SURGICAL TECHNOLOGY LAB

SPACE DESCRIPTION

The Surgical Technology Lab is a suite of skills labs, lecture, and support spaces for instruction and clinical training in surgical assisting and practice. Here, students gain the skills and knowledge needed for professional competency in working alongside surgeons and other medical practitioners. The space allows students an opportunity to practice technical and patient care tasks in a setting designed to mimic real surgical environments. The labs require specific training equipment and space planning. A Classroom, (4) Mock Operating Rooms, Control rooms, Debriefing rooms, and various areas of support space comprise the Surgical Technology Suite.

Surgical suites are most successful when planned with Mock ORs in one of two spatial configurations – Concentric or Linear. A detailed space plan of an ideal Concentric layout has been provided. The Linear option is shown in diagram form to illustrate adjacencies, and the same details shall apply. Both layouts shown are illustrative of basic concepts and spatial needs. Specific requirements may be accommodated on a project by project basis, according to each campus' needs.

As all programs in the Healthcare field quickly evolve and advance with technology, so too, must the space they occupy. The Lab shall be planned with flexibility in mind.

SPACE ACCREDITATION

Surgical Technology Labs must follow the Accreditation Review Council on Education on Surgical Technology and Surgical Assisting (ARCSTSA) and the Best Practice Guide for Surgical Technology.

SUCCESS FACTORS

Experiential: Students in the Surgical Technology program are learning to support healthcare practitioners and provide services to real patients. They require all the necessary spaces, resources, and equipment to experience and simulate real-life situations.

Sterile zones: In order to avoid contamination in a surgical setting, it is crucial to maintain Sterile and Sub-Sterile environments with segregation of clean and dirty supplies and equipment. Separate zones for these spaces shall be carefully planned to simulate the movement of supplies in a real-life surgical suite.

Recording capabilities: It is crucial to provide cameras for recording and playback for video-assisted debriefings.

Support space: Ample space is needed for processing and storing supplies and equipment.

GENERAL

All perimeter walls shall be full height to deck.

ADJACENCIES

Space is required for the following: **(4) Mock Operating Rooms, Surg Tech Classroom, Control rooms, (2) Debriefing Rooms, Locker Room, Semi-Restricted/ Scrub Corridor, Sub-Sterile, Sterile Core, Sterile Processing, and Storage.**

Ideally, Surgical Technology Labs adjoin other programs in the healthcare sciences for efficiency in shared spaces and cross-training between programs. Surgical Technology Labs shall be located within close proximity to faculty offices.

ACOUSTICS

Acoustic ratings for Surgical Technology Lab 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.

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

MECHANICAL

Additional ventilation may be required based on the materials used during lab times.

Window or room unit systems are not acceptable in Surgical Technology Labs due to poor acoustic performance.

Verify specific needs on a project-by-project basis while planning for flexibility in the future. Provide the following, at minimum:

- Provide scrub sinks with knee operators or sensors.
- Provide 3-compartment utility sink with foot pedal or sensors.
- Provide clinic sink with flush valve and sprayer.
- Provide autoclaves.
- Provide air and suction in ORs.

ELECTRICAL & DATA

Verify equipment specifications and utility requirements prior to design.

Provide power and data for student laptops and devices.

Provide power and data for surgical equipment including anesthesiology machines, da Vinci robots, microscopes, laparoscopic towers and monitors.

Provide program specific power and data in the Mock OR's, Corridors, Control Room, Storage, and Sterile Process that simulate a typical surgical suite in a hospital or clinic.

Provide power and data for recording devices for video-assisted debriefing system.

In the Classroom, place wall outlets at no more than 6’ intervals or as necessary to allow for 30% coverage. When laptops are a requirement for learning, special consideration is necessary. Coordinate with data requirements.

- Provide power and data for standard Learn Anywhere technology package:
    - 2 (+/-) 75” touchscreen TVs on the front teaching wall
    - 1 (+/-) 75” smart TV and camera on the rear wall for virtual classes
    - Instructor station with PC
    - Audio/ sound system to include instructor microphone, soundbars and wireless connection to student headsets as needed.
- ALTERNATE: Provide power and data in ceiling for 2 projectors at the front wall, in lieu of touchscreen TVs.

Provide power and data at 6’ intervals along perimeter walls at locations which may be used for desktop computer workstations and/or lab equipment.

LIGHTING

- Provide ceiling mounted OR lights on booms. Verify specifications and requirements prior to design.
- 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 shall be switched separately with three preset dimmable levels: low, medium, high. Provide a dimmer switch at the Instructors Station.
- Provide low-brightness luminaires with high visual comfort probability (VCP) in all viewing directions. Average 40fc at 30” A.F.F. Min CRI 80.
- Provide program specific lighting and controls in the Mock OR’s, Corridors, Control Room, Storage, and Sterile Process that simulate a typical surgical suite in a hospital or clinic.
- Lighting watts per square foot and controls shall meet the latest requirements of ASHRE 90.1

TECHNOLOGY

- Provide Wireless capability throughout Surgical Technology Labs.
- Coordinate A/V system with camera for recording and playback in video-assisted debriefing system.
- Provide data outlets at same interval as power.
- Provide telephone service.
- Coordinate equipment for Instructor’s Station and Ivy Tech standard classroom audio/ sound system

ACCESSORIES AND EQUIPMENT

Provide equipment as required by accrediting standards.

Verify equipment specifications and utility requirements prior to design. Review equipment at intervals throughout design.

