CAPE FEAR COMMUNITY COLLEGE

CAMPUS SAFETY PLAN

POLICIES PERTAINING TO
SAFETY AND EMERGENCY PROCEDURES

Prepared by
CFCC Safety Committee
November 1995
Revised, January, 1997
Revised, August, 2000
Revised, December, 2000
GENERAL

Cape Fear Community College is committed to providing a safe working and learning environment for all employees and students. The College gladly accepts its duty under the Occupational Safety and Health Act of North Carolina to comply with all worker safety laws at the local, state, and federal level.

The practice and administration of safety is considered to be the responsibility of all personnel. Every faculty and staff member is expected to possess knowledge and expertise in their specialized fields. Each person therefore, should establish appropriate rules, methods, and procedures to ensure a safe working environment. Every employee in a supervisory position is ultimately responsible for safe procedures as they relate to the hazards which accompany their particular field.

The Safety Plan’s philosophy:
1. The purpose of our safety program is to prevent accidents, injuries, and occupational illnesses to all personnel.
2. Each faculty and staff member is expected to possess knowledge and expertise pertaining to safety in his own specialized field, and should therefore promote and adhere to appropriate safety rules and procedures on the job.
3. Safety is the highest job responsibility of all employees; it takes precedence over expediency and short cuts on the job.
4. Based upon the guiding principles of sound engineering, employee education, and strict enforcement of our policy, this written safety program is established to protect worker safety and health.

The CFCC Safety Committee works to ensure that the College complies with mandated safety rules and regulations, and that employees are made aware of, and practice safe working procedures. The Campus Safety Plan is written and provided to all employees to promulgate these guidelines.

The legal authority for this document is contained in the North Carolina Occupational Safety and Health Standards for General Industry. The North Carolina Commissioner of Labor is responsible for the adoption and enforcement of occupational safety and health regulations. With a few certain exceptions, the Commissioner has adopted federal standards verbatim, and has incorporated them by reference into the N.C. Administrative Code. The United States Code of Federal Regulations (CFR), Title 29, Part 1910 is the state-adopted standard of regulations for the protection of all North Carolina workers.
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SAFETY INSPECTIONS

The College Safety Committee (see Roster of Safety Committee Members, Appendix I) will make a campus safety inspection tour on a quarterly basis to ensure the College is in compliance with OSHA standards and to cite any unsafe facility conditions or work practices. A report of this tour will be forwarded to the Vice President of Institutional Services. For any safety violations or deficiencies which cannot be immediately remedied, Department Chairs or supervisors in the area of concern will be notified. If recommended corrective action involves the need for physical or structural alterations beyond the means of the Department Chair or supervisor, then the Maintenance Department shall be notified of the need for assistance.

As each person will normally be well acquainted with the daily workings and nuances of his own workplace, every employee should maintain a conscientious safety watch. Constructive concerns regarding safe work practices and facility conditions should then be communicated to the Safety Committee. If necessary, the “Report of Campus Safety Violations or Concern” form (see Appendix) may be utilized. By working closely with Committee members, situations requiring remedying can be positively and promptly addressed.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) is defined as clothing and other work accessories designed to create a barrier against workplace hazards. PPE should not be used as a substitute for engineering, work practice, and/or administrative safety controls; rather, PPE should be used in conjunction with these controls to provide for employee safety and health in the workplace.

Cape Fear Community College’s PPE policy is as follows:
1. Supervisors shall perform site assessments in every workplace to determine if hazards that require the use of PPE are present or are likely to be present.
2. Written records of the workplace hazard assessments shall be maintained by supervisors, and a master copy of all assessments shall be maintained by the Safety Committee.
3. When hazards or the likelihood of hazards are found, supervisors must select and have affected employees use properly fitted PPE suitable for protection from existing hazards.
4. Before doing any work requiring use of PPE, employees must be trained to know:
   A. When its use is necessary;
   B. What type is necessary;
   C. How it is to be worn;
   D. What its limitations are;
   E. How to care for and maintain the equipment;
   F. How to recognize the end of the useful life of the equipment and to dispose in a timely manner.

5. Supervisors are required to certify in writing that training has been carried out and that employees understand it. Each written certification shall contain the name of the employee trained, the date(s) of training, and identify the subject addressed.

North Carolina OSHA standards provide specific guidelines for the provision of the following types of personal protective equipment:

1. **Eye and face protection** must be provided when there is a potential for injury to the eyes or face form flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, potentially injurious light radiation or a combination of these. Standards are contained in the ANSI Practice for Occupational and Educational Eye and Face Protection, Z87.1-1989.

2. **Head protection** must be provided when there is a risk of head injury from falling or flying objects, or by bumping the head into a fixed object. Head protection, in the form of protective hats, must resist penetration and absorb the shock of a blow. Standards are contained in the ANSI Personnel Protection – Protective Headwear Requirements, Z89.1-1986.

3. **Foot protection** must be provided when there is danger to the feet and legs from falling or rolling objects, sharp objects, molten metal, hot surfaces, and wet slippery surfaces. Workers should use appropriate footguards, safety shoes, or boots and leggings. Leggings protect the lower legs and feet from molten metal or welding sparks. Protective footwear must comply with ANSI Personal Protection – Protective Footwear, Z41-1991.

4. **Respiratory protection** is required when working in an atmosphere dangerous to life, such as in areas where airborne concentrations of toxic materials may exceed permissible exposure limits and threshold limit values. For more detailed information, consult the CFCC Respiratory Protection Policy, included herewith in this Safety Plan.

5. **Electrical protective equipment** is required when working in and around electrical devices. The following rubber items should be used as appropriate: insulating gloves, matting, insulating blankets, hoods, line hose, and sleeves.

6. **Hand protection** is required when employees’ hands are exposed to hazards such as those from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, and/or temperature extremes. There is a wide assortment of gloves, hand pads,
sleeves, and wristlets for protection against various hazardous situations. The protective device should be selected to fit the job; before purchasing, supervisors should determine from the manufacturer that the gloves or equipment selected meets appropriate test standards for the hazards anticipated.

7. **Hearing protection** is required when exposure to high noise levels can cause hearing loss or impairment. Earplugs or earmuffs may be used, separately or in combination. OSHA Standard 29CFR 1910.95 provides details of a hearing conservation program.

The Safety Committee should be consulted for any assistance required in selection of proper personal protective clothing and equipment.

**SMOKING POLICY**

Smoking is permitted on campus in open air areas only. This policy covers all CFCC facilities in New Hanover and Pender Counties and applies to all employees, students, visitors, and contractual personnel.

**SAFETY INSTRUCTIONS**

Instructors or supervisors who teach or work in shop or laboratory settings shall ensure that applicable safety regulations are introduced and explained before any exposure to potential hazards is encountered. If necessary, these rules and guidelines should be posted in a conspicuous manner, e.g. regarding the donning of appropriate PPE. Instructions and postings should include ongoing and periodic reviews of all safety regulations, especially if new procedures or hazardous materials are introduced to the area. Willful failure by students or employees to abide by safety regulations shall be regarded as grounds for dismissal.

**INJURY OR ACCIDENT RESPONSE AND REPORTING PROCEDURES**

1. Report instances of injury or serious illness of **students** while on campus to the office of the Vice President of Student Development. A CFCC Incident Report, and if applicable, a CFCC Student Accident Report (see Appendices for copies of both) should be filed.

2. Report instances of injury or occupational illness of **faculty or staff members** to the appropriate senior administrator (i.e. Vice President of Instruction, Vice President of Business Services, Vice President of Institutional Services, Vice President of Student Development, or Vice President of Institutional Development.) The Supervisor's Accident Report Form should be used.
3. In such cases involving either employees or students, the office of the Vice President of Business Services should be immediately notified so that proper attention to personnel matters may be administered (e.g. insurance, Workman's Compensation, etc.).

4. First aid kits should be conspicuously available in every Department of the College, ready for immediate use. When medical attention beyond the scope of first aid is required, the "911" EMS system should be immediately notified.

5. Supervisors and Department Chairs should strive to ensure that at least one (and as many as possible) person in their area is certified in American Red Cross Standard Workplace First Aid and CPR procedures.

6. Health services at Cape Fear Community College are limited to the provision of first aid kits, health counseling, and health records (reports on injuries). The Dean of Student Development has the responsibility for health services. First aid treatment is available on campus for minor injuries. Treatment for more serious injuries can be obtained from the local rescue squad, emergency medical treatment facilities, and hospitals. The student counseling staff provides limited health counseling for students.

**EMERGENCY PROCEDURES**

In the event of an emergency on the campus of Cape Fear Community College, the execution of predetermined plans and procedures for orderly and expeditious campus evacuation and rapid communications can materially assist in the protection of property and, most importantly, the saving of lives.

Among such emergency situations are fires, acts of Providence such as tornadoes and hurricanes, bomb threats, and chemical spills or exposures.

The following order of authority shall be observed in assuming responsibility during an emergency:

1. President
2. Senior Administrator

Each person assigned needs to thoroughly understand his duties, and when complying with these instructions, the protection of life and property will be more efficiently accomplished.
**In Case of Fire**

In case of fire, personnel are instructed to activate the fire alarm system. Fire alarm boxes are located conspicuously on each floor in each building.

After the fire alarm has been activated, go to the nearest phone and dial "0". Inform the Switchboard Operator of your identity and the location, nature, and extent of the fire. The switchboard operator will call the proper authorities and then notify the President. (In the event the switchboard cannot be reached, dial 911 and report the fire.)

When the alarm is activated, all personnel will evacuate buildings through the nearest exit. Each instructor will be responsible to see that all of his/her students are out of the classroom and the building, as well as seeing that all classroom doors and windows are secured and lights turned off. Doors should not be locked, as this could thwart the efforts of emergency personnel.

Faculty and staff will be responsible to see that all students have been evacuated before they exit the building themselves. SPECIAL CARE AND ATTENTION SHOULD BE GIVEN TO HANDICAPPED STUDENTS AND STAFF.

In the event of a fire, all personnel will remain out of buildings until told to return, and will remain at least 100 feet away from any part of the building, so as not to hamper movement of emergency personnel and equipment.

To activate or cause to be activated a false fire alarm is a violation of state law and violators will be prosecuted accordingly.

**School Closures/Class Cancellations**

The decision to cancel any portion or all of Cape Fear Community College classes due to inclement weather or other emergencies is the responsibility of the President or his designated representative. Announcements will be made on local television and radio stations at the earliest possible time once a decision is made to cancel or close. Days missed due to cancellation or closing will be designated with pay for staff and faculty. Efforts to make up classes missed will be made during the semester that they are missed. In the event the schedule will not permit this, the Board of Trustees may choose to excuse those days when if requested by the President.
BOMB THREATS

Monday through Fridays between 8:00 a.m. and 5:00 p.m.

A. If a call is received in one of the buildings, stating that a bomb is in the building or is to be placed in a building, the person receiving the call should take the following actions:

1. Try to hold the call and have someone on another phone call the Operator and trace the call.

2. Note the exact words spoken, the time of the call, attempt to identify the voice, i.e. male, female, accent, pitch, approximate age of person, mispronunciation of words, or any other specific things that may help in identifying the caller.

B. The person receiving the call shall immediately:

1. Call 911 to report bomb threat to Police/Firemen.

2. Call Fire Department and inform them of bomb threat and let them know that CFCC will use the fire alarm to evacuate the building.

3. Pull fire alarm.

C. Volunteer Emergency Squad members will go to the Command Post (General Administration Building).

D. Evacuation of a building will be accomplished by sounding the fire alarm. Prior to sounding the fire alarm, a telephone call should have been made to local fire department. Emergency Squad members will be assigned to assist a complete building evacuation. All staff, students and faculty should be gathered and kept at least 100 feet from buildings to await further instructions from Emergency Squad members. Driveways and exits will be kept clear.

E. Faculty and staff, where possible, will assist disabled and/or wheel chair students to buildings’ stairwell lobbies where appropriate staff will assist with evacuations from buildings, if necessary.

F. Command post will announce “All Clear” at appropriate time. Message will be relayed by Maintenance Staff.

After 5:00 p.m. and Weekends

G. The Duty Administrator will be delegated the responsibility for authorizing an evacuation of the building. Security Guards will be designated Emergency Squad members to assist firemen with evacuating disabled students, faculty and staff.

H. Notifications

1. The Duty Administrator will notify the Police Department and Fire Department (911) immediately upon receiving a bomb threat.

2. Call Fire Department and report Bomb threat and notify them that the fire alarm will be used to evacuate the building.

3. Pull fire alarm.
4. Notify Maintenance Manager and Vice President of Institutional Services.

5. Evacuate Building. Faculty and staff, where possible, will assist disabled and/or wheel chair students to buildings’ stairwell lobbies where appropriate staff will assist with evacuations from buildings, if necessary. **Students and staff should be encouraged to take personal belongings such as knapsacks with them in the event of an evacuation; this will minimize the number of suspicious items that searchers might encounter.**

I. Search

1. The Maintenance Manager/Vice President of Institutional Services and Volunteer CFCC Supervisory Personnel will assist the Police in searching the building.

2. If a time of detonation is given by the caller, the search will stop fifteen (15) minutes before the time given and resume fifteen (15) minutes after the time given.

J. Discovery

1. If a suspicious object, device or material is found:
   a. Do not approach the object, device or material.
   b. Be certain no personnel are in, above or below the area.
   c. The Vice President of Institutional Services or Maintenance Manager will arrange with the local police to notify the nearest explosive team.

K. Disposal

1. On arrival, the explosive team will have complete charge.

2. CFCC personnel will cooperate as required.

L. Report

1. Following each incident, the Vice President of Institutional Services will submit to the President a written report.

**List of members of management staff who may be contacted during an emergency:**

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<th>NAME</th>
<th>TITLE</th>
<th>EXT.</th>
<th>HOME PHONE</th>
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<tr>
<td>James Parker</td>
<td>Maintenance Manager</td>
<td>5178</td>
<td>792-3210</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>619-0048</td>
</tr>
<tr>
<td>Carl Brown</td>
<td>Vice President of Institutional Services</td>
<td>5104</td>
<td>313-1206</td>
</tr>
<tr>
<td>Dan Hickman</td>
<td>Vice President of Instruction</td>
<td>5125</td>
<td>452-7433</td>
</tr>
<tr>
<td>Eric McKeithan</td>
<td>President</td>
<td>5101</td>
<td>350-0862</td>
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A brigade of Bomb Threat Emergency Volunteers comprised of CFCC faculty and staff members has been established to respond to situations requiring methodical searching of facilities when threats occur.

**EVACUATION POLICY**

The following procedures are to be followed in the event that an emergency evacuation becomes necessary in any building or classroom owned and/or operated by Cape Fear Community College.

