

HIGH SCHOOL
EDUCATIONAL SPECIFICATIONS

COMPONENT

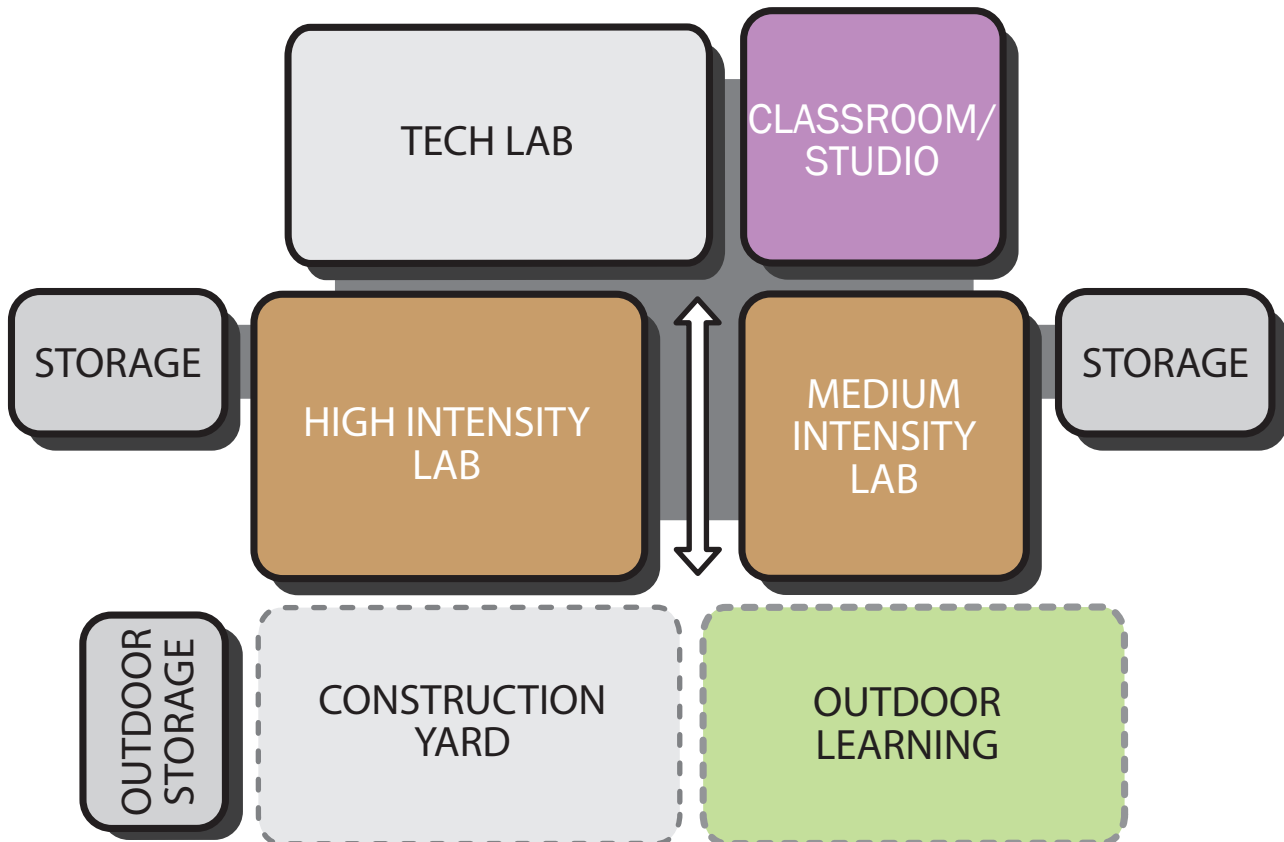
CAREER &
TECHNICAL
EDUCATION (CTE)



DESCRIPTION/GOALS

- The Career & Technical Education (CTE) Component provides opportunities for students interested both in hands-on training in technical career paths and supplemental educational activities. CTE spaces also provide support to extracurricular student group activities.
- Industry-standard equipment or equivalent
- Possible industry partnerships
- Safety

MENU OF SPACES



ROOM TYPE:

