MAKERS SPACE AND FAB LAB SUITE

SPACE DESCRIPTION

The Makers Space and Fab Lab is a dedicated space used by students to explore a variety of materials, techniques, and 2D and 3D construction processes. This space requires a variety of components, infrastructure, and equipment based on the specific program, and this must be verified on a program by program basis.

Provide a Lab Support space adjacent that can also double as presentation space with a projection wall.

Depending upon the Service Area needs, the following programs may be included in the Makers Space Suite:

- MAC / PC Lab
- Photo Studio: may be shared between the MAC / PC Lab and the Makers Space / Fab Lab.

GENERAL

All perimeter walls shall extend full height to deck.

Minimum Ceiling Height: 9'; 10' minimum clearance at Fabrication Lab for overhead equipment.

Separate storage spaces for metal and wood.

ADJACENCIES

The Fabrication Lab should be in close proximity to the Printmaking Lab.

The Makers Space and Fab Lab shall be nearby or include the following: Gallery and Public Areas, Exterior Access, Loading Dock with Trash and Recycling, and Services such as laundry, lockers and showers, and a custodial closet.

ACOUSTIC

Acoustic ratings for Makers Space / Fab Lab perimeter walls: STC 50. Special accommodations may be required due to location in the building. Acoustical isolation and/or acoustic surface treatment on walls and ceilings may be required.

At the Photo Studio, provide additional sound absorption / isolation. Consider carpet tile for improved acoustical properties.

Maximum recommended HVAC Background Noise: 40dBa

Follow the recommended methodologies and best practices for mechanical system noise control in ANSI Standard S12.60; the 2015 ASHRAE Handbook-- HVAC Applications, Chapter 48, Noise and Vibration Control (with errata); and AHRI Standard 885–2008.

Maximum NC Level for VAV's shall be less than 30 at maximum CFM.

MECHANICAL

Special air handling and ventilation for heat, combustion, fumes, or emissions may be required. Coordinate with specific program requirements.

Additional independent exhaust for 3D printer kilns. If using a kiln, prefer outside wall location to exhaust.

Window or room unit systems are not acceptable in these Labs due to high demand for wall space.

PLUMBING / GASES / UTILITIES
Large, deep Sink

ELECTRICAL & DATA
Provide voltages as required by selected equipment, 120/208V and 277/480V typical

Maker Space / Fab Lab:

- Provide additional power and data for equipment as specified by program. Verify equipment specifications and requirements on a program by program basis.
- Place wall outlets at no more than 6' intervals or as necessary to allow for 30% coverage.

Lab Support:
- Provide power and data in ceiling for 2 projectors at the Lab Support presentation wall.
- Audio / sound system to include instructor microphone, soundbars and wireless connection to student headsets as needed.

MAC / PC Lab:

- See Computer Lab standard for basic requirements.

LIGHTING
Provide LED lighting system with appreciable indirect component and good diffusion for maximum visibility from all directions. Lighting color rendition to be 5,000K – 5,500K (Natural White to Pure White)

Provide low-brightness luminaires with high visual comfort probability (VCP) in all viewing directions. Average 40fc at 30" A.F.F. Min CRI 80.

Lighting watts per square foot and controls shall meet the latest requirements of ASHRE 90.1

Prefer North-facing windows or clerestory for natural daylight.

TECHNOLOGY
Provide Wireless capability in all labs.

Verify equipment specifications and requirements.

ACCESSORIES AND EQUIPMENT
In the Lab Support space, provide 16' wide projectable whiteboard with marker tray at the presentation wall. Whiteboard shall be matte white, low-glare, 4.0 gain; and must support 16:9 projection dimensions. Provide ceiling mounted projectors.

Provide a whiteboard and two framed 4' x 4' tackboards in each Lab space.

Provide storage systems within the Lab and / or a storage room within the Lab for equipment, tools, supplies, and projects in process.

Photography Lab should include secure storage for cameras, video cameras, lighting equipment as well as props and backdrops.

Mac / PC Lab to include space for multiple printers, paper cutters, and several stations for cutting with hand tools.

FURNITURE

Furniture shall be selected for durability, cleanability, and flexibility.

FINISHES

Ceilings

General: Recommended Height: 9' minimum

Fabrication Room: 10' minimum clear height.

Photo Studio: recommended height: 12' – 15'.

Ceilings shall have an NRC of .70 to .85.

In renovations, classrooms without full height perimeter walls shall have ceilings with high CAC (Ceiling Attenuation Class) values.

Floors

Sealed concrete at Maker Space / Fab Lab where forklifts may deliver pallets of materials.

Lab Support, Photo Studio and MAC / PC Lab may be carpet tile for improved acoustical properties. Hard flooring is preferred where the floors are more susceptible to dirt or liquids.

Countertops

Verify requirements with the program.

Walls

Epoxy Paint.

DOORS AND WINDOWS

Doors shall be minimum STC 30 with 6" x 30" Window Lite preferred.

Provide Overhead door with direct access to the exterior and a loading dock from the Fab Lab.

Clerestory for daylight: North facing preferred.

Consider interior windows to provide visibility of the program in action from high-traffic areas in the building.