*Day Hours* - If the emergency evacuation is created by an outside source, the Switchboard Operator receiving the telephone call will immediately call the police and report the information which created the emergency situation. After notifying the police, the operator will notify the Vice President of Student Development, who will immediately cause the building to be evacuated. If the Vice President of Student Development is not available, the operator will notify the Vice President of Instruction, the Vice President of Business Services, or the senior administrator present.

If the Switchboard Operator is notified by a governmental agency such as the Police or Fire Departments, the operator should, after notifying the appropriate administrator, call the person at that agency, to verify that such a call did come from that agency.

The administrator will take immediate appropriate steps to ensure the safety of all students and personnel.

*Evening Hours* - The Switchboard Operator will follow the above procedures except that the Duty Administrator is to be notified. In the event that the Duty Administrator is not available, the operator will notify the senior administrative officer present, who will follow the prescribed procedure for emergency evacuation.

*Saturdays and Other Days of Public Occupancy* - The person receiving the information which calls for an emergency evacuation should:

1. Immediately notify the Police (Phone 911), and

2. Notify the senior administrative officer present or his/her designee who will take immediate appropriate steps to ensure the safety of the public by evacuating the building.
EVACUATION PROCEDURES

Follow the instructions on the map located near the door in each room. If the room does not have instructions for evacuation, exit via the shortest route to safety. Elevators should not be used, due to the heightened possibility of their service being suddenly interrupted. **Once evacuated, instructors will account for students in their classes in a “roll call” fashion. Department Chairs and supervisors will account for all of their employees after the emergency evacuation has been completed.** After the "all clear," and when the senior administrative officer present determines that the evacuated building is safe to enter, students will return to their appropriate classes.

Students and staff are to follow the evacuation pattern established for each floor by using the diagram on the drawing located in each room. Should the primary route as indicated by the solid red line be blocked by smoke or fire, the secondary escape route indicated by the broken red line located on the diagram should be followed. Supervisory personnel should review evacuation procedures with personnel under their supervision. Faculty members should go over the procedures with their students at the beginning of each semester.

**Evacuation Plan for Handicapped**

FRED J. GALEHOUSE BUILDING and SCIENCE WING – Employees, at the time of an evacuation, will take means to get handicapped persons to the front stair landings on the third and fourth floors. Staff will proceed to take students with help from other staff or Fire Department members to the main floor (exterior exits) and exit. In the Science Wing, if this route is blocked, the stairs at the west side of the building should be used. In either case, if these routes are blocked, rescue will be attempted by the Fire Department members from the ground.

MALCOLM J. MCLEOD BUILDING – Employees, at the time of an evacuation will take means to get handicapped persons to the west wing (facing river) exterior stair well. They will proceed to take students with help from other staff or Fire Department members to the bottom floor exit. If this route is blocked, rescue will be attempted by the Fire Department with aerial ladders from the ground. (Note: The Fire Department will be expected to break the glass partition inward from the outside of the balconies enabling them to help students from the outside. This will prevent glass from falling on personnel going outside at the ground floor exit.)

ALLIED HEALTH and LRC BUILDING – Faculty and staff members shall make means to assemble handicapped persons at the main stairwell on the east side of the building. There, Fire Department and Maintenance Department personnel will provide help in transporting the handicapped downstairs to safety. If the main stairwell is blocked, the alternate exit path will be the stairwell at the south end of the building.
Cape Fear COMMUNITY COLLEGE
Hazard Communication Program

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PURPOSE
Cape Fear Community College is firmly committed to providing each of its employees a safe and healthy work environment. The purpose of this policy is to protect our employees as well as the public from injuries or illnesses that may result from exposure to hazardous chemicals or substances within our workplace.

1. RESPONSIBILITIES
The designated Hazard Communication Coordinator is listed in Appendix A. The specific responsibilities of the Hazard Communication Coordinator include:

• Maintaining an up-to-date Hazard Communication Program.
• Ensuring that a Hazardous Chemicals Inventory List exists for Cape Fear Community College and is up to date.
• Ensuring that Cape Fear Community College has a copy of a Material Safety Data Sheet (MSDS) for each chemical listed.
• Ensuring that an adequate supply of hazard warning labels are maintained.
• Ensuring that general hazard communication training is provided to all applicable employees.
• Maintaining training records for employees who have completed Hazard Communication training and keeping them up to date.
• Keeping a master copy of the Hazard Communication program and all MSDS’s on file.

Each Department Head has the following responsibility:

• Ensuring that materials are properly labeled within their work areas.
• Ensuring that MSDS’s are obtained with any new materials received.
• Ensuring that each employee is trained on any non-routine chemicals that may be used in their work areas.

Each employee is responsible for learning and following the requirements developed under this program.

2. ACCESS TO THE WRITTEN PROGRAM
All or any part of this written Hazard Communication Program is available to employees, their designated representatives, the Assistant Secretary of Labor for Occupational Safety and Health (OSHA), and the Director of the National Institute for Occupational Safety and Health (NIOSH). The designated location of this plan is listed in Appendix A for review and copying.
3. HAZARD DETERMINATION AND INVENTORY
The initial hazard determination of chemicals is performed by manufacturers or importers. Every hazardous substance known to be present in the workplace at Cape Fear Community College will be listed on the Hazardous Chemicals Inventory List. This list will serve as an index to the MSDS files. A copy of Cape Fear Community College’s chemical inventory is attached to this program. The identity of the substance appearing on the Hazardous Chemicals Inventory List will be the same name that appears on the manufacturer's label, in-house label, and the MSDS for that substance.

4. MATERIAL SAFETY DATA SHEETS (MSDS'S)
A MSDS containing the information required by the Hazard Communication Standard will be kept for each substance listed on Cape Fear Community College’s Hazardous Chemicals Inventory List. The MSDS will be the most current one supplied by the chemical manufacturer, importer, or distributor. The location of the master file of all MSDS's or the location of Departmental MSDS’s (if no master file is maintained) is listed in Appendix A. The Material Safety Data Sheets will be readily accessible to employees.
Each department is responsible for obtaining an MSDS for any new chemical that is not on the Cape Fear Community College Hazardous Chemicals Inventory List and/or for which Cape Fear Community College does not have an MSDS. Within 2 weeks of receipt of the chemical, the department will contact the supplier by fax or letter and request an MSDS be sent. A sample letter is attached as Appendix B. The department will forward a copy of the MSDS to the Hazard Communication Coordinator for inclusion on the Hazardous Chemicals Inventory List and placement in the master MSDS files.
Terms that are often referred to on MSDS’s may be found on Appendix C.

5. LABELING
No hazardous chemicals will be accepted for use at Cape Fear Community College, or shipped to any outside location, unless labeled with at least the following information:
- Identity of the hazardous chemical(s).
- Appropriate hazard warnings (physical and/or health hazards).
- Name & address of the chemical manufacturer, importer, or other responsible party.
All in-house containers of hazardous chemicals will be labeled with at least the following information:
- Identity of the hazardous chemical(s) (trade & common name).
- Appropriate hazard warnings (physical and/or health hazards).
No label is to be defaced or removed when a material is received or in use. If a label becomes unreadable or material is poured into a different container, the person using the material is responsible for labeling the container, with an in-house warning label. If the warning labels are not available in the work area, they may be obtained by calling the Hazard Communication Coordinator.

6. EMPLOYEE INFORMATION AND TRAINING
Prior to initial task assignment, all employees at Cape Fear Community College, including temporary employees, working with or potentially exposed to hazardous chemicals, will be appropriately informed and trained concerning the potential hazards to which they may be exposed.
All employees at Cape Fear Community College will be informed of the details of the Hazard Communication Program, including an explanation of the labeling system and the MSDS's, and how employees can use the appropriate hazard information. The Hazard Communication Coordinator is responsible for the overall coordination of the training program.
Employees will be provided with training when new hazardous chemicals are introduced and added to the chemical inventory, and before non-routine tasks are to be performed that could involve exposure to hazardous chemicals.
The extent of information transmitted to employees during training sessions will be dictated by the degree of hazard presented by the chemicals. The basic elements of the training program will include:
- Type and location of hazardous chemicals used within our facilities.
- Methods of detecting the presence or release of hazardous chemicals.
- Personal protective equipment and methods of protecting against chemical exposure.
- An explanation of an MSDS.
• This written Program, including our Hazardous Chemicals Inventory List, procedures for chemical labeling, handling non-routine tasks, and our contractor policy. Reinforcement of training will be conducted through topics at safety meetings, as appropriate. Training will be recorded on an appropriate training record and those training records will be maintained by the Hazard Communication Coordinator. The location of the training records is listed in Appendix A. A copy may also be maintained within the Department.

7. NON-ROUTINE WORK
Occasionally employees will be asked to perform non-routine work which can be defined as work not normally performed by an employee during the normal course of job duties. Examples of non-routine work could be, but are not limited to:
• Confined space entry work.
• Start-up and phase-in of new equipment.
• Using chemical substances in a manner different from normal and customary usage.
The following procedures will be used when employees perform non-routine work:
• The appropriate supervisor will determine the need for non-routine work and the hazard associated with the work.
• Prior to performing a hazardous non-routine task, a special training session will be conducted, usually between the supervisor and the employee.
In addition to the general employee information and training provided, the training will include thoroughly reading the MSDS, reviewing any necessary personal protective equipment, and emphasizing any other precautions that may be needed to reduce or avoid exposure. Special work permits may be required for some non-routine work, such as confined space entry. Employees share in the responsibility by ensuring their immediate supervisor knows that non-routine work will be performed. Employees should contact their immediate supervisor with questions concerning non-routine work.

8. CONTRACTOR POLICY
Any hazardous substance brought to Cape Fear Community College by an outside contractor must be coordinated with the Hazard Communication Coordinator. The contractor and Cape Fear Community College’s Hazard Communication Coordinator shall supply one another with a list of the hazardous chemicals and the corresponding MSDS’s for the materials to which all employees will be potentially exposed in the course of their work. Outside contractors must be provided with all necessary information concerning the potential hazards of the substances to which they may be exposed and appropriate protective measures required to minimize their exposure.
CFCC Hazard Communication Program (continued)

APPENDIX A

COLLEGE-SPECIFIC INFORMATION

Issues Required by the OSHA Standard
Designation of Hazard Communication Coordinator (mandatory)
Location of Hazard Communication Plan (mandatory – must be accessible to employees)

College Information for Compliance
Safety Committee Chair
(Currently: Steve Beuth)

On the CFCC Intranet.
Hard copies of the plan kept by Department Chairs and supervisors in areas housing hazardous chemicals.

Location of Material Safety Data Sheet Master File or locations of Departmental Material Safety Data Sheets

Master file maintained in the Shipping/Receiving Department
Departmental Material Safety Data Sheets maintained by individual Department Chairs and supervisors in each area housing hazardous chemicals.

Location of Training Records
Location of 29 CFR 1910.1450 Standard (mandatory – must be accessible to employees)

In the office of the Safety Committee Chair
In the office of the Safety Committee Chair, and in the CFCC Library.

APPENDIX B

REQUEST FOR AN MSDS

Chemical Supplier’s Name: 
Address: 
City, State Zip Code: 

Re: Product Material 
To Whom It May Concern:

In accordance with the Federal and North Carolina Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200), we are requesting that you provide a Material Safety Data Sheet on the following chemical(s) we purchase from your firm.

List of chemicals:

This request has been documented per OSHA requirements and your response should be within 30 days of receipt.
Please address your response to:

Your assistance is appreciated.
Sincerely,
MSDS TERMS AND DEFINITIONS

Acute Hazard - symptoms develop immediately or within days after exposure. Sometimes associated with brief and/or high concentrations of exposure.

Asphyxiant - a vapor or gas that can cause unconsciousness or death by suffocation (lack of oxygen). Simple asphyxiants act by displacing the oxygen available in the air so the body cannot take in enough oxygen (i.e. carbon dioxide, nitrogen, helium). Chemical asphyxiants act by interfering with the body’s use of oxygen even though adequate oxygen is present (carbon monoxide, cyanide).

Boiling Point (BP) - temperature at which a liquid changes to a gas. Solvents with low boiling points will volatilize readily. Examples include benzene, methyl alcohol, mercury, and toluene.

Carcinogen - a substance that causes cancer or is suspected of causing cancer in humans.

Chemical - any element, chemical compound or mixture of elements and/or compounds.

Chronic Hazard - symptoms or effects develop slowly over a long period of time and with repeated contact.

Combustible - ability of a solid, liquid, or gas to ignite and burn. Chemicals with a flash point 1000 F or above are considered combustible.

Corrosive - a chemical that attacks and destroys whatever it comes in contact with and can cause permanent damage or destroy living tissue. Vapors from corrosives can damage nose, mouth, and throat.

Evaporation Rate - how long a liquid takes to change into a vapor (evaporate). Butyl acetate has a relative evaporation rate of 1. A chemical with a higher number evaporates faster; one with a lower number evaporates slower.

Exposure or Exposed - an employee is subjected in the course of employment to a chemical that is a physical or heath hazard, and includes potential (e.g. accidental or possible) exposure. “Subjected” in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact, or absorption).

Flammability - ability of a solid, liquid, or gas to ignite and produce a flame. If a chemical has a flash point below 1000 F, it is considered a flammable.

Flash Point - lowest temperature at which a chemical’s vapors are concentrated enough to ignite. The lower the flash point, the more dangerous the material. Examples: gasoline’s flash point is -45°F. Diesel fuel #2 has a flash point of +125°F.

Hazardous Chemical - any chemical which is a physical hazard or a health hazard.

Hazard Warning - means any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s).

Health Hazard - includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which damage the lungs, skin, eyes, or mucous membranes.

Identity - means any chemical or common name which is indicated on the MSDS for the chemical. The identity used shall permit cross-references to be made among the Hazardous Chemical Inventory List, the label, and the MSDS.

Irritant - a chemical that causes temporary inflammation (redness, swelling, irritation).

Label - means any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

Material Safety Data Sheet (MSDS) - means written or printed material concerning a hazardous chemical which is prepared in accordance with 29CFR1910.1200(g).

Melting Point - temperature at which a solid changes to a liquid.

PH - means used to express the degree of acidity or alkalinity of a solution. A pH of 7 is neutral. Numbers increasing from 8 to 14 indicate greater alkalinity (bases/alkalis). Numbers decreasing 6 to 0 indicate greater acidity (acids).

Physical Hazard - means a chemical which is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

Sensitizer - a material that causes little or no reaction at first, but which can cause an “allergic” reaction on repeated exposure. Skin sensitization is the most common form, but respiratory sensitization is also known to occur from isocyanates and epoxy resins.
**Specific Gravity** - density (or heaviness) of a chemical compared to water, which has a relative value of 1. Insoluble materials with specific gravity of less than 1.0 will float in (or on) water. Insoluble materials with specific gravity greater than 1.0 will sink in water. Most (but no all) flammable liquids have specific gravity less than 1.0 and, if not soluble, will float on water - an important consideration for fire suppression.