TECH LAB

SIZE: 1500 sf

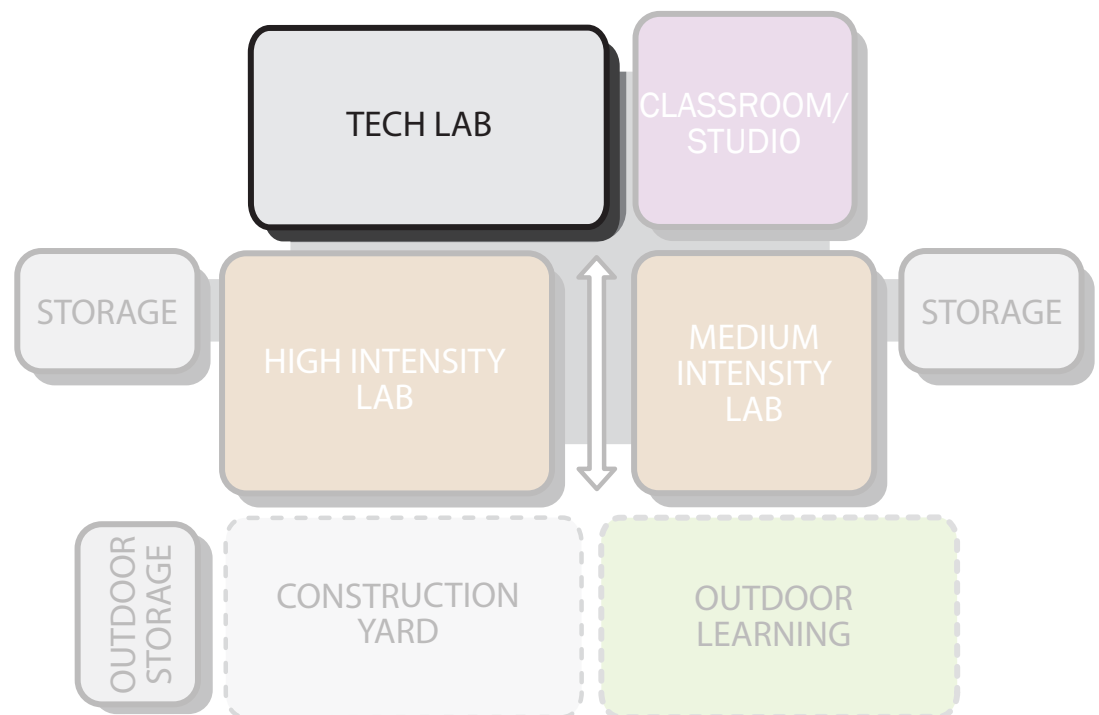
OCCUPANTS: Varies

ACTIVITIES AND USES

The Tech Lab provides space to support both collaborative and individual small and large group learning activities focused on potential industrial arts and engineering technology activities (e.g. robotics, pneumatics, aerodynamics, flight simulation, computer-aided drafting and manufacturing, electronics, etc.) in addition to supporting various instructor-lead group tutoring, peer tutoring, and student testing opportunities. It is larger but similar to a general education classroom with emphasis on computer usage and connectivity.

SUPPORT SPACES

- None



SPECIAL CONSIDERATIONS

- Ceiling material: acoustic ceiling tile
- Ceiling height: 10'-0" min.
- One wall tackable surface
- Floor material: vinyl composite tile
- Acoustics: per ANSI/ASA S12.60-2010/ Part 1 "American National Standard Acoustical Performance Criteria, Design Requirements and Guidelines for Schools,"
 - Part 1: Permanent Schools
- Min. 45 STC rating between lab and adjacent instructional spaces

DOORS / WINDOWS

- Door with view panel
- Energy efficient windows with blinds
- Skylights acceptable
- Large windows to exterior - natural light desirable

FURNITURE / EQUIPMENT/ MILLWORK

- (1) Mobile instructor workstation
- (36) Flexible student workstations with chairs
- (1) 80" TV monitor display
- Technology console
- Base cabinetry with adjustable storage shelves and locking doors
- Wall cabinets with adjustable storage shelves and locking doors
- Tall storage with adjustable storage shelves and locking doors
- Markerboard: (2) 4' x 12' or marker wall
- Tackboard: (2) 4' x 4'
- Clock

