

# MODEL CLASSROOM DESCRIPTIONS AND REQUIREMENTS INDIANA UNIVERSITY, BLOOMINGTON

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## INSTRUCTIONAL AREAS

### DESCRIPTION

Media Equipment Closet  
24 assignable square feet

### DEFINITION

The Media Equipment Closet (MEC) is a small room or closet located near the instructional station in most classrooms. It houses equipment rack(s) of media output, control, and security devices that are operated from a technology control system by the instructor. It is expected that all new construction will include an MEC. In some renovations it may be impossible to construct a closet. In those cases, a freestanding Media Equipment Cabinet must be provided within the classroom. While there will be some variations in the design and capacity of these cabinets, they will, for the most part, be required to provide the same basic functionality that is provided by the Media Equipment Closet. Some adaptations in implementation will be required.

### WEB LINKS

For those who are accessing this material on the Internet, the following links are available:

- [Advanced Technology Classroom \(Type 4\)](#)
- [Video Origination Addendum](#)
- [Projection Booth, Large](#)
- [Projection Booth, Small](#)
- [IU Building Design Standards](#)
- [IU Electrical Standards](#)
- [IU Mechanical Design Standards](#)
- [Building Telecommunications Design Guidelines](#)
- Notes Regarding Classroom Technology, Renovation, and Construction

## SPECIAL ROOM REQUIREMENTS

### IU Design Standards

#### Architectural

- Dimensions of the closet are 4' w x 6' d x 8' h (minimum)
- Install lockable door (30" w x 7' h)
- Design closet so that equipment is serviceable from the back without compromising security of equipment.

### IU Engineering Standards

#### Mechanical

- Extend HVAC to Media Equipment Closet with independent temperature control or thermostatically controlled exhaust fan
- Introduce supply air low and remove exhaust air high in MEC
- Provide cooling for current equipment array and allow for expansion of cooling required to double current output

#### Electrical

##### Conduit Requirements

The following installation of junction boxes and conduit will provide the connectivity among equipment items and locations described in the Advanced Technology Classroom (Type IV) program.

- Install 24" x 24" x 8" junction box in Media Equipment Closet or Cabinet. Install these conduit requirements with labeled pull strings in each conduit:
  - ¾" from junction box to roll-up door controller
  - ¾" conduit from roll-up door controller to local manual control (key switch for door)
  - ¾" from junction box to screen controller, if motorized screen is used
  - ¾" from junction box to shade controller, if motorized shades are used
  - (2) 1 ½" from junction box to Projection Booth, landed in a series of (3) 3 gang junction boxes mounted vertically on the wall of the booth above the projection shelf. Connect second 3 gang box to first with (2) 1 ½" conduits, connect third 3 gang box to second with (1) 1 ½" conduit. Depending on individual circumstances, 3 gang boxes may be mounted horizontally.
  - ¾" from junction box to Projection Booth, if provided, landed in a separate single gang box for slide projector and AMX controls (optional)
  - ¾" from junction box to Projection Booth, if provided, for lighting control scene controller, if present
  - ¾" from junction box to program speakers
  - ¾" from junction box to master volume control box
  - (2) 2" from junction box to Media Connectivity Outlet Interface Box (IUPUI optional)
  - 2" from junction box to each projector
  - ¾" from junction box to microphone inputs
  - ¾" from junction box to architectural dimming system equipment in Electrical Equipment Closet (not the Media Equipment Closet)

- 1" from junction box to low-voltage control panel in building Electrical Equipment Closet (not the Media Equipment Closet) (optional)
- 1 ½" from each camera position to the Media Equipment Closet
- ¾" for IR Crestron control from junction box to ceiling side wall (optional)
- Install separate junction box in Media Equipment Closet for audio wiring. Install these conduit requirements with labeled pull strings in each conduit:
  - 1" from this junction box to a separate junction box in Projection Booth, if provided, for speaker wires, landing in a 3 gang box on wall of projection booth. Conduit size to be reviewed for zoned system voice reinforcement.
  - ¾" from this junction box to ceiling of front wall for hearing assistance IR device (e.g., Gentner TX37) (optional)
  - Shop drawings for audio system must include speaker layout, conduit routing, and wire fill and be reviewed by the technology specialists.

### Power Requirements

- Provide 20 Amp dedicated circuit on same phase for each equipment rack
- Provide power strips in each equipment rack with adequate number of duplex receptacles (minimum 16) to handle all equipment in rack(s); power strips should have 4" between each duplex receptacle
- Dedicated surge protector for each rack
- Provide separate 120 Volt circuit for security, located next to security box (IUB required)

### Lighting Requirements

- Provide general room light on independent switch, 50 foot candles minimum
- Master programming controller for architectural dimming system may be located in Media Equipment Closet only if it is separate from the dimming control panel. If the master programming controller and the dimming panel are integrated, the unit shall not be located in the Media Equipment Closet but in the Electrical Equipment Closet or some other isolated location near the classroom
- Contact closure or serial (RS-232) type audio visual interface for communication with technology controller

### Telecommunications

- Install pathway according to IU Telecommunications Standard and campus specific addendums to bring voice, data, video coax, and fiber from source outside room (IDF closet) to a standard communications outlet in the Media Closet per equipment rack
- Install pathway according to IU Telecommunications Standard to bring a security jack to the security box in the Media Equipment Closet (IUB)
- Install pathway according to IU Telecommunications Standard to bring fiber to the fire protection system in buildings where the fire protection system has been upgraded; otherwise bring a standard communication outlet (phone) to the Media Equipment Closet (IUPUI Security)

### Equipment Requirements

Following is a representative, generic list of classroom technology items; specific selections shall be in consultation with users and the university technology team.

- VHS VCR
- Phone
- Tuner/Demodulator
- UPS (sufficient to accommodate computing equipment for 30 minutes)
- Laser disc/DVD
- Audio Cassette
- Audio CD
- PC (optional)
- Unix or other high end workstations (optional)
- MAC (optional)
- External inputs interface

### **LOCATION REQUIREMENTS**

Locate near the instructor station at the front of the room, preferably to allow instructor to see the rack. Locate so that equipment rack(s) are accessible from the rear as well as from the front. Access to the equipment closet from the corridor is highly preferable.