**Vapor Density** - density (or heaviness) of a vapor compared to air, which has the density of 1. If the chemical’s vapor density is higher than 1, the vapor is heavier than air and will concentrate in low places -- along or under floors, in sewers, manholes, in trenches and ditches -- examples include propane, hydrogen sulfide, ethane, butane, chlorine, sulfur dioxide. If the chemical’s vapor density is less than 1, the vapor will rise in the air and dissipate (unless confined) -- examples include acetylene, methane, hydrogen.

**Vapor Pressure** - measures the volatility (how quickly a substance forms a vapor at ordinary temperatures) of a liquid -- that is, how easily a liquid evaporates. The higher the number, the faster the liquid evaporates.

**Upper and Lower Flammable Limits (UFL & LFL)** - The highest and lowest concentrations (% of substance in air) that will produce a flash of fire when an ignition source (heat, arc, or flame) is present. Between the UFL and LFL, the substance is likely to ignite. Above the UFL, the mixture is too “rich” to burn. Below the LFL, the mixture is too “lean” to burn. The UEL & LEL (upper and lower explosive limits) provide the minimum and maximum concentration of a the chemical’s vapor in the air required for an explosion to occur.
I. PURPOSE

The purpose of the Exposure Control Plan is to significantly reduce the risk of infection for employees with potential to be exposed to blood or body fluids. The targeted diseases include Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

This plan and noted procedures are in compliance with the standards U.S. Department of Labor in 29 CFR 1910.1030 Occupational Safety and Health Administration (OSHA), pertaining to employees who may be subject to occupational exposure to bloodborne pathogens.

This plan identifies the job classifications that have been determined to have potential exposure to blood and other potentially-infectious materials at the college. This plan also describes the methods of compliance with applicable requirements of the Standard and a procedure for evaluating exposure incidents. All full- and part-time employees of the college whose job classifications make them at risk for exposure to bloodborne pathogens are required to comply with this plan and with requirements of the Standard. Any failure to comply may be cause for disciplinary action.

College employees involved in the instruction of students at off-campus clinical sites will comply with the plan established by that facility as well as the Exposure Control Plan of the College.

Departments/Programs utilizing on-campus sites for instruction in which there is a high risk of exposure to bloodborne pathogens will establish specific exposure control policies and procedures as applicable to the situation in conjunction with the Program Coordinator.

A. RESPONSIBILITY

The Program Coordinator identified in Attachment 1, Section A is responsible for implementing the Exposure Control Plan and ensuring compliance with it and the Standard. The plan will be reviewed annually and revised as necessary.

B. ACCESSIBILITY OF THE EXPOSURE CONTROL PLAN

The Exposure Control Plan may be examined by employees during the employee’s regular working hours or at such other time as is reasonable. Copies of this Plan are available in areas designated under Attachment 1, Section B.
C. DEFINITIONS

**Bloodborne Pathogens**: pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

**Contaminated**: the presence, or reasonably-anticipated presence, of blood or other potentially-infectious materials on an item or surface.

**Contaminated Sharps**: any contaminated object(s) that can penetrate the skin.

**Engineering Controls**: controls (e.g., sharps disposal containers) that isolate or remove the bloodborne pathogen hazard from the workplace.

**Occupational Exposure**: any reasonably-anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially-infectious materials that may result from the performance of an employee’s duties.

**Other Potentially Infectious Materials**:

1. The following fluids: semen, vaginal secretions, cerebrospinal fluid (CSF), synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

2. An unfixed organ or tissue (other than intact skin) from a human.

3. HIV-containing cells or tissue cultures, organ cultures, and HIV- or HIV-containing culture medium or other solutions, blood, organs, or other tissues from experimental animals infected with HIV or HBV.

**Personal Protective Equipment (PPE)**: specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts, blouses) are not considered to be personal protective equipment.

**Regulated Waste**: contaminated items that would release blood or other potentially-infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially-infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially-infectious materials.

**Universal Precautions**: an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human
body fluids are treated as if known to be infectious for HIV, HBV, or other bloodborne pathogens.

Work Practice Controls: controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

II. EXPOSURE DETERMINATION

The Program Coordinator and those listed in Attachment 1 Section E are responsible for classifying tasks performed in their areas of responsibility that have a potential of exposure to blood or other infectious body fluids. Whenever possible, additional procedures are established to eliminate or reduce task-associated risks.

The Program Coordinator shall ensure that all position descriptions, including administrative and support personnel, whether paid or volunteer, have been evaluated by the appropriate department managers and that a Risk of Exposure has been identified.

For jobs with a potential exposure, a list of tasks or procedures which present a potential occupational exposure to those employees will be prepared. Assignment of personnel to a new department in the same basic job may necessitate a formal change of job title to ensure that they will receive training according to that job’s risk classification. This must be reviewed by department managers on an annual basis.

All department managers and supervisors are responsible for monitoring employees’ job performance and for updating job descriptions/class activities if new tasks are being performed by individuals in a job/class which present a change in exposure status while on any of the College’s campuses or their clinical sites.

Managers and supervisory personnel are also responsible for monitoring employees’ training status and their compliance with Universal Precautions and other risk-reducing policies; being particularly attentive to recognize, act on, and prevent unsafe actions by anyone in their presence.

The Program Coordinator shall ensure that whenever a new position description is prepared, it is reviewed for exposure risks prior to being approved.

All employees share responsibility with and for their co-workers to ensure compliance with the letter, spirit, and intent of this institution’s policies for the prevention of transmission of disease among employees, students, and visitors of the College. Therefore, each employee must know how to recognize occupational exposure and must communicate changes in the exposure classification to their supervisor if asked to perform tasks or procedures which involve an increased risk of exposure.
EXPOSURE CLASSIFICATIONS – Are listed in Attachment 1, Section F for jobs and tasks presenting a potential risk of exposure. Section G provides jobs that normally would not have an exposure risk unless certain unplanned tasks have to be performed, such as administering first aid as part of the college system or having to clean blood.

III. RECORDKEEPING

The College will maintain a record for each employee who is determined to be at risk for occupational exposure to bloodborne pathogens.

Each employee’s record should contain the following:

a. Employee’s name and Social Security Number,

b. A copy of the employee’s Hepatitis B vaccination status, including the dates of all Hepatitis B vaccinations or a signed declination form, and

c. If an exposure occurs, the Program Coordinator will maintain copies of the incident report, the post-exposure follow-up procedures performed, documentation of the route(s) of exposure, the results of the source individual’s blood testing, if available, and a copy of the healthcare professional’s written opinion.

RECORD MAINTENANCE

1. An employee’s records will be kept confidential and not be disclosed or reported without the individual employee’s written consent, except as required by federal, state, or local laws.

2. An employee’s records will be maintained by the College for not less than thirty (30) years after the employee’s termination.

TRAINING RECORDS

1. Employee training records will include the following information related to specific education about bloodborne pathogens:

a. The dates of the training sessions,

b. The contents or a summary of the training session,

c. The name(s) and qualifications of the person(s) conducting the employee training,

and,

d. The names and titles of all persons attending the training sessions, and,
e. The training records must be kept for three (3) years.

2. Training records will be maintained at the location designated on Attachment 1, Section C and will be kept current by the Program Coordinator.

3. The college will ensure that all records required to be maintained by the OSHA Standard shall be made available upon request to federal and state officials for examination and copying.

4. Employee training records required by the OSHA Standard will be provided upon request for examination and copying to employees, to employee representatives, and to federal, state, and local officials in accordance with 29 CFR 1910.20.

5. The college shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.20 (h).

6. If the community college ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the College shall notify the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, at least three (3) months prior to their disposal. The College shall also transmit these records to the Director, if the Director requires them to do so, within that three (3) month period.

IV. METHODS OF COMPLIANCE

The college will practice and enforce Universal Precautions to prevent contact with blood or other potentially-infectious materials (i.e., semen, vaginal secretions, cerebrospinal fluid (CSF), synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood and in situations where it is difficult or impossible to differentiate between body fluids).

1. Blood and body fluid precautions will be used consistently in a setting where the risk of blood exposure is present.
2. All identified employees will use barrier precautions to prevent exposure to the skin and mucous membranes (eyes, nose, mouth) when contact with blood or other potentially-infectious materials is anticipated.
3. Disposable gloves (single use) will always be replaced as soon as practical when visibly contaminated, torn, punctured, or when their ability to function as a barrier is compromised. Disposable gloves will not be washed or decontaminated for reuse.
4. Masks and protective eyewear combination (goggles or glasses with solid side shields), or face-shields which protect all mucous membranes will be worn when performing procedures that are likely to generate splashes, spray, spatter, or droplets of blood or other potentially-infectious materials.
5. Gowns, aprons, or other protective body clothing will be worn when performing procedures likely to generate splashes or splatters of blood or body fluids and in all occupational exposure situations.
6. The hepatitis B vaccine will be offered and provided free of charge at a convenient time and place to all employees in the jobs determined to have a potential exposure to blood or other infectious body fluids.
7. Surgical caps or hoods and/or shoe covers will be worn in instances when gross contamination can reasonably be anticipated.
8. Hands or other skin surfaces will be washed immediately using a five-minute scrub if contaminated with blood or other body fluids. Hands will also be washed after removing protective gloves.
9. Safety precautions will be followed to prevent injuries caused by needles, scalpel blades, and other sharp instruments.
10. All sharps (e.g., needles, scalpels,) will be placed in properly labeled containers with the international biological hazard symbol and the wording "Biohazard."
11. Identified employees with exudative lesions or weeping dermatitis will refrain from all direct patient contact during student activities and from handling patient-care equipment until the condition resolves.
12. Pregnant identified employees will be especially familiar with and strictly adhere to precautions to minimize the risk of HIV transmission.

A. WORK PRACTICES
1. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
2. Food or beverages will be consumed only in a safe designated area. Food and drinks will not be kept on the countertops or benchtops where blood or other potentially-infectious materials are present.
3. Employees will wash hands immediately, or as soon as feasible, after removal of gloves or other personal protective equipment. Antiseptic hand cleansers or towelettes, in conjunction with paper towels, will be used if hand-washing facilities are not available.
4. Employees will wash their hands or any other skin for at least five (5) minutes; or flush the mucous membranes with water immediately, (if contamination is in the eyes, flush for 10-15 minutes) or as soon as possible, following contact with blood or other potentially-infectious materials.
5. Smoking is not permitted in any campus building.
6. The mucous membranes (eyes, nose, mouth) will be protected when there is a likelihood of splatter or splashes from blood or body fluids. All procedures involving blood or other potentially-infectious materials will
be performed in a manner which minimizes splashing, spraying, splattering, and the generation of droplets of these substances.

7. Mouth pipetting or suctioning of blood or other potentially-infectious materials is prohibited.

8. Contaminated needles or other contaminated sharps will not be bent, recapped, sheared, broken, or removed (a mechanical device or a one-handed technique may be used to recap or remove needles). Immediately, or as soon as possible after use, contaminated sharps will be placed in containers which are puncture-resistant, leak-resistant, and properly labeled or color-coded. All glass and hard plastics (intact or broken), which are to be discarded, will be treated as sharps.

9. Specimens of blood or other potentially-infectious materials will be placed in a designated regulated waste container.

10. Any blood or body fluid related accident (i.e. needle stick, blood or body fluid splatter or splash to the mucous membranes) will be reported immediately to the supervisor.

11. Equipment which has been contaminated with blood or other potentially-infectious materials will be decontaminated before being serviced or shipped unless it can be shown that decontamination of the equipment is not feasible. Equipment, or portions thereof, which is not decontaminated require that a warning label be affixed.

B. PERSONAL PROTECTIVE EQUIPMENT

All employees should have access to, become familiar with, and follow personal protective equipment policies established by each of the College’s departments on all of the College’s campuses and of those off-campus clinical sites in which they are participating in clinical experiences for students. Personal protective equipment will be provided, at no cost to the employee, when there is potential for an occupational exposure. A list of protective equipment is included in Attachment 1, Section I; however, for example, Personal protective equipment may include the following: Gloves, gowns, laboratory coats, face masks, face-shields or safety glasses, mouthpieces, resuscitation bags, pocket masks, or other ventilation equipment.

Personal protective equipment will be used for all occupational exposure situations; however, the employee may temporarily or briefly decline the use of equipment in the following scenario:

"Under rare and extraordinary circumstances, the employee uses his/her professional judgement that, in a specific instance, its use would have
prevented delivery of healthcare or public safety services or would have posed an increased hazard to the safety of the employee."

Situations in which personal protective equipment was temporarily or briefly declined will be investigated and documented to determine if changes can be instituted to prevent future occurrences.

1. Appropriate personal protective equipment in appropriate sizes will be readily accessible in each work area. In most instances, personal protective equipment will be provided at off-campus clinical sites by the participating facility for college employees involved in patient care activities which may involve exposure. Types of equipment and its location will be determined by the facilities Exposure Control Plan.

2. Gloves will be worn when it can be reasonably anticipated that the employee may have contact with blood, other potentially-infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures; and when handling or touching contaminated items or surfaces.

3. Hypoallergenic gloves, glove liners, powderless gloves, and other similar alternatives will be readily accessible to employees who are allergic to gloves normally provided.

4. Cleaning, laundering, repair, replacement, or disposal of personal protective equipment will be provided at no cost to employee. The Program Coordinator should be contacted.

5. Personal protective equipment will be utilized when working with patients and potentially-infectious materials; disposable protective gloves will be used during direct patient care and handling of contaminated disposable waste items.

6. If a garment(s) is penetrated by blood or other potentially-infectious material, the garment must be removed immediately or as soon as feasible.

7. Personal protective equipment will be removed prior to leaving the work area where there is reasonable likelihood of occupational exposure.

8. Utility gloves will be decontaminated for reuse, if the integrity of the glove is not compromised. They must be cleaned in a 1:10 solution of bleach, and examined carefully before reusing. They must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration.
9. Personal protective equipment for on-campus sites will be located in specific places as designated by individual departmental policies/procedures.

C. SHARPS

1. Only disposable needles will be used at the college and whenever applicable, safety needle devices purchased.

2. Contaminated sharps will be discarded immediately or as soon as possible in containers which are closable, puncture-resistant, leak-proof on the sides and bottom, and (1) labeled with the international biological hazard symbol and the wording "Biohazard" or (2) red containers.

3. The sharps containers will be easily accessible to personnel and located as close as possible to the areas where sharps are used.

