

Laboratory Standards

These criteria include general planning guidelines. They are intended for use of Designers during the design phases of the project.

Planning Assumptions

Overview

In order to maximize the adaptability of the laboratory spaces, modular design will be utilized in the planning of all building systems including architectural, mechanical, plumbing, electrical, and furnishings.

Adaptability

Adaptability is the reserve capacity that is required to be designed into the structural, mechanical, and other building components to accommodate future growth and change. Dedicated zones for mechanical, plumbing, electrical, communication systems, etc. are another form of reserve capacity.

The ability to respond to future changes depends on easy access to the building's utility systems and the adequate design of those systems. Ease of maintenance, repair, and change legislate the need for access to systems to minimize costly and time-consuming disruptions to ongoing laboratory activities.

A design that effectively integrates accessibility for the ease of change can also simplify, and perhaps expedite, the construction process.

Accessibility

Providing accessibility for persons with disabilities should conform to applicable local, state, and federal regulations. Considerations should be given to the following accessibility aspects:

- All parts of the building should be accessible by persons with disabilities.
- Accessible workstations and fume hoods should be provided in the laboratories based on code requirements and campus practices.
- Accessible workstations should be located close to eyewash and safety showers.
- Allow 18" clearance on the pull side and 12" clearance on the push side of doors.

Some general criteria and guidelines for accessible workstations in laboratories are as follows:

- Work surfaces 30" to 34" above floor with wheelchair clearance below. Adjustable work surfaces can provide a range of possible height adjustments.
- Laboratory service controls, equipment, and equipment controls within easy reach for persons with limited mobility. Controls should have single-action levers or blade handles for easy operation.
- Aisle widths and clearances adequate for maneuvers of wheelchair bound individuals. Aisles 5'-0" wide are recommended with turnaround areas.

Modular Planning

The laboratories shall be developed from multiples of, or fractions of, a standard module of 11'-0" wide and 30'-0" deep. The module may be sub-divided to create smaller spaces as needed.

The 11'-0" width was justified by a study of those elements that would go into a single module width, face to face, across a user's aisle, such as the laboratory casework (based on a 2'-9" wide single or 5'-

6" double bench width) and equipment, with an access aisle sufficiently wide to promote safety and convenience of movement without being wasteful.

Laboratory Furnishings

Laboratory Casework

- Material: Wood, plastic laminate or metal to be determined during the Design Development phase.
- System: Floor mounted or C-Frame to be determined during the Design Development phase.

Architectural Systems

Interior Partitions – Offices and Laboratories

- Metal studs and gypsum wallboard, reinforced on the laboratory side to support wall hung devices.
- Fire ratings are to be determined during code review.
- Painted unit masonry may be used for corridor and storage areas requiring durable surfaces and/or structural integrity, such as cylinder storage areas and high security areas.

Laboratory Doors

- Swing: In direction of egress
- Minimum Width: 3'6". For Special Equipment Rooms, provide (2) 3'-0" doors for a 6'-0" opening.
- Minimum Height: 7'-0"
- Rolling overhead doors to exterior for selected spaces
- Security: To be determined during later phases. Consideration should be giving to installing selected doors with frames, conduit, and power to accept card readers at a future date.

Ceilings

- Minimum Ceiling Height: 9'-6" Laboratories, 8'-0" Offices
- Ceiling Type: Provide acoustic treatment as part of ceiling or underside of floor above if no ceiling is provided. Provide hard ceilings in areas of high cleanliness and BSL-3 suites.

Flooring

- Sheet vinyl seamless flooring for the Laboratories and BSL-3 spaces.
- Carpeting in Faculty Offices, Administrative suites, and Conference/Meeting Rooms.
- Epoxy flooring is desirable in animal holding rooms and wet areas.
- Sealed concrete for the selected Support Spaces.

Finishes

- In general, semi-gloss enamel interior paint is a satisfactory material for the majority of spaces. Special finishes are to be used for architectural design considerations or to satisfy local needs. Epoxy paint is to be used on selected surfaces.

Laboratory Corridors

- Minimum width 7'-0"
- Minimum ceiling height: 8'-0"
- Provide bulletin boards/display cases in Laboratory Corridors
- Provide space for spill kits, air packs, fire blankets, etc.



Space Descriptions

Office/Conference Room

Finishes

- Suspended acoustical ceiling with integral light fixtures
- Carpeted floors - Faculty Offices, Administrative Suites, and Conference
- LVT or VCT floors – Technician Office and Storage Rooms
- Latex Enamel painted gypsum board walls

Environment

- Year round air conditioning
- Windows at the exterior offices
- Recycled ventilation is acceptable
- One HVAC zone per office with low velocity diffusers

Services

- 120V receptacles, a maximum of 6' on center, 40 amps per office minimum
- Phone/Data connectors

Fixed equipment

- Whiteboards in offices and Conference Rooms

Laboratories

Finishes

- Suspended, non-flaking faced acoustical ceiling with pendant light fixtures
- Sheet vinyl floors
- Latex Enamel painted walls

Environment

- Year round air conditioning
- Windows at the exterior
- 24-hour 100% once-through ventilation with temperature control

Services – Electrical

- 120V/208V, 3 phase, 5 wire system with receptacles 36" on center in modular plug-in strip on walls and overhead service carrier
- Dedicated 42 circuit 120V/208V, 3 phase panel per 640 net square feet
- Dual switched lighting providing 80 to 100 foot-candles at 36" above the finished floor

Fixed Equipment

- 36" high fixed wall bench with large sinks, cupboard and drawers below and with wall cabinets and drying racks above sinks.
- As an option to fixed bench work, overhead service carrier in middle of lab, at 7'-0" above finished floor for 120V/208V plug strip with receptacles 36" on center
- 4'-0" wide tall storage cabinet with locked doors.



Building Support Areas

- See custodial standards
- See instructions to Designers

Freight Elevator

- Minimum size: 8'-0" x 10'-0"
- Minimum load capacity: 5000 pounds

- End -

