Safety and Health Standards. Related work must conform to ANSI 249.1, Safety in Welding and Cutting; and NFPA-51-1969, Welding and Cutting Oxygen Fuel Gas System. Storage of Compressed Gas Cylinders shall be in accordance with the above referenced sections.

Procedures

1) Always receive proper instructions before working with welding tools, machines, and equipment. It shall be the responsibility of the supervisor or outside contractor to instruct and judge competent the employee left in charge of the operation.
2) Remove all hazardous material and flammable clothing from the area where the welding is to be performed. If this cannot be accomplished and the material nearby could be affected by the welding, then the welding area must be enclosed in fireproof blankets or other protective shields. Fire protection equipment must be on hand and ready for use at all times. All work shall be performed only after filling out a hot work permit from Risk Management.
3) Keep the face, body, and hands covered to prevent burns from splatter, slag, or hot metal. Wear heat-insulating, flame-proof gloves. Wear welding sleeves when welding in an overhead position.
4) Wear approved eye protection at all times. Operators, welders, and their helpers must wear goggles, helmets, and shields that give the maximum eye protection. Use a fire-resistant screen when a welding or cutting operation can be observed by a person passing nearby.
5) Appropriate respiratory equipment shall be donned when performing cutting or welding operations on metals that emit toxic fumes (i.e., lead, zinc, cadmium, beryllium, chromium, and manganese).
6) Use a platform with railings or a safety belt and lifeline for work to be performed above four feet from the ground or floor.
7) Follow the proper procedure for work in confined spaces. (Confined spaces broadly describes the many pits, vaults, vessels, tanks, underground tunnels, pipelines, and open-topped spaces more than four feet in depth, that may pose an occupational safety or health hazard; see the confined space procedures outlined earlier in this manual.)
8) After welding or cutting is completed, mark hot metal or post a warning sign to keep people away from heated surfaces.
9) Operating pressure of fuel gases shall not exceed 15 p.s.i. gauge pressure.
10) Keep hoses, cables, and other equipment out of the way so that it does not become a tripping hazard.
11) When performing oxyacetylene welding, do not use oil on the torch, blow pipe, valves, regulators, or any other portion of the equipment as the oxygen and oil together can start a fire. Follow all other procedures for compressed gas cylinders outlined earlier in this manual.
8.34 WORK OVER or NEAR WATER

Policy
The University shall take every precaution to protect its employees working over or near water.

Standards
All work over or near water shall at a minimum conform to Occupational Safety and Health Standard 1926.106 "Working Over or Near Water."

Procedures
1) Employees working over or near water where the danger of drowning exists, shall be provided with U.S. Coast Guard-approved life jackets or buoyant work vests.

2) Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects which would alter their strength or buoyancy. Defective units shall be taken out of service.

3) Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.

4) At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.
9. FLEET SAFETY

9.1 GENERAL
The University provides a number of pool vehicles and permanently assigned vehicles to be used by employees when traveling while conducting University business.

9.2 REQUIREMENTS
Minimum qualifications are a valid driver’s license, at least 18 years of age, and a satisfactory driving record. The Public Safety Department and Facilities Services work jointly to assure the University has an effective vehicle safety program. The following are additional requirements:

1) A satisfactory driving record is one with no more than eight points for traffic violations and no record of reckless driving or driving under the influence of drugs or alcohol (DUI) during the past five years.
2) Supervisors may consider other criteria that may be important to job-related driving when evaluating an employee’s driving record.
3) The driving records of potential University drivers will be secured from the South Carolina Highway Department before employees are assigned jobs requiring operation of a vehicle. This is the responsibility of the department for whom the employee will work. Motor vehicle driving records may be obtained through the Public Safety Department.
4) At least annually the motor vehicle driving records of all employees that may use University vehicles in their work will be examined by the Public Safety Department. If during this examination an employee’s driving record becomes unsatisfactory, the department will notify the employee’s supervisor.
5) If an employee’s driving record shows violations with points in excess of eight, the driver must attend a safe driving session.
6) Employees whose licenses are revoked for whatever reason must not be allowed to operate University vehicles.
7) The driving privileges of an employee may also be revoked because of an unsatisfactory driving record as evaluated by the Director of Public Safety.
8) In addition to a valid driver’s license and a safe driving record, only qualified drivers are permitted to drive certain University vehicles. Vans and large trucks may be driven only by drivers who have passed a road test given by Risk Management and passed a Motor Vehicle background check by Public Safety.
9) All operators of University vehicles shall regularly inspect their vehicle to assure that the parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use. A vehicle safety checklist is included in the appendix. All defects shall be promptly reported to the immediate supervisor.
10) All accidents shall be promptly reported and investigated by Police and/or Public Safety Officers. In addition, the department head or designee shall investigate any accident involving a subordinate.