4. The sharps containers will be maintained upright throughout use, replaced routinely and not be allowed to overfill.

5. During replacement or removal from the work area, the sharps containers will be closed to prevent the spillage or protrusion of contents during handling, storage, transport, or shipping. The sharps containers will be placed in a secondary container if leakage is possible.

6. Reusable containers will not be opened, emptied, or cleaned manually or in any other manner which will expose employees to the risk of a percutaneous injury.

7. Immediately, or as soon as possible, after use, contaminated reusable sharps must be placed in containers until properly decontaminated. These containers will be puncture resistant, leak-proof on the sides and bottom, and will either be red or affixed with a fluorescent orange or orange-red label with letters in contrasting colors and a biohazard symbol.

8. All reusable sharps will be properly sterilized or decontaminated after use as recommended by the Center for Disease Prevention and Control.

9. Contaminated reusable sharps will not be stored in a manner which requires employees to reach into the containers.

D. SPECIMENS

1. Specimens of blood, tissue, or other potentially-infectious materials collected or transported by the college will be placed in containers which prevent leakage during collection, handling, processing, storage, transport, or shipping.
7. The container will be red or affixed with a fluorescent orange or orange-red label with letters in contrasting colors and a biohazard symbol. The container must be closed prior to storage, transport, or shipping.

   **NOTE:** If Universal Precautions are utilized in the handling of all specimens, the labeling/color coding system is not necessary, provided the containers are recognizable as containing specimens.

8. If outside contamination of the primary container occurs, the primary container is to be placed within a second container, which prevents leakage during handling, processing, storage, transport, or shipping and which is labeled or color-coded appropriately.

9. If the specimen could puncture the primary container, the primary container will be placed within a secondary container which is puncture-resistant in addition to having the above characteristics.

10. Spills of infectious material will be handled using an appropriate spill kit.

E. **LAUNDRY**

1. Employees handling contaminated linen will wear protective gloves and other appropriate PPE to prevent exposure to blood or other potentially-infectious materials during the handling and sorting of soiled linen and other fabric items.

2. Laundry that is contaminated with blood or other potentially-infectious materials or that may contain contaminated needles or sharps will be treated as if it were HBV/HIV infectious and handled as little as possible with a minimum amount of agitation.

3. Contaminated laundry will be bagged at the location where it was used.

4. Contaminated laundry will be placed and transported in bags that are labeled with the international biological hazard symbol and the wording "Biohazard."

5. The "Biohazard" labels used will be fluorescent orange or orange-red with the lettering in contrasting colors. The labels will be affixed to the containers by string, wire, adhesive, or any method that prevents their loss or unintentional removal.

6. Red bags or red containers may be substituted for labels.

7. Contaminated laundry that is wet and presents a reasonable likelihood of soak-through or leakage from the bag will be transported in bags or containers which prevent the fluids from the exterior.

8. All contaminated laundry shipped off-site to another facility which does not utilize Universal Precautions must be labeled or color-coded as follows:
a. Contaminated laundry will be placed and transported in bags that are labeled with the international biological hazard symbol and the wording "Biohazard."

b. The "Biohazard" labels used will be fluorescent orange or orange-red with the lettering in contrasting colors. The labels will be affixed to the containers by string, wire, adhesive, or any method that prevents their loss or unintentional removal.

c. Red bags or red containers may be substituted for labels.

d. The laundry service will be contacted by the Program Coordinator before shipping.

F. HOUSEKEEPING

The college department/area will be maintained in a clean and sanitary condition. A written schedule for cleaning and a method of decontamination, based on the location, type of surface, type of soil present, and procedures being performed in each area, has been developed with Housekeeping Services.

1. All equipment and environmental work surfaces will be cleaned and decontaminated after contact with blood or other potentially-infectious materials.

2. The process of decontamination will be conducted after completion of procedures; when surfaces are overtly contaminated; after the spill of blood or other potentially-infectious material; and at the end of the work shift, if the surface may have become contaminated since the last cleaning.

3. Only approved disinfectants will be used, such as a 10% solution of sodium hypochloride (household bleach) mixed fresh each day; or as listed in Attachment 1, Section H.

4. Protective coverings such as plastic wrap, aluminum foil, or imperviously-backed absorbent will be removed at the end of the work shift or whenever they become overtly contaminated during the shift.

5. Any bins, pails, cans or other similar receptacles intended for reuse will be decontaminated on a regular basis or whenever there is visible contamination.

6. Broken glassware must be handled with the aid of a mechanical device (i.e., brush and dustpan, tongs, or forceps).
G. REGULATED WASTE

Regulated waste includes:

1. Liquid or semi-liquid blood;

2. Other potentially-infectious materials that would release blood or other potentially-infectious materials in a liquid or semi-liquid state if compressed;

3. Items that are caked with dried blood or other potentially-infectious materials and are capable of releasing these materials during handling;

4. Pathological and microbiological wastes containing blood or other potentially-infectious materials; and

5. Any item, such as bandages, gauze, linens, or used personal and protective equipment that becomes covered with or contains liquid blood or other potentially-infectious materials.

The following guidelines will be followed to meet the federal, state, and county guidelines; however, if the North Carolina and local medical biohazardous waste regulations are more stringent, then these regulations will also be incorporated into the plan.

1. Specimens of blood or other potentially-infectious materials will be placed in containers which prevent leakage during the collection, handling, processing, storage, transport, or shipping.

2. For disposal of regulated waste, the College shall provide containers that are:
   
   A. Closable.

   B. Constructed to contain all contents and prevent leakage of fluids.

   C. Colored red or orange-red label with letters in contrasting colors and a biohazard symbol.

3. The containers shall be closed prior to removal to prevent spillage or protruding of contents during handling, storage, transport, or shipping.

4. If outside contamination of the regulated waste container occurs, it will be placed in a second container with the same characteristics as the first container.

5. The College shall place the containers for regulated waste in every appropriate laboratory and classroom.

6. Immediately, or as soon as feasible after use, disposable sharps shall be disposed of in closable, puncture resistant, disposable containers.
that are leak-proof on the sides and bottom and that are labeled with a "biohazard" symbol or color-coded in red. A commercial sharps container is acceptable.

7. Any regulated waste is picked-up and transported by an outside contractor.

H. HAZARD COMMUNICATION

The College must affix florescent orange or orange-red labels with letters in a contrasting color to containers of regulated waste, refrigerators and freezers containing blood or other potentially-infectious material, and other containers that will be used to store, transport, or ship blood or other potentially-infectious materials. All such labels must have the universal biohazard symbol.

I. BLOOD SPILLS

At this college (except in special medical programs, or in maintenance, lab, or shop settings where employees have received Bloodborne Pathogens training) employees and students are not to clean up another person’s blood. This task is assigned to the cleaning/housekeeping service.

V. HEPATITIS AND HEPATITIS B VACCINE

A. INFORMATION ON HEPATITIS

1. Hepatitis means inflammation of the liver. Hepatitis B, which is a viral infection, is one of multiple causes of hepatitis. Many people with Hepatitis B recover completely, but approximately 10% become chronic carriers; one to two percent (1-2%) die from fulminant hepatitis. In the group of chronic carriers, many have no symptoms and appear well, yet can transmit the virus to others. Others may develop a variety of symptoms and liver problems varying from mild to severe (chronic persistent hepatitis, chronic active hepatitis, cirrhosis, and liver failure). There is also an association between the Hepatitis B virus and hepatoma (a form of liver cancer).

2. Hepatitis B virus can be transmitted by contact with body fluids including blood (along with contaminated needles), semen, breast milk, and vaginal secretions. Health workers are at high risk of acquiring Hepatitis B due to frequent contact with blood or potentially contaminated body fluids and, therefore, the vaccine is recommended to prevent the illness.
B. INFORMATION ON HEPATITIS B VACCINE

1. Three (3) doses of Hepatitis B vaccine are needed to confer protection. Clinical studies have shown that after three (3) doses, ninety-six percent (96%) of healthy adults have been seroprotected. Doses are administered at zero (0), one (1), and six (6) months.

2. Employees who have occupational exposure will be provided, at no cost, the Hepatitis B vaccine and vaccination series, as well as post-exposure evaluation and follow-up procedures, including laboratory tests at an accredited laboratory.

3. Protocol for the above procedures will be performed under the supervision of a licensed physician or by another licensed healthcare professional and provided in accordance with the recommendations of the U.S. Public Health Service.

4. The healthcare professional responsible for the employee’s Hepatitis B vaccination will be provided with a copy of 29 CFR 1920.1030 Bloodborne Pathogens if they do not have one.

5. The Hepatitis B vaccination will be available to employees within ten (10) working days of initial assignment involving potential exposure and after they have received training on the required subjects.

6. The Hepatitis B vaccine and any future booster(s) recommended by OSHA will be available to employees who have an occupational exposure, unless they have previously received the complete Hepatitis B vaccination series and antibody testing has revealed the employee is immune or the vaccine is contraindicated for medical reasons.

7. A Hepatitis B pre-screening program will not be a prerequisite for receiving the vaccination.

8. An employee who initially declines the Hepatitis B vaccination will be allowed to receive the vaccination at a later date.

9. Employees who decline to accept the Hepatitis B vaccination will be required to sign the declination statement, Attachment 2.

10. All part-time employees who may have occupational exposure to Hepatitis B will be offered the Hepatitis B vaccine free of charge, as long as they are employed by the College. If the employee’s assignment ends at the College before the completion of the vaccination series, that individual will be responsible for completing the series at his or her own expense.

11. Employees who have already had the vaccine at another location must send or deliver a copy of their vaccination record to the Program Coordinator to be placed in the employee’s file.
VI. POST-EXPOSURE

IMMEDIATELY TAKE THE FOLLOWING STEPS:

1. Immediately take appropriate precautionary measures. For eye, mouth, and other mucous membrane exposures, flush/rinse the exposed area thoroughly with running water for at least ten to fifteen (10-15) minutes. For needle sticks, other puncture wounds, or contamination of any body part with blood, scrub for a minimum of five (5) minutes.

2. Report the incident to the appropriate persons (e.g., supervisor, program director, or department head) IMMEDIATELY.

3. If the source individual is known and present, inform the individual of the incident and the need for him/her to be tested. Testing of the source individual must be done at no cost to him/her. If the source individual is known but unavailable, contact him/her as soon as feasible to inform him/her of the incident and the need to be tested.

4. If the source individual refuses to be tested or does not report for testing within a reasonable time, the source individual’s physician should be contacted; or if the physician is not known, contact the County Health Department Director. The Health Department Director will then take appropriate action.

5. Be sure to complete an Exposure Incident Report (Attachment 3). Additional information should be obtained if the source individual is known. It will be necessary to report the incident to the insurance representative within forty-eight (48) hours so that a worker’s compensation form can be completed.

6. Arrangements for a confidential medical consultation and follow-up are made at no cost to the employee, and at a convenient time and location. A letter and Incident report form are sent to the physician by the Program Coordinator, Attachment 3. The college medical provider information is listed in Attachment 1, Section, J.

7. The College will provide documentation detailing the route(s) of exposure, the circumstances under which the exposure incident occurred, and the identity of the source individual, unless such identification is not feasible or is prohibited by state or local law. (recorded on Incident Report form, Attachment 3)

8. If known, the source individual’s blood will be tested by a physician for HBV and HIV as soon as feasible, within forty-eight (48) hours; however,
9. If the source individual is already known to be infected with HBV or HIV, testing need not be repeated.

10. Whether the source individual’s blood tests are done as a result of the exposure incident or previous testing has revealed the source individual to be infected with HBV or HIV, the results of the source individual’s blood tests will be given to the exposed employee.

11. The employee will be informed of applicable laws and regulations concerning disclosure of the identity and the infectious status of the source individual at the time the source individual’s testing results are given to the employee.

12. If the source individual cannot be identified, the exposed employee’s blood will be tested for HBV and HIV infectivity as soon as feasible within forty-eight (48) hours and with consent.

13. If the exposed employee consents to baseline collection of blood, but refuses HIV testing, the laboratory is instructed to preserve the sample for ninety (90) days. (If, the employee elects to have the sample tested during this time period, this shall be done.)

14. If all tests on the source person and the exposed employee are negative, and the exposed employee has an adequate Hepatitis B immunity response, there will not be a need for further testing. Each case will be evaluated individually and test results reviewed. If the source person is positive for Hepatitis B or HIV at six (6) weeks, twelve (12) weeks, and six (6) months after exposure, the employee must give consent for re-testing on each occasion.

15. Follow-up of the exposed employee will include counseling, medical evaluation of any acute febrile illness that occurs within twelve (12) weeks post-exposure, and use of safe and effective post-exposure measures according to recommendations for standard medical practices.

16. Following an exposure incident, the College will provide the healthcare professional with the following information if the employee chooses to be treated by their personal physician:
   a. A copy of The Standard: 29 CFR 1910.1030 if they do not have one.
   b. A description of the exposed employee’s duties as they relate to the exposure incident.
   c. Documentation of the route(s) of exposure and the circumstances under which the exposure occurred.
d. Results of the source individual’s HIV and HBV testing if available.

e. All records relevant to the appropriate treatment of the employee, including his/her vaccination status.

17. An evaluation of the employee’s work practices and protective equipment or clothing used at the time of the incident must be made by the Program Coordinator and changes made as indicated.

18. The College will provide the exposed employee with a copy of the evaluating healthcare professional’s written opinion within fifteen (15) days of completion of the medical evaluation.

VII. TRAINING

A. TRAINING REQUIREMENTS

1. Training will be provided for employees who are at risk for occupational exposure to blood or other potentially-infectious materials and hazardous chemicals.

2. All affected employees are required to participate in annual training sessions offered during normal work hours at no cost to the employee.

3. Training sessions for employees will be scheduled:

4. At the time of initial assignment to tasks involving occupational exposure.

5. Whenever tasks or procedures change which affect an employee’s occupational exposure.

6. When required due to unusual circumstances.

7. For employees who have received training on bloodborne pathogens in the year preceding the effective date of the Standard, only training with respect to the provisions of the Standard which were not included need be provided.

8. Annual training for all employees shall be provided within one (1) year of their previous training.

(a) The College shall provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee’s occupational exposure. The additional training may be limited to addressing the exposure(s) created.

