Laboratory Safety Policy
Civil, Environmental & Architectural Engineering Department

This protocol covers the general safety guidelines that must be observed by those working in any of the Civil, Environmental and Architectural Engineering (CEAE) laboratories. Before using any CEAE laboratory, each user must sign the compliance form found in Appendix A at the end of this document. Every person who is to work in any of the CEAE laboratories must observe the following guidelines:

A. ENVIRONMENTAL, HEALTH & SAFETY (EHS) POLICY
   This policy provides the strategy and framework for achieving positive environment, health, and safety performance at the University of Kansas. It applies to all faculty, staff, students, and the public on the Lawrence Campus and its reporting units. The full policy is found at http://policy.ku.edu/EHS/environment-health-safety

B. EDUCATION, TRAINING, AND EXAMS
   Safety Training Course
   1. EHS at the University of Kansas provides education, training and examinations via online short courses. For the nature of the work to be performed in the majority of the CEAE laboratories, take the KU-EHS Online Laboratory Safety Courses designated by the asterisk (*) under "EHS Safety Training Course (EHS000-001)" >> "Lab Safety Courses" found on Blackboard. (More specific training is available for those who will work with heavy machinery -- e.g., structures laboratories. This information is listed later in this document and will depend on which laboratory the user will carry out his/her experimental work.)
      To enroll in the course, follow the following steps:
      i. Log into Blackboard
      ii. Locate the "Course Search" module in the "My Blackboard" page
      iii. Enter "EHS" in the dialog box
      iv. Click "Go"
      v. Select EHS000-001
      vi. Click the drop down arrow next to "EHS001-001"
      vii. Select "Enroll"
      viii. Click "Submit"
      ix. Click "Go"
      You will now be enrolled in the EHS Safety Training Course. This course will show up in "My Courses" box.

C. APPROPRIATE ATTIRE AND PERSONAL PROTECTIVE EQUIPMENT
   1. All users of the laboratories must be dressed appropriately for the nature of the work to be performed. This includes wearing the following:
      a. Long pants.
      b. Sleeved shirt.
      c. Closed-toe shoes.
In addition to the above, the following must be observed when working around testing equipment and machinery in general:

d. Do not wear loose fitting clothing.

e. Long hair must be tied back.

f. Neckties, scarves, and any other pieces of loose fabric worn around the neck, near the head, or around the waist must be removed prior to working in the laboratory.

g. Similarly, jewelry, bracelets, chains and similar items must be removed prior to working in the laboratory.

2. All users of the laboratories must wear personal protective equipment at all times. This includes the following:

a. Eye safety glasses that meet ANSI Z87 Standards. Safety glasses must also be worn over prescription eyeglasses if the latter are required. In some laboratories, safety glasses are not required in all areas. Those areas where safety glasses must be worn are clearly marked out.

3. All users of the laboratories must also wear the following personal protective equipment as required by specific tasks:

a. Hard hats when working in areas where there is a potential for head injuries, either from falling object, unguarded protruding or exposed ends (e.g., steel bars), and/or when working near exposed electrical conductors.

b. Face shield when working with metal grinders.

c. Appropriate gloves when handling hot objects, sharp-edged stock, concrete, chemicals, scrap metal or wood. However, gloves must not be worn while operating rotating machinery as gloves can easily be caught in the machinery.

d. Fall protection equipment as indicated by laboratory personnel.

D. BEHAVIOR

1. While in the laboratory, all users must observe the following rules:

a. Know and understand any hazards associated with the required work.

b. Be aware of the physical environment of the laboratory including, but not limited to, location of equipment, means of egress, physical obstructions, fire extinguishers, chemicals, etc.

c. Be familiar with all posted signage, including but not limited to, hazard warning placards and labels, laboratory contact information, and important emergency telephone numbers.

d. Do not perform any experiments that you have not yet discussed with laboratory personnel or faculty advisors.

e. Become fully educated on the proper use and operation of the equipment and tools to be used as part of the required work.

f. Inform laboratory personnel before using any machine, power and hand tools, or equipment.
g. Always use the proper tools for the job.

h. Avoid working when exhausted or emotionally upset.

i. Never work alone or unsupervised.

j. Be alert and aware of activities being performed by others.

k. Listen carefully to emergency instructions and abide by the safety advice and warnings given by laboratory personnel.

l. Never leave any equipment running that must be turned off at the end of the laboratory or work session.

m. Do not engage in horseplay or rough housing.

n. Do not bring any food or drink into the laboratories.

o. Refrain from texting, chatting, video streaming, etc. as well as using electronic gadgets (e.g., portable media players). Similarly, the use of headphones, earphones, ear buds, and the like, are prohibited in the laboratories.

p. Exit the laboratory if a cell phone call must be made or accepted.

