

# INFORMATION TECHNOLOGY SERVER LAB SUITE

## SPACE DESCRIPTION

The IT Server Lab Suite is designed for hands-on instruction in computing and informatics. This suite provides space for lecture as well as skills training on personal computers, network equipment, and servers. Here, students gain expertise for careers in computer technology and support.

The space requires specific infrastructure and efficient space planning. A Mock Server Room, (3) IT Computer Labs, and Lab Storage comprise the IT Server Lab Suite.

The layout shown is illustrative of basic concepts and spatial needs. Specific requirements may be accommodated on a project by project basis, according to each campus' needs.

## SUCCESS FACTORS

**Network:** This space must have its own dedicated network, separate from the Ivy Tech campus network, for instruction only. The Mock Server Room serves the IT Program's Wireless Access Points (WAPs), computer labs, and devices of IT students and instructors.

**Adjacencies:** IT Computer Labs should ideally be within close proximity, or have a high-speed back hall, to the Mock Server Room. Direct access between these spaces is preferred. Training is most successful when instructors and students can move back and forth between lecture and skills practice.

**HVAC:** The Mock Server Room / Data Center must have adequate independent cooling.

**Power:** Adequate electrical service to Server Room and Labs for all equipment and personal devices is required with Backup Power.

**Technology:** Digital displays must be clearly legible from all locations within the lab. The display interface must be intuitive and able to adapt to multiple types of mobile and personal devices.

## GENERAL

All perimeter walls shall be full height to deck.

Consider access flooring system for optimal flexibility for power and data.

## ADJACENCIES

Separate but adjacent space is required for the following: **Mock Server Room, IT Server Lab, IT Data Center Lab, IT Infrastructure Lab, Lab Storage.**

## ACOUSTICS

Acoustic ratings for Classroom perimeter walls: STC 50. Special accommodations may be required due to location in the building.

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.

## MECHANICAL

IT Server Room / Data Center must be independently climate controlled with adequate cooling on its own system.

## ELECTRICAL & DATA

Provide Backup power

Computer Lab: refer to Computer Lab Space Standards

Provide additional power and data as required to support IT Server Labs, IT Data Center Lab, Mock Server Room, IT Infrastructure Lab. Specific requirements shall be verified on a project by project basis.

## LIGHTING

- Provide LED lighting system with appreciable indirect component and good diffusion for maximum visibility from all directions.
- Provide controls for zoning and dimming. Front row at teaching walls shall be switched separately with three preset dimmable levels: low, medium, high.
- Provide low-brightness luminaires with high visual comfort probability (VCP) in all viewing directions. Average 40fc at 30" A.F.F. Min CRI 80.

## TECHNOLOGY

There will be two separate data services within the facility: the campus-wide system and the Information Technology programs' training system. Students will use this dedicated system to train in network physical infrastructure, operating systems, Cyber Security (attack and defense), and similar exercises so as not to put the campus-wide system at risk.

- Coordinate equipment for Learn Anywhere technology package in IT Computer Labs, per Ivy Tech specification.
- Provide Wireless capability throughout the Information Technology Lab Suite.
- Provide data outlets at same interval as power in coordination with classroom type.

## ACCESSORIES AND EQUIPMENT

Consider access flooring system throughout the suite for optimal flexibility for power and data.

**Mock Server Lab** shall have racks for servers, with adequate circulation and gathering space for groups of students and instructors. Direct access to adjacent Computer Labs is preferred. Windows to the corridor and to the lab storage areas for viewing are preferred.

## FURNITURE

Verify equipment with the program. Provide the following:

- IT Racks
- Storage shelves
- Work tables
- U-shaped workstations
- Student workstations and Instructor's stations
- 2-tier workstations

## FINISHES

### Ceilings

Recommended Height: 9' to 10', with special consideration to acoustics when greater than 10'.

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

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

### Floors

Carpet tile is preferred for acoustic properties and over access flooring system.

## DOORS AND WINDOWS

Classroom doors shall be minimum STC 30 with 6" x 30" Window Lite preferred for most Classrooms.

Provide locked doors, typical. Key fob access preferred.

Provide viewing windows from the corridor into the Mock Server Room and Data Center, and from the Lab Storage rooms to the Mock Server Room and Data Center.

## MOCK SERVER LAB

### SPACE DESCRIPTION

Adjoining the Computer Labs, Mock Server Lab shall have racks for servers, with adequate circulation and gathering space for groups of students and instructors. Direct access to adjacent Computer Labs is preferred. Windows to the corridor and to the lab storage areas for viewing are preferred.

The Mock Server Lab consists of the primary network equipment (racks, cabinets, shelving and communication equipment on raised flooring) connecting the multiple computer labs.

Adequate independent cooling is required.

Provide backup power.

### ACCESSORIES AND EQUIPMENT

Verify needs with program. Provide IT racks, wall shelves and work tables.

## IT COMPUTER LABS

### SPACE DESCRIPTION

Adjoining the Mock Server Labs, IT Computer labs provide Lecture and Training space for hands-on instruction. Refer to the Information Technology Computer Lab standard.

A typical program includes (3) Computer Labs with the following concentration: **IT Server Lab**, **IT Data Center Lab**, and **IT Infrastructure Lab**. Labs should ideally be in close proximity or must have high-speed back hall to the Mock Server Lab.

### ACCESSORIES AND EQUIPMENT

Verify needs with program. Reference the IT Computer Lab standard.

## LAB STORAGE

### SPACE DESCRIPTION

Adjoining the Mock Server Lab and the IT Computer Labs, Storage rooms provide wall shelving and racks for equipment. This room also serves as an open office for Lab Techs, who are responsible for maintaining the teaching networks. Provide viewing windows into the Mock Server Lab.

### ACCESSORIES AND EQUIPMENT

Verify needs with program. Provide wall shelves, racks, work tables, and (2) U-shaped workstations with power and data.