(b) Materials appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

B. CONTENT OF TRAINING SESSIONS
1. The training program shall contain, at a minimum, the following elements:
   a. An accessible copy of the regulatory text of this Standard and an explanation of its contents.
   b. A general explanation of the epidemiology and symptoms of bloodborne diseases.
   c. An explanation of the modes of transmission of bloodborne pathogens.
   d. An explanation of the employer’s exposure control plan and the means by which the employee can obtain a copy of the written plan.
   e. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially-infectious materials.
   f. An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment.
   g. Information on the types, proper use, location, removal, handling, decontamination, and disposal of protective equipment.
   h. An explanation of the basis for selection of personal protective equipment and how to gain access to it.
   i. Information on the Hepatitis B vaccine, including information on its efficacy, safety, methods of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
   j. Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially-infectious materials.
   k. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
   l. Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.
   m. An explanation of the signs, labels, and/or color-coding required by the Standard.
n. An opportunity for interactive questions and answers with the person conducting the training session.
A. The Program Coordinator is:

(Name)  Steve Beuth
(Title)  Safety Committee Chair
(Office Address)  W024
(Ext)    6941

B. A copy of the Exposure Control Plan is located in the following areas:

1. Program Coordinator’s office
2. Pertinent labs
3. Department Chairs, supervisors in areas prone to exposure
4. On the CFCC Intranet

Employees are informed of the location of this & other safety plans:

_____ During Orientation
_x_ Other: By Department Chairs upon initial employment.

C. Training Records are maintained by the Program Coordinator.
   Training Records are located in the office of the Program Coordinator.

D. Exposure Records are maintained by the Coordinator and located in his office.

E. Exposure Determinations are made by the Program Coordinator with guidance from Department Chairs and supervisors in areas prone to exposure.

F. Employees with the following departments have been identified as having a potential risk to blood or other infectious body fluids:
<table>
<thead>
<tr>
<th>TITLE</th>
<th>TASKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied Health Department Chair</td>
<td>Teaching and providing health care.</td>
</tr>
<tr>
<td>A.D.N. Coordinators and Instructors</td>
<td>&quot;</td>
</tr>
<tr>
<td>Coordinator and Instructors in LPN Program</td>
<td>&quot;</td>
</tr>
<tr>
<td>Director and Instructor in Dental Hygiene Program</td>
<td>&quot;</td>
</tr>
<tr>
<td>Director and Instructor in Dental Assisting Program</td>
<td>&quot;</td>
</tr>
<tr>
<td>Child Development Center Director, Teachers, and Technicians.</td>
<td>Child care.</td>
</tr>
<tr>
<td>Director and Instructors in Occup. Therapy Asst. Program</td>
<td>Teaching and providing health care.</td>
</tr>
<tr>
<td>_____ Other:</td>
<td></td>
</tr>
</tbody>
</table>
G. Please list jobs that normally do not involve potential exposure, but may require performing unplanned exposure tasks such as administering initial emergency first aid; cleaning blood spills, etc.

<table>
<thead>
<tr>
<th>Administering First Aid</th>
<th>Job Titles:</th>
<th>Tasks Performed:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maintenance Technicians</td>
<td>Use of tools and machinery in environments conducive to occasional injuries</td>
</tr>
<tr>
<td></td>
<td>Shop Instructors</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cleaning Blood or other body fluids:</th>
<th>Job Titles:</th>
<th>Tasks Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Custodian Supervisor</td>
<td>Cleaning.</td>
</tr>
<tr>
<td></td>
<td>Custodian Coordinator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Custodian</td>
<td></td>
</tr>
</tbody>
</table>

H. What cleaning solution do you use to decontaminate?  
   Bleach Solution

J. Which medical provider would you refer an exposed employee to?

(Name): MEDAC Convenient Medical Care

(Address): 3710 Shipyard Blvd., Wilmington, NC 28403

(Phone): 791-0075
Hepatitis B: Special Precautions:
I have read information on hepatitis B and have had an opportunity to ask questions. I understand the benefits and risks of Hepatitis B vaccine, and voluntarily agree to be immunized. I understand that I must have 3 doses of the vaccine to confer immunity. As with all medical treatments, there is no guarantee that I will become immune. I am in general good health. I am not immunosuppressed, on hemodialysis, pregnant, or breastfeeding.

<table>
<thead>
<tr>
<th>Name</th>
<th>SSN</th>
<th>Date of Birth</th>
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<table>
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<tr>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip</th>
<th>Home</th>
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<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
<th>Department</th>
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</tr>
</tbody>
</table>

**Date:**

**Type:**

**Mfg & Lot #:**

(If known)

**Exp. Date:**

(If known)

**Given By:**

(If known)

1. If you have never received Hepatitis B vaccine:
   I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials, and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination at no charge to myself.

   Signature of employee: _____________________________________________
   Date: _____________________________________________________________

2. If you have previously received Hepatitis B vaccine through another organization or employer:
   I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. I decline hepatitis B vaccination at this time due to the fact that I
have previously received all 3 hepatitis B vaccines through another organization; or I know that I already have immunity due to hepatitis B antibody count.

Signature of employee: _______________________________________________
Year of hepatitis B vaccine: _________________________________________
Through what organization: _________________________________________
Dear Dr. _________________________________:

An employee at our Community College encountered a blood exposure injury on _______________. Please refer to the attached supervisor's injury report for the route of entry and circumstances regarding this incident. This employee has come to you for a medical evaluation, and you may treat as medically indicated. If you do not have one, we can supply a copy of the U.S. Public Health Service recommendations regarding these testing and treatment options.

The status of the source which may have infected the employee is indicated below:

________ The source cannot be determined.

________ The source has given their consent for HBV/HIV antibody testing to be done.

___________________________________________________________

___________________________________________________________

___________________________________________________________

________ The source is known to be HBV or HIV positive.

A brief description of the employee's duties is as follows:

___________________________________________________________________________________.

A copy of the medical evaluation must be delivered to the employee within 15 working days of the injury. In your report, please limit your findings to indicate that the employee has been informed of the results of the evaluation and has been informed of any medical condition possible resulting from the exposure during the incident and any further treatment which may be needed. The results of the investigation of this injury will be treated confidentially by all parties. Thank you for your assistance.

Sincerely,
## Exposure Incident Form

<table>
<thead>
<tr>
<th>Name of Employee:</th>
<th>_____________________________</th>
<th>SSN: _________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Incident:</td>
<td>___________________</td>
<td>Time of Incident: ______________</td>
</tr>
<tr>
<td>Location:</td>
<td>________________________________________________</td>
<td></td>
</tr>
</tbody>
</table>

Type of Exposure (puncture, splash, cut, etc.): ________________________________________

Type of Infectious Material (blood, body tissue, body fluid, vomit...) and Amount if Known:

Parts of Body Exposed: __________________________________________________________

Severity of Exposure: (depth of puncture, etc.): _______________________________________

Circumstances (work being performed etc.):
1. how and why the exposure incident occurred:
2. the job duty being performed at the time.
3. whether the duty being performed is a normal, routine part of the employee's job.

Methods of Control in Place: ______________________________________________________

Personal Protective Equipment Being Used: __________________________________________

If Personal Protective Equipment Was Not Being Used, Explain Why: _____________________

Action Taken (decontamination, clean-up, reporting, etc.): ____________________________

Recommendations for Avoiding Future Incidents: _____________________________________

The Department Chair/Supervisor must complete this form in addition to the Injury Report Form. Contact the Program Coordinator for questions.
CFCC CHEMICAL HYGIENE PLAN

SECTION 1

STANDARD OPERATING PROCEDURES

INTRODUCTION

Persons who work in Cape Fear Community College chemical laboratories shall be safety minded. It is the policy of Cape Fear Community College that safety awareness become part of each employee's daily work habits. In order to achieve the highest level of safety, Cape Fear Community College employees shall review the Chemical Hygiene Program quarterly. The Chemical Hygiene Officer shall encourage and support this effort.

Each individual shall accept responsibility for conducting their individual work practices in accordance with the Chemical Hygiene Plan as well as any other good safety practices. All personnel shall familiarize themselves with the safety and emergency equipment available, its location, and appropriate use. Personnel shall also

- practice good housekeeping,
- wear personal protective equipment (PPE) (safety goggles, aprons, gloves, etc.), and
- refrain from smoking, eating, drinking or applying cosmetics where chemicals are present.

Advance planning is one of the best ways to avoid serious incidents. Before beginning any procedures or experiments, laboratory workers shall consider the worst case scenario and be prepared to handle any potentially hazardous situation. Familiarity with specific chemicals or procedures can result in underestimating or overlooking the hazards involved. Casual attitudes can lead to a false sense of security, which may result in carelessness. Each and every laboratory worker has a basic responsibility to themselves and their colleagues to plan and execute laboratory operations in a safe manner.

SELECTION OF CHEMICALS

Laboratory experiments and/or procedures shall be reviewed periodically to determine if alternate experiments or procedures could accomplish the same principle using less toxic or less physically hazardous chemicals. Special attention shall be given to eliminate the use of highly acute toxins, carcinogens, and reproductive toxins. The quantity of chemicals stored shall be minimized by ordering only what is needed for a specific period of time. It is important that employees ordering chemicals confirm that a disposal route is available for the material before ordering.
LABELING AND TRANSPORTING CHEMICALS

Chemicals obtained from outside suppliers shall be properly labeled, and care shall be taken not to deface the label and render it illegible. The product name or the chemical name on the label shall correspond with the name on the Material Safety Data Sheet (MSDS). Labels shall also convey the hazards associated with that chemical (such as toxicity, flammability, or reactivity). If a chemical is transferred into a new container, then that container of mixtures and/or newly created compounds shall also be labeled in accordance with the OSHA Hazard Communication standard (29 CFR 1910.1200).

Foodstuffs intended for use in the laboratory will be identified with a label like:

**NOT FOR CONSUMPTION.**
**FOR LABORATORY USE ONLY.**

Transporting chemicals shall be accomplished in such a manner that the risk of exposure or a spill is minimized. If transportation involves moving chemicals through the corridors or other public areas, the move shall employ a solvent bottle carrier or other means of secondary containment. The number of chemicals moved and the quantities shall be kept to a minimum.

STORAGE OF CHEMICALS

The primary concerns with the storage of chemicals at Cape Fear Community College are contact between incompatible chemicals, and the elimination of dangerous storage conditions (i.e. heat, electrical shorts, light, etc.). The following protocols shall be followed:

- Flammable/combustible chemicals (those with flashpoints below 200º F) shall be stored in specifically designed flammable storage cabinets or refrigerators. Flammable materials shall never be stored in refrigerators not designed or modified for flammable material storage.

- Chemical storage shelves shall have a raised lip of at least 1/4” in height at the front edge of the shelf. Other means of preventing containers from moving or falling over the edge may be used only with the permission of the Chemical Hygiene Officer or the Environmental Safety Coordinator.

- Photosensitive chemicals shall be stored away from light.

- Incompatibles, such as acids and sodium cyanide, acids and bases, or ethyl ether and oxidizers, shall be segregated. Acids and bases shall not be stored in the same cabinet or adjacent on the same shelf; oxidizers and flammables shall not be stored together in the same cabinet or adjacent on the same shelf. Chemicals will be organized in accordance with the Fisher Scientific color-code system or an equal system.

- Stored chemicals shall be periodically inspected (at a minimum, once each year).

PERSONAL HYGIENE

The employee shall be responsible for implementing the following personal hygiene practices whenever working in the laboratory.

- Don safety glasses or goggles immediately upon entering the laboratory.

- Avoid skin contact as a cardinal rule whenever handling chemicals.

- PPE shall be worn at any time an employee is manipulating chemicals.

- Personnel shall consult Material Safety Data Sheets (MSDSs) to determine specific PPE requirements.
• Loose clothing shall be confined when working in the laboratory.

• Long hair shall be tied back and/or confined when working in the laboratory.

• Mouth suction, when pipetting liquid chemicals or starting a siphon, shall not be used. A pipet safety bulb or aspirator shall be used.

• Breathing gases, vapors or mists that may be toxic shall be avoided. OSHA 29 CFR 1910.1000 Subpart Z, Appendix C shall be used to determine Permissible Exposure Limits (PEL). Fume hood(s) or confinement apparatus shall be used when required.

• Unsafe conditions or actions shall be called to the attention of the Chemical Hygiene Officer so that immediate or timely corrections can be made.

• Equipment shall be used only for its intended purpose.

• Distracting or startling others in the laboratory shall be avoided.

• Horseplay or practical jokes in the laboratory or storage areas will not be tolerated.

• Exposed skin areas shall be thoroughly washed before leaving the laboratory.

• Employees shall not smoke or apply cosmetics in areas where chemicals are used or stored.
FOOD HANDLING

Food and beverage intended for consumption is prohibited in areas where chemicals are being used or stored. Areas where food or drinks intended for consumption are permitted shall be clearly marked with a sign. Hazardous chemicals SHALL NOT be allowed within that area.

Glassware used for laboratory operations shall not be used for food or beverage consumption. Containers that were used for food or beverage shall not be used to store laboratory chemicals. Laboratory refrigerators or ice chests shall not be used to store food, even if the food containers are sealed. Refrigerators and microwaves intended for chemical use should be labeled with the following verbiage or equivalent:

NOT FOR FOOD OR DRINK

GLASSWARE

Careful storage and handling procedures shall be used to avoid damaging glassware. Damaged glassware shall be discarded. Hand protection shall be worn when inserting glass tubing into rubber or cork stoppers, or when placing rubber/plastic tubing on glass tubing or connections. All glass tubing shall be fire polished or rounded, and lubricated when making connections. Vacuum-jacketed glass apparatus, such as Dewar flasks, shall be wrapped with plastic webbing or tape and handled with extreme caution to prevent implosions. Tongs, broom and dustpan, or cotton swabs shall be used to pick up broken glass. Employees SHALL NEVER pick up broken glass using their hands.

LABORATORY EQUIPMENT

Equipment shall be inspected and maintained on a regular basis following the manufacturers' recommendations. Prior to repair, faulty equipment shall be secured (locked, tagged and/or removed from the laboratory) so that accidental use is not possible. Equipment with exposed moving parts shall be equipped with guards or safety shields. Safety shields shall be used during experiments or operations where danger of explosion or release of high pressure exists. If electrical devices are used in proximity to high moisture conditions, a Ground Fault Interrupter Device (GFID) shall be installed. Pressurized apparatus (i.e. high-pressure cylinders) shall be equipped with an appropriate relief device and be secured (chained) in an upright position to a stationary object at all times.
FLAMMABLE SUBSTANCES

An open flame shall never be used to heat a flammable liquid or distill materials under reduced pressure. Prior to lighting any flame, flammable substances shall be removed from the area or shall be sealed in containers away from the heat. Open flame shall be used only when necessary and extinguished as soon as no longer needed. When volatile flammable chemicals are present, only intrinsically safe or non-sparking electrical equipment shall be used. All combustible substances (flashpoint below 200°F) which are stable at room temperature shall be stored in an approved flammables cabinet.