Provide the following equipment:

- Anesthesiology machines

- Microscopes
- Da Vinci surgical robots
- Laparoscopic towers
- Autoclave
- Wall-mounted glove dispensers
- Wall-mounted hand sanitizer dispensers
- Lockable cabinets
- Sharps containers
- Automatic soap dispensers

Classroom equipment needs include:

- On front teaching wall, provide 16’ wide projectable whiteboard with marker tray. Whiteboard shall be matte white, low-glare, 4.0 gain; and must support 16:9 projection dimensions.
- On side walls, provide 8’-0” tack strip mounted 72” A.F.F. and 8’-wide white board with marker tray. Rolling whiteboards may also be used.

FURNITURE

Furniture shall be selected for flexibility and mobility. Provide the following standard furnishings for Medical Assisting Labs:

- Operating Room Tables
- Instrument tables and mayo stands
- Stainless steel storage cabinets
- Tables and chairs on casters for flexibility and mobility, coordinating caster type with flooring material.
- Workstations shall have integral power and data connections.
- Wall and base cabinets with locks. Glass-door cabinets in prep rooms.
- Open shelving.

FINISHES

Ceilings

Provide above-ceiling universal structural grid for ceiling-mounted fixtures such as OR light booms. Verify equipment specifications and requirements prior to design.

Recommended Height: 9’-6” min, 10’ preferred.

Provide washable acoustical ceiling tile.

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

Floors

Hard surface, no-wax flooring is required.

Countertops

Epoxy resin and stainless steel countertops

DOORS AND WINDOWS

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

Provide half-lite swinging doors for access to Operating Room.

Provide locked entry door. Key fob access preferred.

Provide large viewing window or operable wall between Classroom and Operating Room for observation.

MOCK OPERATING ROOM

SPACE DESCRIPTION

Mock Operating Rooms provide realistic space for technical and clinical skills training. This space shall mimic a real-life operating room with equipment and supplies that would be available in a hospital setting. Coordinate A/V system with cameras for recording and playback in video-assisted debriefing system.

ACCESSORIES AND EQUIPMENT

Provide infrastructure for the following:

- A/V for Video-assisted debriefing system
- Operating Room Tables
- Ceiling-mounted OR lights
- Anesthesiology machines
- Air and suction (ceiling supply, preferred)
- Microscopes
- Da Vinci surgical robots
- Laparoscopic towers (ceiling mounted)
- Viewing monitors (wall-mounted)
- Instrument tables and mayo stands
- Stainless steel storage cabinets

SURGICAL TECHNOLOGY CLASSROOM

SPACE DESCRIPTION

The Surgical Technology Classroom provides a dedicated lecture space for the surgical suite. On one wall, a large window or operable wall shall provide an unobstructed view to the Operating Room.

See General Classroom Standard for basic requirements.

ACCESSORIES AND EQUIPMENT

Provide the following:

- Wall and base cabinets with counter
- Wall shelving

CONTROL ROOM

SPACE DESCRIPTION

The Control Room is a small space adjoining the Mock OR, designed for physical observation and recording of the space. Provide a viewing window between Control Room and Mock OR. A counter with workstation shall be provided with power and data connections. Coordinate power and data for connections to video-assisted debriefing system and OR mannequins.

ACCESSORIES AND EQUIPMENT

Provide the following:

- A/V for recording and playback in video-assisted debriefing system.
- Task lighting
- Telephone

DEBRIEFING ROOM

Within close proximity to the Surgical Technology Suite, the Debriefing Room provides a location for instructors and students to review their performance in the Mock OR. Provide connections to the video-assisted debriefing system.

See Conference Room standard for basic requirements.

ACCESSORIES AND EQUIPMENT

Provide the following:

- Conference table with seating for 4-6 people
- Power and IT for video conferencing
- TV screen, camera and soundbar
- Whiteboard with marker tray

LOCKER ROOM

SPACE DESCRIPTION

Adjoining the Classroom, the Locker Room provides a secure location for student personal effects and miscellaneous supplies. It also serves as a transition space between lecture and skills lab, where students may prepare themselves before entering the training area.

Provide the following:

- 2-tier student lockers. Verify requirements with the program
- Open-shelf upper wall cabinets

SEMI-RESTRICTED/ SCRUB CORRIDOR

SPACE DESCRIPTION

The Semi-Restricted/ Scrub Corridor provides access to the Mock Operating Rooms. Here, students prepare themselves for entering the Operating Room.

Provide the following:

- Scrub sinks. (2) sinks per Operating Room

SUB-STERILE

SPACE DESCRIPTION

Directly adjacent to the Mock ORs, a Sub-Sterile Room provides an easily accessible location for processing and storage of medications, equipment, and supplies.

Provide the following:

- Wall and Base cabinets with stainless steel countertop
- Lockable cabinets for sensitive materials
- Utility sink with foot pedal or sensors

STERILE CORE

SPACE DESCRIPTION

Directly adjacent to the Mock ORs, the Sterile Core provides a location for the distribution and storage of sterile equipment and supplies.

Provide the following:

- Storage racks, rolling and stationary

STERILE PROCESSING

SPACE DESCRIPTION

The Sterile Processing Room handles all tools, equipment and supplies that have been used in the Mock OR and sterilizes them in preparation for reuse.

Provide the following:

- Autoclaves
- 3-compartment utility sink
- Clinic sink with flush valve and sprayer
- Storage racks, rolling and stationary

STORAGE

SPACE DESCRIPTION

Adjoining the Medical Assisting Lab, the Storage Room provides a secure location for the storage of medications, equipment, and supplies.

Provide lockset door hardware.

Provide the following:

- Base cabinet and countertop workstation with power and data

- Open-shelf upper wall cabinets
- Lockable cabinet for sensitive materials
- Storage racks