

RADIOLOGY LAB

SPACE DESCRIPTION

The Radiology Lab is a dedicated, combined classroom and skills lab for instruction and clinical training in medical imaging and radiologic technology. Here, students gain the skills and knowledge needed for professional competency in patient care and radiologic technique. The space allows students an opportunity to practice technical and clinical tasks in a setting designed to mimic real-life healthcare facilities. The labs require specific training equipment and space planning. Energized X-ray rooms and a Control room adjoin the Radiology Lab.

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.

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 and reconfiguration in mind.

SPACE ACCREDITATION

Radiology Labs must follow the Joint Review Committee on Education in Radiologic Technology (JRCERT) to comply with accreditation standards.

SUCCESS FACTORS

Combined space: Training is most successful when instructors and students can move back and forth between lecture and skills practice.

Equipment: Students in the Radiologic Technology program are learning to support healthcare practitioners and provide patient care. They require hands-on training with the same technology and equipment that would be found in a clinical setting.

Safety: The hazards of radiation exposure necessitate safety requirements in practice and construction, including lead shielding in walls, ceilings, doors, and windows.

GENERAL

All perimeter walls shall be full height to deck.

In energized areas, walls shall be lead-lined up to 7'-0" A.F.F.

ADJACENCIES

Separate but adjacent space is required for the following: (2) **Energized X-Ray Rooms** and a **Control Room**.

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

ACOUSTICS

Acoustic ratings for Radiology 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

Window or room unit systems are not acceptable in Radiology 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 Power and data for student laptops and devices.
- Provide Power and data for all equipment as required by the program.
- Accommodate any specific cooling needs for the X-Ray equipment.

ELECTRICAL & DATA

220V service is required for energized tubes. Provide dedicated circuits.

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:
 - o 2 (+/-) 75" touchscreen TVs on the front teaching wall
 - o 1 (+/-) 75" smart TV and camera on the rear wall for virtual classes
 - o Instructor station with PC
 - o 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 for student laptops and devices.

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 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 IES-recommended light levels for the X-Ray and Control room along with controls for dimming in these rooms.
- Lighting watts per square foot and controls shall meet the latest requirements of ASHRE 90.1

TECHNOLOGY

- Provide Wireless capability throughout Radiology Labs.
- 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

Equipment requirements and specifications must be verified before design can begin.

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.
- Deenergized X-ray Tube, Table and Chest Bucky in Radiology Lab
- Energized X-ray Tube, Table and Chest Bucky in X-Ray rooms
- Lead Vest Rack

FURNITURE

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

- Tables and chairs on casters for flexibility and mobility, coordinating caster type with flooring material.
- Workstations shall have integral power and data connections.
- Base cabinets with workstations.

FINISHES

Ceilings

Provide shielding in ceilings above energized rooms.

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, 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

Solid surface required for all wet and chemical areas.

DOORS AND WINDOWS

In energized areas: Provide laminated doors with lead-lined core. Provide leaded glass with same rating as walls.

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

Provide locked entry door. Key fob access preferred.

CONTROL ROOM

SPACE DESCRIPTION

The Control Room is a small space adjoining the Radiology Lab and designed to mimic a real-life medical imaging control room. A counter with two workstations shall be provided with power and data connections. Leaded windows shall provide a view into adjacent X-ray rooms.

ACCESSORIES AND EQUIPMENT

Equipment requirements and specifications must be verified before design can begin.

Provide the following in the Control Room:

- Lead Vest Rack
- Task lighting
- Telephone

X-RAY ROOM

SPACE DESCRIPTION

Adjoining the Radiology Lab, X-ray Rooms provide a private space for students to practice radiographic technique, positioning and radiation protection while providing patient care. Energized equipment provides students an opportunity for hands-on experience in technical and clinical tasks.

ACCESSORIES AND EQUIPMENT

Equipment requirements and specifications must be verified before design can begin.

Provide the following:

- Floor-mounted X-ray Tube and table
- Ceiling-mounted X-ray Tube and table. Verify structural requirements.
- Chest Bucky
- Electrical Raceways and Heating and cooling requirements for the specified equipment.