WASTE DISPOSAL

Chemical wastes should be collected in suitable containers that are clearly labeled. Incompatible wastes shall not be mixed. Waste containers should be kept closed unless waste is being added or removed. Evaporation of chemicals is not an acceptable means of disposal. Measures shall be taken to avoid the accidental ignition of flammable and combustible wastes. Waste disposal should be scheduled periodically with a licensed chemical waste vendor; chemical wastes should not be stored indefinitely. Hazardous waste regulations may require specific labeling and limit accumulation times depending on the generator status of the community college.

All disposals shall be in accordance with Federal, State and local regulations. No hazardous waste, as defined by the EPA in 40 CFR 261, shall be disposed except at an EPA permitted facility. Other materials that may be hazardous but do not meet the definition of hazardous waste shall be disposed of in an environmentally responsible manner. Before any chemicals are disposed by way of sanitary sewer ("down the drain"), prior approval by the local wastewater treatment plant shall be granted. Students and other unnecessary persons shall not be present in the laboratory or disposal area during disposal of any chemicals. This includes either disposal by a licensed chemical waste vendor or sanitary sewer disposal by Cape Fear Community College personnel.
SECTION 2
RESPONSIBLE PARTIES

CHEMICAL HYGIENE OFFICER

The Chemical Hygiene Officer is listed in Appendix F.

The Chemical Hygiene Officer shall,

- work with administrators and employees to implement the Chemical Hygiene Plan, monitor chemical purchase, use, and disposal, and maintain appropriate audits,
- help personnel develop precautions and adequate facilities,
- know current legal requirements concerning regulated substances, and
- continue improving the Chemical Hygiene Program.

ENVIRONMENTAL SAFETY COORDINATOR

The Environmental Safety Coordinator is listed in Appendix F.

The Environmental Safety Coordinator shall meet with the Chemical Hygiene Officer on a quarterly basis to discuss any changes that may occur in laboratory procedures. They shall also meet when task assignments or personnel duties change. The Environmental Safety Coordinator shall work with the Chemical Hygiene Officer in order to implement both the Chemical Hygiene Plan and Appendix A, "Prudent Practices in a Chemical Laboratory", of 29 CFR 1910.1450.

CHEMICAL HYGIENE COMMITTEE

Cape Fear Community College Chemical Hygiene Committee is listed in Appendix F.

Subjects addressed during meetings of the Chemical Hygiene Committee include, but are not limited to,

- minimization of stored chemicals,
- hazardous chemical disposal,
- laboratory health and safety issues, and
- regulatory compliance.
SECTION 3

PRIOR APPROVAL POLICY

Due to significant or inherent hazards, certain chemical experiments or procedures may require prior approval. Prior approval for the purchase of a chemical or the exercise of a procedure or experiment shall be the responsibility of the Chemical Hygiene Officer and/or the Environmental Safety Coordinator. At such time as chemical experiments, which may contain significant and/or inherent hazards, are implemented, the Chemical Hygiene Officer and the Environmental Safety Coordinator shall identify those employees approved to perform the experiment and write an appropriate protocol as follows,

The Chemical Hygiene Officer will

- develop a list of ALL hazardous procedures performed in the lab,
- develop specific procedures for each operation, and
- evaluate and approve all employees who may be required to perform the task.

The Prior-Approval Form will be completed and maintained for each procedure (see Prior Approval Form, Page 13). No hazardous procedure will be performed without prior approval. The responsible personnel shall consider the following factors when determining whether prior approval shall be required:

Elements of Assessment (worst case scenario)

- If the operation were performed in the most inappropriate manner, what is the worst possible consequence?
- What is the experience level of the employee carrying out the procedure? (i.e. Are the employees involved in the operation significantly less familiar with the hazards, their causes, or the logistical operation of the lab than the senior person)?
- What are the best preventive measures possible and what are the key elements in carrying out the procedure safely?
Key Elements for Experiments

Key elements for carrying out any experiment shall include, but not be limited to the following:

• PPE - all participating persons shall don appropriate Personal Protective Equipment (PPE). This may include, but not be limited to, safety goggles, face shields, latex or nitrile gloves, and aprons or lab coats.

• SAFETY EQUIPMENT - safety equipment shall be inspected to determine its location and condition (fire extinguisher, fume hood, eyewash and shower, and first aid kit),

• EQUIPMENT - the appropriate equipment shall be assembled. This may include, but not be limited to glassware specifically designed for use in a chemical laboratory,

• VISUAL INSPECTION - each chemical container shall be visually inspected to determine the condition of the chemical (i.e. out of date, damaged container, etc.),

• THE LABEL - the label on the chemical container shall be reviewed to determine any health hazards or physical hazards attributed to the chemical. If the label is illegible, the contents shall be confirmed and a new label attached prior to use,

• MATERIAL SAFETY DATA SHEET - The MSDS shall be reviewed to confirm any health or physical hazard, and to determine emergency or spill control measures,

• SPILL CONTROL - recommended absorbents and clean-up materials shall be assembled and placed in an accessible location,

• INCOMPATIBLES - any incompatible chemicals present shall be removed from the experiment area prior to beginning the procedure,

• STAFF EXPERIENCE - the experiment shall be conducted by persons approved in the conduct of the experiment,

• DECONTAMINATION - at the conclusion of the experiment, chemicals shall be returned to their appropriate storage locations, all laboratory equipment shall be thoroughly washed, and the area decontaminated.

• PERSONAL HYGIENE - disposable PPE shall be disposed and all persons shall follow personal decontamination procedures (washing of exposed skin areas).
CAPE FEAR COMMUNITY COLLEGE PRIOR APPROVAL FORM

Revised: ____________

Circumstances requiring pre-approval: ______________________________________
________________________________________________________________________
________________________________________________________________________

Description of procedure or operation: ______________________________________
________________________________________________________________________
________________________________________________________________________

To be carried out ONLY by the following employees: ____________________________
________________________________________________________________________
________________________________________________________________________

Protocol for this operation (employee initial each item as reviewed with supervisor):
1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________
4. __________________________________________________________
5. __________________________________________________________

I have reviewed the above protocol: ________________________________ (Employee)

Approved for this operation: ________________________________ (Supervisor)
SECTION 4

CONTROL MEASURES AND PROTECTIVE EQUIPMENT REQUIREMENTS

DETERMINING CONTROL MEASURES

The decision to implement control measures such as fume hoods or protective clothing shall be determined by the specific operation or experiment. Control measures shall be determined for groups of chemicals such as acids, oxidizers, or acute toxins, which are highly reactive or can result in acute or chronic exposure.

Chemicals with a PEL of 50 ppm or less, shall be manipulated only with the use of a fume hood so that fumes are not released into the general laboratory. Corrosive chemicals, toxic chemicals, or any chemical that may cause damage to or be absorbed through the skin, require the use of gloves and safety goggles. In potential splash situations, an apron or lab coat and face-shield shall be used.

CONTROL MEASURES

AT THE SOURCE (Controls At The Chemical)

A less hazardous chemical that will accomplish the same purpose shall be substituted. The operation or experiment shall be enclosed to prevent release into the general work area. Changes in the process shall be implemented where possible to prevent the creation of unnecessary hazards. Stored chemicals shall be kept at a minimum.

IN THE PATH (Controls in The Environmental Pathway Between The Chemical And The Employee)

Laboratory hoods are the primary control in the environmental pathway. Where required by the OSHA PEL, the fume hood shall be used. General ventilation may be adequate for most operations involving chemicals with little or no toxicity or which are amply confined. General ventilation shall exchange the air within each laboratory room a minimum of four (4) times per hour.

BY THE EMPLOYEE (Controls The Employee Shall Take Involving Actions)

Cape Fear Community College employees shall avoid working alone in the lab. Employees shall always wear appropriate PPE such as safety goggles, gloves, and aprons. Employees shall receive appropriate instruction and/or training prior to conducting a specific procedure.

PROTECTIVE EQUIPMENT

All Cape Fear Community College laboratories shall be equipped with an emergency shower, eye wash station, fire blanket, fire extinguisher, and first aid kit. Signs indicating the location of each shall be posted and clearly visible and legible from all areas of the laboratory. In addition, all exits will be labeled “EXIT.” Laboratory diagrams shall be posted in each laboratory indicating evacuation routes and the current location of the safety equipment.

All laboratory safety equipment will be inspected on a regular basis in accordance with appropriate OSHA regulations. Eyewash equipment and emergency showers shall be inspected and tested in accordance with

---

1 EXCEPTION: Chemicals, listed by the EPA as "extremely hazardous substances" under SARA Title III Section 302 and 304, shall be considered individually. See "EHS" column on the quarterly inventory.

PERSONAL PROTECTIVE EQUIPMENT

Cape Fear Community College shall provide, at no cost to the employee, appropriate PPE for the chemical to be used as called for in the protocol in which the chemical is used. PPE may include, but not be limited to,

- goggles
- disposable gloves
- respirators
- lab coats
- aprons

It is the responsibility of each employee to be aware of the appropriate PPE required, the location of the PPE, and to wear the appropriate PPE for the assigned task.

EMPLOYEE EXPOSURE MONITORING

If there is reason to believe that the PEL or other published recommended exposure limits are being exceeded, then Cape Fear Community College will provide monitoring for that exposure.

A qualified person using the appropriate monitoring equipment shall perform monitoring.

Should the results of the monitoring indicate that any specific PEL is being exceeded, Cape Fear Community College will take measures to eliminate the exposure potential.
SECTION 5

EVALUATION OF VENTILATION AND FUME HOODS

Ventilation evaluation shall measure the quality and quantity of ventilation in the laboratory. Airflow shall be consistent, with no areas in the lab exhibiting static or high velocity airflow.

Adequate ventilation systems change the room air at least four (4) times per hour. Higher air exchange rate may be needed depending upon chemicals being used. Airflow paths can be monitored with use of smoke tubes, however these do not determine velocities. Pitot tubes are used for measuring duct velocities, and anemometers or velometers are used to measure airflow rates within rooms and at the faces of fume hoods.

Any experiment that uses a chemical with a PEL of 50 parts per million (ppm) or less requires the use of a fume hood or an experiment seal. The locations of Cape Fear Community College's fume hoods are shown in the Lab Diagrams. The fume hoods shall be inspected and labeled biannually, or when any changes have occurred that may alter fume hood operation.

An accepted method of evaluation is the anemometer or velometer which measures the velocity of air across the face of the hood. Measurements shall be taken at multiple points along the hood and averaged. Minimum face velocity is 60 linear feet per minute (lfm). A program of biannual measurements and a performance of 100 lfm shall be considered acceptable for toxins and carcinogens.

Fume hoods equipped with fixed air velocity monitoring devices will be properly inspected, monitored, and calibrated for proper operation in accordance the manufacturer's recommendations. Any fume hood or monitoring device found to be not in proper operating condition will be labeled:

FAIL
OUT OF SERVICE
SECTION 6

EMPLOYEE INFORMATION & TRAINING

Employees shall be informed that a current Chemical Hygiene Plan shall be maintained and available for review. The Plan shall be readily available to employees, employee representatives, and upon request, the Assistant Secretary of Labor for Occupational Safety and Health, Department of Labor. The location of the plan is listed in Appendix F.

In addition to the Chemical Hygiene Program, Cape Fear Community College shall provide and maintain an awareness program for employees regarding any hazards and controls in their work areas. The awareness program, "Hazard Communication" OSHA 29 CFR 1910.1200, is also intended to inform employees of basic occupational health and safety. Training in Chemical Hygiene and Hazard Communication shall be provided to regulated personnel upon employment.


Permissible Exposure Limits (PEL) for OSHA regulated substances and/or recommended exposure limits for other hazardous chemicals, when no OSHA standard exists, are to be found on the Material Safety Data Sheets (MSDSs) for the substance.

All employees will refer to the MSDS for exposure limits prior to working with a chemical.

Appendix A lists “Extremely Hazardous Substances” according to Section 302 of SARA Title III, found on the Cape Fear Community College’s campus. Further information regarding these substances and other chemicals found on campus can be obtained from the Material Safety Data Sheets (MSDSs).

SECTION 7

MEDICAL EXAMINATION AND CONSULTATION

Cape Fear Community College shall provide all employees who work with hazardous chemicals an opportunity to receive medical attention, including any follow-up examinations which the examining physician determines to be necessary, under the following circumstances:

- **Personal symptoms.** Whenever an employee develops signs or symptoms associated with a hazardous chemical to which the employee may have been exposed in the laboratory, the employee shall be provided an opportunity to receive an appropriate medical examination.

- **Monitoring levels.** Where exposure monitoring reveals an exposure level routinely above the action level (or in the absence of an action level, the PEL) for an OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements, medical surveillance shall be established for the affected employee as prescribed by the particular standard.

- **Emergency exposure.** Whenever an event takes place in the work area such as a spill, leak, explosion or other occurrence resulting in the likelihood of a hazardous exposure, the affected employee shall be provided an opportunity for a medical consultation. Such consultation shall be for the purpose of determining the need for a medical examination.
• All medical examinations and consultations shall be performed by or under the direct supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place.

• Information provided to the physician. This employer shall provide the following information to the physician:
  • The identity of the hazardous chemical(s) to which the employee may have been exposed.
  • A description of the conditions under which the exposure occurred including quantitative exposure data, if available.
  • A description of the signs and symptoms of exposure that the employee is experiencing, if any.

• Physician's written opinion. The written opinion shall not reveal specific findings of diagnoses unrelated to occupational exposure. For examination or consultation required under 29 CFR 1910.1450 and this standard practice instruction, this employer shall obtain a written opinion from the examining physician which shall include the following:
  • Recommendations for further medical follow-up.
  • The results of the medical examination and any associated tests.
  • Any medical condition which may be revealed in the course of the examination, which may place the employee at increased risk as a result of exposure to a hazardous chemical found in the workplace.
  • A statement that the employee has been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment.

The medical report will be filed in a confidential medical file, separate from the employee's other personnel records. This report will be maintained by the Community College for a period 30 years. At any time during this period, the employee may review his/her file. If the employee is not able to review the file in person, he/she may send his/her designated representative to review the file.
SECTION 8

PROcedures for working with Carcinogens, Reproductive Toxins, and Highly Acute Toxins

Additional protection for work with particularly hazardous substances like toxins and carcinogens shall be given specific consideration where appropriate.

WORK PROCEDURES

1. Establishment of a Designated Area.

Designated areas shall be established in each laboratory for the use and manipulation of hazardous chemicals. The designated area shall be posted, and all employees working there shall be informed of the hazards.

2. Use of Containment Devices

Containment devices, such as fume hoods and glove boxes, shall be used

• when working with a hazardous substance,

• if the potential exists for the use of the chemical to result in the generation of aerosols, or

• if the process has the potential to result in an uncontrollable release of the substance.


Hazardous waste shall be disposed of in accordance with all federal, state and local regulations.