2. Failure to abide by the safety rules provided on this document and/or in any other safety training course or session will result in a warning. Repeated warnings will result in banning from the laboratory.

3. Immediately report to laboratory personnel any perceived defective tools or equipment, unsafe working conditions (e.g., gas or water leaks, improperly guarded equipment), and unsafe work practices.

E. **HOUSEKEEPING**

1. All users are required to maintain good housekeeping standards. These include, but are not limited to the following:
   
a. Keep the work areas clean, uncluttered, and free of slipping and tripping hazards.

b. Do not leave exposed sharp or pointy surfaces (e.g., razor blades, needles, etc.) unattended.

c. All machinery, tools, and laboratory work areas must be cleaned up after use.

d. Pick up and return tools to the proper storage location after use. Under no circumstance should a tool be left on the laboratory floor.

e. Book bags, coats, and similar items must be stored out of the working areas. Also make sure that these do not obstruct any means of egress.

f. When consumables are unpacked, empty boxes must be disposed of properly and immediately.

g. Do not use compressed air to remove dust and/or other particulates from clothing.

F. **HAZARDOUS MATERIALS, CHEMICALS, AND SAFETY DATA SHEETS (SDS)**

1. When working with a material or a substance for the first time, look up the safety data sheets (SDS) to find out proper handling instructions.
2. Follow all safety precautions when working with paints, adhesives, epoxies, solvents, and similar products.

3. Follow all safety precautions when working with fiber-containing materials (e.g., fiberglass, carbon fibers, etc.)

4. Heavy sanding and grinding should be done in a well-ventilated area.

G. ACCIDENTS

1. All accidents must be reported to laboratory personnel immediately and to a supervisor (e.g., professor next).

2. If injured on the job and need non-emergency medical attention, go to Watkins Health Center WHC. WHC walking hours are from 8:00 AM to 5:00 PM Mondays through Fridays and 12:00 noon through 3:00 PM on Saturdays. Lawrence Memorial Hospital (LMH) Business Health Center by calling 785-505-3114 to schedule an appointment. If the injury is serious and/or life threatening, or occurs after hours or on the weekends, go directly to the LMH Emergency Room located at 325 Maine St. in Lawrence. Indicate that your injury was work related, if this is the case. Be sure to provide laboratory personnel with medical information given by LMH.
Structural Testing Laboratory and West Campus Structural Testing Laboratory

Because of the nature of the work (e.g., testing, research, projects, etc.) carried out in these laboratories, in addition to Items A through G above, the following must be observed:

1. Use ANSI/OSHA-compliant hard hats in the designated areas. Specifications for wearing hard hats indicate that the suspension of the hat must fit properly on the nape of the neck and that the brow of the cap must fit snugly on the forehead.

2. The operation of forklifts, scissor lifts, overhead cranes, MTS actuators, and some power tools, is strictly restricted. Only those who have been trained in their use, as indicated below, are authorized to use them.

3. These laboratories are equipped with overhead cranes. Although these cranes must only be operated by those who have been trained in their use, the following must be observed by all laboratory users:
   a. Always be aware if the crane(s) is(are) in operation.
   b. Never stand directly under the load being moved by the crane(s).
   c. Do not use the crane as a loading device (e.g., to apply an upward force to free or wedge structural members).
   d. Never travel a loaded or unloaded crane hook block over a person.

4. The West Campus STL is equipped with MTS hydraulic actuators. Although these actuators must only be operated by those who have been trained in their use, the following must be observed by all laboratory users:
   a. Ask and become familiar as to where all crush points (i.e., location where two objects move toward each other or when a moving object approaches a stationary one) are around the actuators and keep away from these areas.
   b. Do not disconnect any hydraulic hoses or fittings attached to MTS equipment.
   c. Alert laboratory personnel of any hydraulic fluid leaks or spills from hydraulic equipment.
   d. Only trained laboratory personnel and qualified technicians are allowed to stop leaks in hydraulic hoses and other hydraulic equipment.
   e. Some equipment housed in these laboratories requires specialized training before anyone is allowed to operate it. This equipment includes the following:
      I. Forklifts
      II. Overhead Cranes
      III. MTS Actuators

1. SPECIALIZED TRAINING
   1. Forklifts
   2. Overhead Cranes
   3. MTS Actuators
   4. Power Tools

Only authorized students are allowed to use these items. These students must have had the appropriate training by one of the CEAE technologist before using any of these items.
Appendix A
Compliance Form
Civil, Environmental & Architectural Engineering Department

I have read and understood the guidelines and rules outlined in the Safety Protocol for the Laboratories of the Civil, Environmental & Architectural Engineering Department at the University of Kansas. I will comply with such guidelines and rules and will take full responsibility of my actions while working in the above-mentioned laboratories.

Signature: ___________________________________________ Date: ______________

Name (Print): ___________________________________________