

**UNIVERSITY OF HAWAII AT MANOA
BASIC LABORATORY DESIGN GUIDELINES**

General

- Working surfaces, including furniture and chairs should be non-porous and able to be decontaminated.
- Minimum types of equipment (specific equipment should be requested)
 - Chemical laboratory hood
 - Eyewash/safety shower
- Storage Areas/Rooms
 - Compressed Gases
 - Chemicals (flammables, corrosives, etc.)
 - Biological Agents
 - Radioactive Materials

Ventilation

- Laboratory ventilation rates should be 6 to 10 air changes/hour and meet the requirements of the latest version of ASHRAE, Standard 62, Ventilation for Acceptable Indoor Air Quality.
- Chemical Laboratory Hood
 - Average face velocity of 100 fpm @ 12" sash opening height
 - Hood exhaust discharge stacks shall be a minimum of 10' above the adjacent roof line, and as far away from air intakes as possible to preclude re-circulation of laboratory hood emissions within a building.
 - Located in a manner which prevents drafts in the laboratory (eg. away from doorways and air- conditioning vents)
 - Quality assurance test per ASHRAE 110-1995 shall be provided to the University, which shows that the hood performance is adequate per the intended use.
 - No need for special radioisotope hoods; a regular chemical hood is acceptable for University type use.

Electrical

- Ground fault circuit interrupters (GFCI) shall be near sources of water.
- Note that some types of laboratory equipment draw a large amount of current. List of potential equipment for use in the lab should be requested.
- Maximize number of outlets provided to accommodate frequent laboratory layout changes.

Plumbing

- Eyewash/Safety Shower
 - Shall meet the specifications of ANSI Z358.1-1998 for work areas where areas of the body may come into contact with a substance which is corrosive, severely irritating to the skin or which is toxic by skin absorption.
 - Shall be unobstructed and in accessible locations that require no more than 10 seconds or 50' away for the injured person to reach along an unobstructed pathway.
 - “Hands-free” operation once activated (must stay in open position until manually shut-off).
 - Drench hoses and sink faucets are unacceptable eyewash facilities.
- Sinks
 - Sinks - for BSL2 laboratories, a separate hand-washing sink must be available. A separate sink may also be required for radioisotope use.
- No need for acid waste system.