4. Decontamination Procedures

Decontamination procedures shall include, but not be limited to the following:

• Proper cleaning of the work area before and after chemical use or manipulation

• Remove outer protective gear (gloves, apron, etc.) and place in labeled container for proper cleaning or disposal

• Wash hands and face, remove inner protective clothing and place in labeled container for proper cleaning or disposal

• Place contaminated equipment into labeled containers for proper cleaning

• Check for skin contamination

Employees may add additional steps as needed.
CARCINOGENS - KNOWN AND SUSPECTED WHICH ARE FOUND AT CAPE FEAR COMMUNITY COLLEGE

IDENTIFYING CARCINOGENS

Various regulatory agencies and programs have identified specific chemicals as carcinogenic or potentially carcinogenic. These agencies are,

1. Occupational Safety and Health Administration (OSHA)- Carcinogenic chemicals that OSHA has specifically designated as carcinogens or cancer suspect agents and for which standards have been written (e.g. 29 CFR 1910.1003 – “13 Carcinogens” or 29 CFR 1910.1017 – “Vinyl Chloride”).

2. National Toxicology Program (NTP)-Chemicals listed in the "Annual Report on Carcinogens" published by NTP as "Known to be Carcinogens" or "Reasonably Anticipated to be Carcinogens".

3. International Agency for Research on Cancer Monographs (IARC)- All chemicals listed in the publication "International Agency for Research on Cancer Monographs" (IARC) under the lists titled:

- Group 1 – “Carcinogenic to Humans.”
- Group 2A – “ Probably Carcinogenic to Humans”
- Group 2B – “ Possibly Carcinogenic to Humans”

KNOWN TO BE OR SUSPECTED CARCINOGENS:

TABLE OF CAMPUS BUILDING ABBREVIATIONS:

CHEMICAL HYGIENE PLAN FOR:
DATE REVISED:

ADDITIONAL EMPLOYEE PROTECTION FOR SPECIAL HAZARDS:

Hazard Category: Select carcinogen: Cited authority:

- Reproductive toxin: Cited source:

- High acute toxin: LD\textsubscript{50}/LC\textsubscript{50} data (source):

PROTECTION CONSIDERED AND ACTIONS TAKEN:

1. Designated Area:

2. Containment Devices:
APPENDIX A

EXTREMELY HAZARDOUS CHEMICALS

APPENDIX B

DEFINITIONS OF SELECTED TERMS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td>Immediate response to exposure.</td>
</tr>
<tr>
<td>Acute Toxicity</td>
<td>Employer shall make provisions for “additional protection” where appropriate if any of the following conditions are met:</td>
</tr>
<tr>
<td></td>
<td>Median LD$_{50}$ of 50 mg/kg orally in albino rats, 200-300 grams.</td>
</tr>
<tr>
<td></td>
<td>Median LD$_{50}$ of 200 mg/kg by continuous contact with the bare skin of albino rabbits 2-3 kgs.</td>
</tr>
<tr>
<td></td>
<td>Median LD$_{50}$ in air of 200 PPM (2 mg/L) continuous inhalation for one hour.</td>
</tr>
<tr>
<td>Carcinogen</td>
<td>A cancer-causing agent.</td>
</tr>
<tr>
<td>Chronic</td>
<td>Delayed response to exposure.</td>
</tr>
<tr>
<td>Combustible</td>
<td>Materials that &quot;flash&quot; above 100°F but less than 200°F.</td>
</tr>
<tr>
<td>Flammable</td>
<td>Materials that release sufficient vapor to burn or flash below 100°F.</td>
</tr>
<tr>
<td>Flashpoint</td>
<td>The minimum temperature at which a liquid gives off a vapor in sufficient amounts to ignite.</td>
</tr>
<tr>
<td>Hazardous Chemical</td>
<td>A chemical for which there is statistically significant evidence in at least one study that acute or chronic health effects may occur in employees exposed to that chemical.</td>
</tr>
<tr>
<td><strong>IDLH (Immediately Dangerous to Life and Health)</strong></td>
<td>Atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would interfere with an individual's ability to escape from a dangerous atmosphere.</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Laboratory Type Hood</strong></td>
<td>A device enclosed on five sides with a movable sash of fixed glass partially enclosed on the remaining side. It is designed to draw air from the lab and prevent contaminants from entering the lab.</td>
</tr>
<tr>
<td><strong>PEL (Permissible Exposure Limit)</strong></td>
<td>The 8-hour time weighted average measured in parts per million and established by OSHA. Workers may not exceed the PEL for any specific chemical.</td>
</tr>
<tr>
<td><strong>Physical Hazard</strong></td>
<td>A chemical for which there is scientific evidence that it is a combustible liquid, compressed gas, explosive, flammable, an organic peroxide, or oxidizer, pyrophoric, reactive or water reactive.</td>
</tr>
<tr>
<td><strong>Reproductive Toxin</strong></td>
<td>Chemicals that affect the reproductive capabilities including chromosomal change (mutation) and effects on fetuses (teratogenesis).</td>
</tr>
<tr>
<td><strong>TLV (Threshold Limit Value)</strong></td>
<td>The time-weighted average concentration of a substance for a normal 8-hour workday and a 40-hour work week to which nearly all workers may be exposed day after day without adverse effect.</td>
</tr>
<tr>
<td><strong>Water-reactive</strong></td>
<td>A chemical which releases a flammable or hazardous gas when it reacts with water.</td>
</tr>
</tbody>
</table>
GUIDELINES FOR FORMALDEHYDE USE¹

SAMPLING STRATEGY AND DETERMINATION OF THE NEED FOR EXPOSURE MEASUREMENTS

To protect the health of employees, exposure measurements need to be unbiased and representative of employee exposure. There is no one correct way to determine employee exposure. Obviously measuring the exposure of every employee exposed to formaldehyde will provide the most information on any given day.

Cape Fear Community College has determined that some employees have the potential to be exposed to concentrations in excess of the action level (0.5 ppm TWA). Departments with employees that work with formaldehyde are listed in Appendix F.

WORKPLACE MATERIAL SURVEY

Work tasks that involve the use or manipulation of Formaldehyde are listed in Appendix F.

WORKPLACE OBSERVATIONS

¹ Wherever the name “Formaldehyde” is used, it shall be interpreted to mean Formaldehyde (CAS # 50-00-0), Formalin, or Formaldehyde by any other chemical or preservative name.
In many circumstances, sources of formaldehyde can be identified through the sense of smell. However, this method of detection is used with caution because of olfactory fatigue.

Certain high temperature operations give rise to higher evaporation rates. The location of open doors and windows provides natural ventilation that tends to dilute formaldehyde emissions. General room ventilation also provides a measure of control.

EXPOSURE RISK

Cape Fear Community College has determined that there is limited potential for a substantial employee exposure to formaldehyde:

1. Employees who are present during a leak or spill event will be considered exposed and receive medical evaluations in keeping with the terms of the Chemical Hygiene Plan.
2. Dissection or preservation of laboratory specimens. Cape Fear Community College will conduct badge sampling during a representative dissection task, and again whenever there are significant changes to the methods used for dissection (either in terms of procedure or engineering controls).

MONITORING AND MEASUREMENT PROCEDURES

*Evaluation of 8-hour Exposure:* Measurements taken for the purpose of determining time-weighted average (TWA) exposures will be taken with samples covering the full shift. Samples collected will be taken from the employee’s breathing zone air.

*Short-term Exposure Evaluation:* If there are tasks that involve brief but intense exposure to formaldehyde, employee exposure will be measured to assure compliance with the STEL. Sample collections are for brief periods, only 15 minutes. Several samples may be needed to identify the peak exposure.

Cape Fear Community College will conduct “badge sampling” with the cooperation of employees who perform tasks that may expose them to Formaldehyde. If the samples indicate that the levels of Formaldehyde warrant further tests, Cape Fear Community College will conduct additional tests in keeping with OSHA standards. Should the additional tests show that Formaldehyde levels exceed the PEL set by OSHA, Cape Fear Community College will take measures to increase engineering controls or otherwise lessen the exposure of employees to formaldehyde.

*Notification of Results:* Cape Fear Community College will inform employees of the results of exposure monitoring representative of their job. The results will be in writing.
ENGINEERING CONTROLS

Because ventilation is the most widely applied engineering control method for reducing the concentration of airborne substances in the breathing zone, the following protocol will be followed:

1. Work Practices: Work practices and administrative procedures are an important part of a control system. If an employee is asked to perform a task in a certain manner to limit his/her exposure to formaldehyde, it is extremely important that the employee follows procedures and wears Personal Protective Equipment (PPE).

2. Fume Hood: Fume hood ventilation is designed to capture airborne contaminants as near to the point of generation as possible. To protect the employee, the direction of contaminant flow must always be toward the local exhaust system inlet and away from the employee. A fume hood will be used when pouring or otherwise manipulating Formaldehyde.

3. General (Mechanical): General dilution ventilation involves continuous introduction of fresh air into the workroom to mix with the contaminated air and lower the breathing zone concentration of formaldehyde. Effectiveness depends on the number of air changes per hour. Where students are dissecting specimens that are emitting formaldehyde over a large area of the laboratory, general dilution ventilation may be the only practical method of control. When possible, windows may be opened for additional vapor dilution.

MEDICAL SURVEILLANCE

Cape Fear Community College will make a medical surveillance program available at no expense, and at a reasonable time and place for any employee exposed to formaldehyde at concentrations above 0.5 ppm as an 8-hour average or 2 ppm over any 15-minute period. Employees will be offered medical surveillance at the time of their initial assignment and once a year afterward as long as their exposure is at least 0.5 ppm (TWA) or 2 ppm (STEL). Even if employee exposure is below these levels, the employee is required to inform Cape Fear Community College if he/she notices signs/symptoms recognized through employee training, and related to formaldehyde exposure.

The surveillance plan includes:

- A medical disease questionnaire
- A physical examination if the physician determines this is necessary. The physician will collect all information needed to determine if the employee is at increased risk from his/her exposure to formaldehyde. At the physician’s discretion, the medical examination may include other tests, such as a chest x-ray, to make this determination.
• After a medical examination the physician will provide Cape Fear Community College with a written opinion which includes any special protective measures recommended and any restrictions on the exposure. The physician must inform the employee of any medical conditions he/she has which would be aggravated by exposure to formaldehyde.

All records from the employee’s medical examinations, including disease surveys, will be retained at the expense of Cape Fear Community College.

EMERGENCIES

If a spill of appreciable quantity occurs, employees will isolate the spill (close doors) and leave the area quickly. Cape Fear Community College's emergency procedures will be followed.

Spill, Leak and Disposal Procedures

For small spills, designated employees will place the leaking container in a well-ventilated area and either follow established clean-up procedures or contact a licensed chemical waste vendor regarding disposal.

Employees exposed to formaldehyde as the result of an emergency in designated workplaces and who develop signs or symptoms associated with acute toxicity from formaldehyde exposure will be provided a medical examination as soon as possible. This medical examination will include all steps necessary to stabilize the employee’s health. Affected employees may be kept in the hospital for observation if symptoms are severe.
## APPENDIX F
### COLLEGE-SPECIFIC INFORMATION

<table>
<thead>
<tr>
<th>Issues Required by the OSHA Standard</th>
<th>College Information for Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designation of Chemical Hygiene Officer (mandatory)</td>
<td>Safety Committee Chair (Currently: Steve Beuth)</td>
</tr>
<tr>
<td>Designation of Chemical Hygiene Committee (optional)</td>
<td>Committee not designated at this time. (To be appointed in August, 2000)</td>
</tr>
<tr>
<td>Frequency of Committee Meetings (optional)</td>
<td>N/A</td>
</tr>
<tr>
<td>Designation of Environmental Safety Coordinator (optional)</td>
<td>ESC not designated at this time.</td>
</tr>
<tr>
<td>Location of Chemical Hygiene Plan (mandatory – must be accessible to employees)</td>
<td>On the CFCC Intranet, and maintained by instructors in each chemical laboratory.</td>
</tr>
<tr>
<td>Location of 29 CFR 1910.1450 Standard (mandatory – must be accessible to employees)</td>
<td>In the office of the Safety Committee Chair, and in the CFCC Library.</td>
</tr>
</tbody>
</table>
| Departments that use Formaldehyde | 1. Arts/Science: Biology  
2. Marine Technology  
3. Cosmetology |
CAPE FEAR COMMUNITY COLLEGE
LOCKOUT/TAGOUT POLICY

INTRODUCTION
Lockout/Tagout procedures are for employee and student safety. They are designed to prevent injuries and accidents caused by the accidental release of energy. Different types of machinery at Cape Fear Community College do their work by means of energy: electrical, mechanical, hydraulic, or pneumatic. Releasing the energy makes the machines run. This is very useful, but it can be very dangerous if the energy is released at the wrong time or when a human being is in the way.

There are many examples of people being seriously injured or killed by machinery and electrical equipment. Often, these tragedies happen because people carelessly try to repair or maintain equipment without first making sure its energy has been shut off. Many times, accidents happen when another worker restarts the machine, not knowing that another worker is in, or working on the machine. To prevent this type of tragedy, the Occupational Safety and Health Administration (OSHA) has developed a standard that has very specific procedures for shutting off machinery, for making sure it can't be operated after it's been shut off, and for warning employees to stay away from potential hazards. These procedures are called "LOCKOUT/TAGOUT", and are the subject of this policy.

REFERENCE
Federal law governing the Lockout/Tagout procedures are contained in Chapter 29 of the Code of Federal Regulations (29CFR), Part 1910.147. The text of this law is included at the end of this document.

WHAT IS "LOCKOUT"?
"Lockout" means much more than simply shutting off a machine by throwing a switch. When a machine has been locked out it means:
   1. All the energy to the machine has been shut off.
   2. Any energy that has been stored has been released or blocked.
   3. The machine is literally locked out, and cannot be restarted or released accidentally.
In lockout, a lock is placed on the part of the machine that controls the energy, such as a circuit breaker, switch, or valve. The lock itself cannot be used for any other purpose. That means that you can't use just any lock that might be found in the workplace to perform a lockout. In fact, all lockout locks should be of the same general appearance so people can easily recognize them for what they are. The lock must be strong and sturdy enough to stay in place until the time for it to be unlocked.

Most important, lockout can be performed only by the employees who are trained and certified by the company to do so (referred to as the "Authorized Employee"). The name of the authorized employee should be on the lock.

"Affected Employees" are those whose job requires them to operate equipment or be in an area where lockout/tagout might be required. They should know never to perform a lockout.
themselves or to try to restart locked out equipment.

Lockout involves certain specific procedures, including:
1. Preparing for lockout and notifying other employees that lockout is about to occur.
2. Turning off equipment, and isolating or releasing any stored energy.
3. Placing locks on the energy controls.
4. Testing the controls and electrical circuits to make sure the equipment can't be energized.