9.3 REPORTING
To assist the Public Safety Department in developing effective driving data, copies of all accident reports must be analyzed for trends and problems that may be useful when preparing information for a safe driving course or for other programs relative to vehicle safety.

9.4 ENFORCEMENT
The University will comply with all provisions of the South Carolina Safety Belt Law in use of University vehicles on or off campus.
10. EDUCATION AND AWARENESS

10.1 GENERAL
The purpose of safety training and awareness programs is to educate employees in the recognition, avoidance and prevention of unsafe and unhealthful working conditions in order to work safely, reduce injuries and accidents, and keep workers compensation costs to a minimum. In addition, OSHA regulations require regular and periodic training for compliance with several safety standards. Risk Management conducts periodic training for most University employees with emphasis on areas where accident and injury occurrence is most likely.

10.2 NEW EMPLOYEE ORIENTATION
All new employees will attend an Orientation Training Program through Human Resources which will include safety. New employees performing job functions which are likely to encounter work-related risks attend a safety orientation program sponsored by Risk Management. In addition, department supervisors are responsible for reviewing all safety procedures and hazards with new employees prior to assignment.

10.3 SAFETY TRAINING WITHIN DEPARTMENTS
Supervisors should familiarize themselves with the safety and health hazards to which employees under their immediate direction and control may be exposed. As such, department supervisors are responsible for providing training:

- to all new employees,
- to all employees given new job assignments for which training has not previously been received,
- whenever new substances, processes, procedures, or equipment are introduced to the workplace and represent a new hazard,
- whenever a trend indicates that employees are not being adequately training,
- whenever a supervisor is made aware of a new or previously unrecognized hazard.

Risk Management assists in department training by providing training on specific topics, providing training materials, and providing guidance and technical expertise. Attendance at training sessions must be documented.

10.4 STUDENT SAFETY
The University safety program extends to all students and visitors as much as possible. Laboratories and work areas occupied by students shall be in compliance with applicable Federal, State, and University rules and regulations. Several programs concerned with student safety have been written to include the use of X-ray equipment, radioactive materials, lasers, and hazardous chemicals. In addition, adequate safety equipment and personal protective equipment is available in designated areas (such as goggles in the science laboratories).

10.5 HEALTH & SAFETY AWARENESS
Health and safety awareness programs are regularly scheduled for students at the University. The purpose of these programs is to promote a safer and healthier campus environment by helping students become aware of their behavior. Programs are periodically presented in such topics as alcohol and substance abuse, AIDS, sexually transmitted diseases, rape and assault, first aid, stress management, and other health and safety issues. Information on these programs is available from the Public Safety Department, Risk Management, Student Services Office, Health Services, and the Counseling Center.
11. EMERGENCY PLANNING

11.1 MEDICAL EMERGENCIES
Medical emergencies exist when personnel have been injured by fire, explosion, animal attacks, hazardous substances, or any other physical means resulting from an incident which causes multiple injuries and illnesses requiring immediate medical treatment. This would also include personal medical incapacity’s such as heart attack, choking, and seizures.

The Public Safety Department provides on-the-scene first responder emergency medical services until professional assistance arrives at the scene (i.e. county EMS or fire department). The officers receive training in basic first-aid and cardiopulmonary resuscitation (CPR). All Public Safety vehicles are equipped with first-aid kits and Automatic External Defibrillator’s (AED). AED’s are also available in various buildings on campus to include Timmon’s Arena, Tennis Center and the Physical Activities Center.

11.2 CRISIS MANAGEMENT PLAN
In order to better respond to emergencies that may affect the safety of the University, a Crisis Management Plan has been developed to meet emergencies, both natural and non-natural. The Plan will provide a course of action to follow in assuring the safety of personnel and property through effective use of University and community resources. An emergency may be sudden and unforeseen or there may be varying periods of warning. The plan is intended to be sufficiently flexible to accommodate contingencies of all types and magnitudes. The Public Safety Director is responsible for coordinating emergency preparedness and response programs for the University.

11.3 SEVERE WEATHER
The Public Safety Department monitors the alert system of the National Weather Service and notify appropriate departments of these alerts. Each department then notifies individuals of the alert and follows procedures as outlined in the Emergency Response Plan. University closings and delays for winter storm operations are also outlined in the Crisis Management Plan.