WHAT IS "TAGOUT"?
"Tagout" is the process of placing tags on machinery to warn workers not to start or operate the equipment. In most cases, tagout occurs after lockout and is a way of making doubly sure that other workers know to stay away from the machinery. Tagout is not a substitute for lockout.

However, there are some types of machinery that cannot be locked out, for one reason or another. In these cases, tagout becomes extremely important, because it is the only way to warn employees that equipment should not be used. Tagout alone should not be used without management approval.

Tagout tags should be standardized and contain specific warnings such as "Do Not Operate." They should also include information about the danger that might occur if the equipment is operated. Trained, qualified employees should be the only ones to install or remove a tag.

PUTTING EQUIPMENT BACK ON LINE
Normally, the purpose of Lockout/Tagout is to prevent accidental operation while machinery or equipment is being maintained or repaired. But when the work is done, that doesn't mean the danger has been eliminated. Instead, it's very important to observe proper procedures when restarting equipment. The person who applied the lockout/tagout should perform the restart. These procedures include:
1. Making sure all employees are a safe distance away from the equipment.
2. Removing all tools from the area.
3. Re-installing any machine guards.
4. Removing lockout devices and re-energizing the equipment.
5. Notifying affected employees that the equipment has been re-energized.

SPECIFICS OF THE POLICY

LOCKOUT PROCEDURE FOR CAPE FEAR COMMUNITY COLLEGE

PURPOSE
This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment that is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected start-up of the machine or equipment or
release of stored energy could cause energy.

RESPONSIBILITY FOR COMPLIANCE WITH THIS PROGRAM

The Vice President for Institutional Services shall be responsible for the overall implementation and management of the policy. The Chairperson of the CFCC Safety Committee shall serve as the liaison person for the Vice President for Institutional Services and will coordinate the technical assistance required for policy management; this will include providing the Department Chairs and supervisors of all affected departments the information and assistance needed to ensure policy compliance. All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout. The authorized employees are required to perform the lockout in accordance with this procedure. All employees, upon observing a machine or piece of equipment which is locked out to perform servicing or maintenance shall not attempt to start, energize, or use that machine or equipment.

MACHINERY AND EQUIPMENT COVERED BY THIS POLICY

A comprehensive listing of all machinery and equipment for which this policy is applicable shall be maintained by the Chairperson of the Safety Committee. It shall be the responsibility of each area's Department Chair or supervisor to inform the Safety Committee Chairperson of any additions, deletions, or modifications to this listing of affected machinery and equipment.

SEQUENCE OF LOCKOUT

1. The authorized employee shall notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down to perform the servicing or maintenance.

2. The authorized employee shall refer to all applicable maintenance and operators' manuals to identify the type and magnitude of the energy that the machine or equipment utilizes. The authorized employee shall understand the hazards of the energy, and shall know the methods to control the energy.

3. The authorized employee shall shut down the machine or equipment if it is operating, using the normal stopping procedure (depress stop button, open switch, close valve, etc.)

4. The authorized employee shall de-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).

5. The authorized employee shall then lock out the energy isolating device(s), using locks designated for this specific purpose, so that the machine or equipment is isolated from the energy source.

6. Stored or residual energy (such as in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
7. The authorized employee shall then ensure that the equipment is disconnected from its energy source by first checking that no personnel are exposed, then verify the isolation by operating the push button or other normal operating controls, or by testing to make certain the equipment will not operate.

8. The machine or equipment is now locked out.

TAGOUT PROCEDURE FOR CAPE FEAR COMMUNITY COLLEGE

1. The authorized employee shall place warning tags on equipment or machinery which has been locked out, to positively warn all affected employees that the equipment or machinery is not to be used. Warning tags should also be affixed to any external power source for the equipment or machinery, such as circuit breakers or power control panels.

2. Tags must be legible and understandable by all affected employees and all other employees whose work operations may be in the area, in order for their meaning to be effective.

3. When a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.

4. Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.

RESTORING EQUIPMENT TO SERVICE
When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken:

1. The authorized employee shall check the machine and the immediate area around it to ensure that all nonessential items have been removed and that the machine components are operationally intact.

2. The authorized employee shall check the work area to ensure that all employees have been safely positioned or removed from the area.

3. The authorized employee shall verify that the controls are in neutral.

4. The authorized employee shall remove the lockout devices and the tags and re-energize the machine or equipment.

5. The authorized employee shall notify all affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.
BASIC LOCKOUT/TAGOUT TRAINING

1. Cape Fear Community College will provide training to ensure that the purpose and function of the program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include:
   A. Each authorized employee shall receive training in the recognition of the applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
   B. Each affected employee shall be instructed in the purpose and use of the energy control procedure.
   C. All other employees whose work operations are or may be in an area where energy control procedures may be utilized shall be instructed about the procedure, and about the prohibition relating to attempts to restart or re-energize machines or equipment which are locked out or tagged out.

2. Records of training received by each employee shall be maintained by the employee's Department Chair or supervisor.

ANNUAL AUDIT AND REVIEW OF PROGRAM

The Chair of the Safety Committee shall conduct an annual evaluation of this policy to ensure that it is being effectively followed and that it is properly compliant with OSHA General Industry standards. The annual review will include:
1. The listing of equipment and machinery covered by the program is accurate and up-to-date.
2. Energy control procedures for each item of equipment and machinery are accurate, accessible, and understood by authorized and affected employees.
3. All authorized and affected employees are properly named and their functions are defined.
4. Training records are accurate, and up-to-date. All authorized and affected employees have been properly trained.
5. Re-training of authorized and affected employees is to be conducted in the event that new equipment or machinery is introduced.

For each item of equipment and machinery covered by the program, the following Energy Control Procedure form should be completed and maintained as part of the policy.

CAPE FEAR COMMUNITY COLLEGE LOCKOUT/TAGOUT POLICY

ENERGY CONTROL PROCEDURE

NAME OF EQUIPMENT: ____________________________________________
EQUIPMENT IDENTIFICATION __________________________________________
ENERGY TYPE AND MAGNITUDE __________________________________________
CONTROL DEVICE(S) __________________________________________
DEACTIVATION AND LOCKOUT/TAGOUT

1. NOTIFY EMPLOYEES
   AUTHORIZED:_______________________
   AFFECTED:_________________________

2. DISENGAGE:
   LOCATION:__________________________

3. DISENGAGE
   LOCATION:__________________________

4. APPLY ISOLATION DEVICE
   TYPE: _____________________________

5. RELEASE STORED ENERGY
   METHOD:___________________________

RESTORING EQUIPMENT TO SERVICE

1. ENSURE NON ESSENTIAL ITEMS
   DETAILS:___________________________
   HAVE BEEN REMOVED FROM
   MACHINE AND COMPONENTS ARE
   INTACT ____________________________

2. REACTIVATE/REENERGIZE
   METHOD:___________________________

3. NOTIFY EMPLOYEES THAT
   METHOD:___________________________
   SERVICING IS COMPLETE AND THE
   UNIT IS BACK IN SERVICE
I. BACKGROUND
Respiratory protection is critical to employee safety because of the immediate health danger posed by hazardous substances that can enter through the lungs. The Occupational Safety and Health Administration (OSHA) requires that respirators must be supplied "when such equipment is necessary to protect the health of an employee." This requirement includes the establishment and maintenance of an acceptable respiratory protection program.

The following policy adopted by Cape Fear Community College is in compliance with the general industry standards as promulgated by OSHA, and published in Chapter 29, Part 1910, of the Code of Federal Regulations. The applicable section pertaining to respiratory protection is Part 1910.134. This is reprinted in its entirety and included as a supplement to this policy.

II. THE POLICY
1. RESPONSIBILITY
Every employee required to wear a respirator must be familiar with the provisions of this Respiratory Protection Policy, and know where it is maintained. The Director of Institutional Services shall be responsible for the overall management and implementation of the policy. The Chairperson of the CFCC Safety Committee, who serves as the Hazard Communication Program Coordinator, shall serve as the liaison person for the Director of Institutional Services and coordinate the technical assistance required for policy management; this will include providing the Department Chairs and supervisors of all affected user departments the information and assistance needed to ensure policy compliance.

2. SELECT PROPER RESPIRATORS
Respirators are used to protect against three types of hazards: gas or vapor, particulates (dust, mist, fumes, smoke, or fog), or a combination of both. It is the responsibility of each supervisor to make sure that properly designated respirators for the intended purpose are worn when required. Factors to be considered in selecting the proper respirator include:
   a. Permissible Exposure Limits (PELs) and Threshold Limit Values (TLVs). These limits pertain to how much of a contaminant workers are permitted to be exposed to, and for what length of time. The information is found on the Material Safety Data Sheets (MSDS's), which are required to be maintained by each department. (REF: CFCC HAZARD COMMUNICATION PROGRAM).
   b. Scientific instruments shall be used if necessary to measure exactly how much of the hazard is present in the air at a worker's location.
   c. Oxygen Deficiency: Some industrial processes and outside gases and vapors can create and environment in which the volume of oxygen is 19.5% or less. This requires the use of supplied air respirators, since filters cannot make up for the lack of oxygen.

Once the respirators are selected, it is the department supervisor's duty to make sure the
correct one is worn. Each employee will be informed which type to use in each situation.

3. PROVIDE A TRAINING PROGRAM FOR USERS

A training program is presented to affected employees with the goal of instruction in the nature of hazards present in our workplaces, and the means to be utilized for protection from, and reduction of these hazards.

4. PROVIDE PROPER CARE FOR EQUIPMENT

Cape Fear Community College will issue individual devices to every employee who needs them. Each device issued will be solely for the use of that person receiving it. Each employee is in turn, responsible for the proper care of his device. This includes:

a. Regular cleaning and disinfecting
b. Storage in a secure and sanitary place.
c. Inspection before each use and regular periodic inspection when equipment is not in use.

The supervisor's job is to ensure that workers carry out these minimum requirements for respirator care. Inspection and maintenance records should be kept by the supervisor for all the respiratory care equipment issued to workers.

5. CONDUCT PROPER FIT AND LEAK TESTS FOR ALL RESPIRATORS

Unless the respirator fits well, it won't give effective protection against breathing hazards. The supervisor's job is to help workers obtain a good fit and ensure that they wear the equipment properly so that they keep a good fit. The manufacturer's instructions shall be followed closely to ensure that this is done right.

Each time a new respirator is issued, the user should wear it in a test environment to demonstrate its effectiveness. Either a qualitative test using irritant vapors or smoke, or a quantitative test using sodium chloride or dioctyl phthalate should be made. OSHA regulations, the type of hazard, and the manufacturer will determine which method is acceptable.

Quantitative testing means that leakage between the wearer's face and the mask is measured numerically by instruments. Qualitative testing uses an easily detectable substance released into the air; if the respirator wearer can't detect this stimulus, the fit is deemed adequate.

Additionally, each time the respirator is used, a fit test using both positive and negative pressure must be made.

a. To perform the positive pressure test, close the exhalation valve and exhale gently into the facepiece. A slight positive pressure should build up inside the facepiece, making it bulge, without any outward leakage of air at the seal.

b. To perform the negative pressure test, close the inhalation valve and inhale gently. The facepiece should collapse against the face. Hold the breath for 10 seconds. If the facepiece remains collapsed against the face and no inward leakage of air occurs, the fit of the respirator is satisfactory.

6. PROVIDE EACH WORKER WITH HIS OR HER OWN RESPIRATOR

In the interest of hygiene, Cape Fear Community College will adhere to OSHA regulations which strongly recommend that each worker be given his or her own respirator. This helps to increase worker compliance with the regulation, as well as to ensure the proper fit is maintained, as addressed in Section 5 above.
7. PROVIDE MEDICAL EXAMS FOR EMPLOYEES WHO WILL BE ASSIGNED TO WEAR RESPIRATORS
   Respirators tend to be rather bulky devices that may hinder breathing and movement. For this reason, medical exams will be provided to ensure that each employee is physically able to use a respirator. Cape Fear Community College will arrange to provide the respiratory/pulmonary fitness check necessary to establish each affected employee's fitness.

8. PROVIDE SUPERVISION
   Employees who wear eyeglasses with temple pieces will not be allowed to wear full-facepiece respiratory devices, since a good seal will not be possible to achieve. In addition, OSHA regulations forbid employees to wear contact lenses while using respiratory devices. It is possible though, to have prescription lenses made for the devices.
   Workers with mustaches and beards, or those with facial features that prevent them from achieving a good face-to-mask seal, shall not be permitted to use respirators. Prominent features such as sunken cheeks or temples, an abnormally large nose, or an elongated chin might all interfere with a good fit.

9. CONSULT MATERIAL SAFETY DATA SHEETS
   Supervisors in each department shall consult all applicable Material Safety Data Sheets (MSDS's) for chemicals or hazardous materials used or encountered in the workplace which might necessitate the use of respiratory protection.

10. MAINTAIN RECORDS
    Supervisors in each department shall maintain records for each employee which document:
    1. The employee's statement of medical condition and receipt of the Cape Fear Community College Respiratory Protection Policy.
    2. A physician's report of the medical evaluation of the employee's fitness to use respirators.
    3. Dates and details of respirator fit-testing.

III. RESPIRATOR PROTOCOLS FOR CFCC PERSONNEL
    Protocol for respirator use is contained in an 18 page supplement to this policy, maintained by the Safety Committee and distributed to affected supervisors and employees.
# ROSTER OF SAFETY COMMITTEE MEMBERS

*For Calendar Year 2002*

<table>
<thead>
<tr>
<th>Role</th>
<th>Members</th>
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<tbody>
<tr>
<td>Chairman</td>
<td>Steve Beuth, Chairman</td>
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<td>Ruby Casanova</td>
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<td>Henry Tootoo</td>
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<td>Ed Verge</td>
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<tr>
<td>Director of Institutional Services</td>
<td>Carl Brown</td>
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<td><em>ex officio</em></td>
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<tr>
<td>Student</td>
<td>Steve Turner</td>
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APPENDIX A

CAPE FEAR COMMUNITY COLLEGE
REPORT OF CAMPUS SAFETY VIOLATION OR CONCERN

NAME OF REPORTER: ________________________________________________________

DATE OF REPORT: _______________________________________________________________________

TYPE OF VIOLATION, DEFICIENCY, CONCERN, Etc.:

_____ 1. Personal violation of established safety procedures or rules.

_____ 2. Improper campus physical facilities.

_____ 3. Broken or missing safeguards.

_____ 4. Safety hazard caused by force of nature.

_____ 5. Other

Describe in detail the concern or observed violation: (Date, time, location, persons, and nature of problem):

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

Submit to:  Safety Committee Chair

Vice President of Institutional Services