BUILDING SYSTEM REQUIREMENTS

MECHANICAL

- Independent temperature control of area within flexible range set by district's EMS system
- Room temperature sensor connected to campus EMS
- Fire alarm/suppression as required
- Room exhaust for soldering

PLUMBING

- Sink with hot and cold water

ELECTRICAL / LIGHTING

- Outlets for general room and workstation use
- Clean, segregated power distribution with surge suppression
- Flexible overhead electrical service for drop-down connectivity
- Lighting: per IES Lighting Handbook guidelines
- Ability to dim room in response to video projection

TECHNOLOGY

- Telephone / intercom handset, VoIP
- Intercom speaker with outlet
- Hardwired video outlet to permit taping of in-room activities, transmitting to on-campus locations, and receiving video transmission from on-campus distribution system at TV monitor display
- Local area network connectivity
- Wireless access capable for most computer communications/applications

ROOM TYPE:

MEDIUM INTENSITY LAB

SIZE: 1000 - 1500 sf

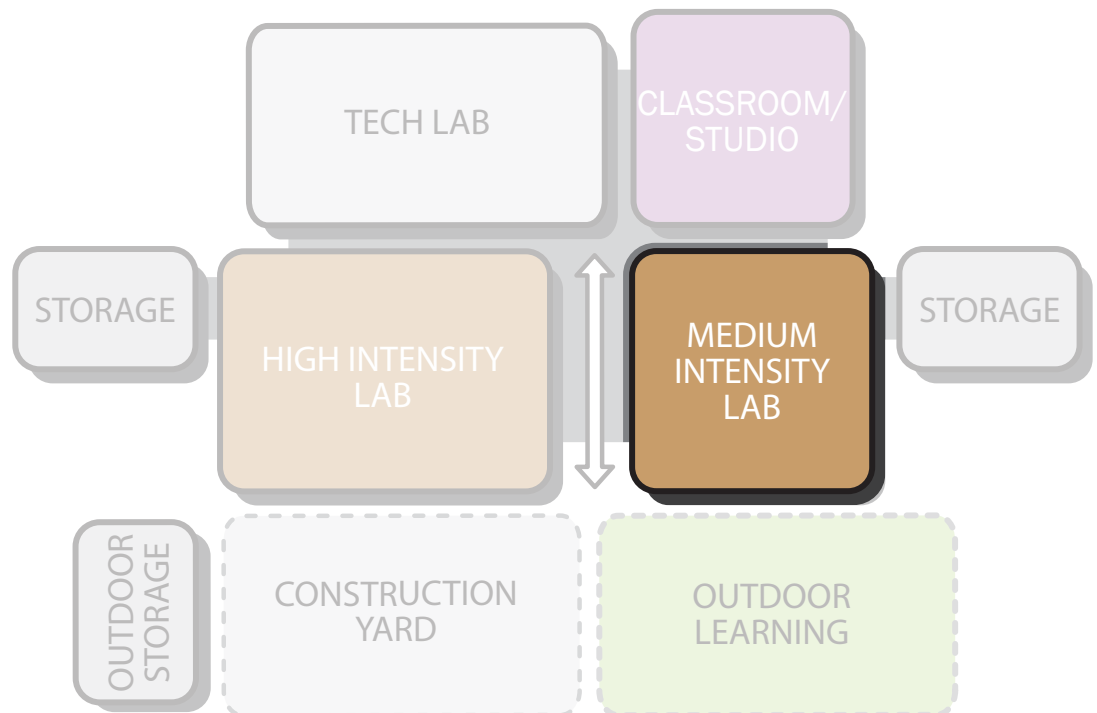
OCCUPANTS: 20-28

ACTIVITIES AND USES

This lab is similar in intensity to a science lab or maker space with durable surfaces, ample electricity, potentially higher needs ventilation/exhaust, connection to exterior works areas, but typical classroom volume. Each lab is customized to meet the intended program and related equipment needs.

SUPPORT SPACES

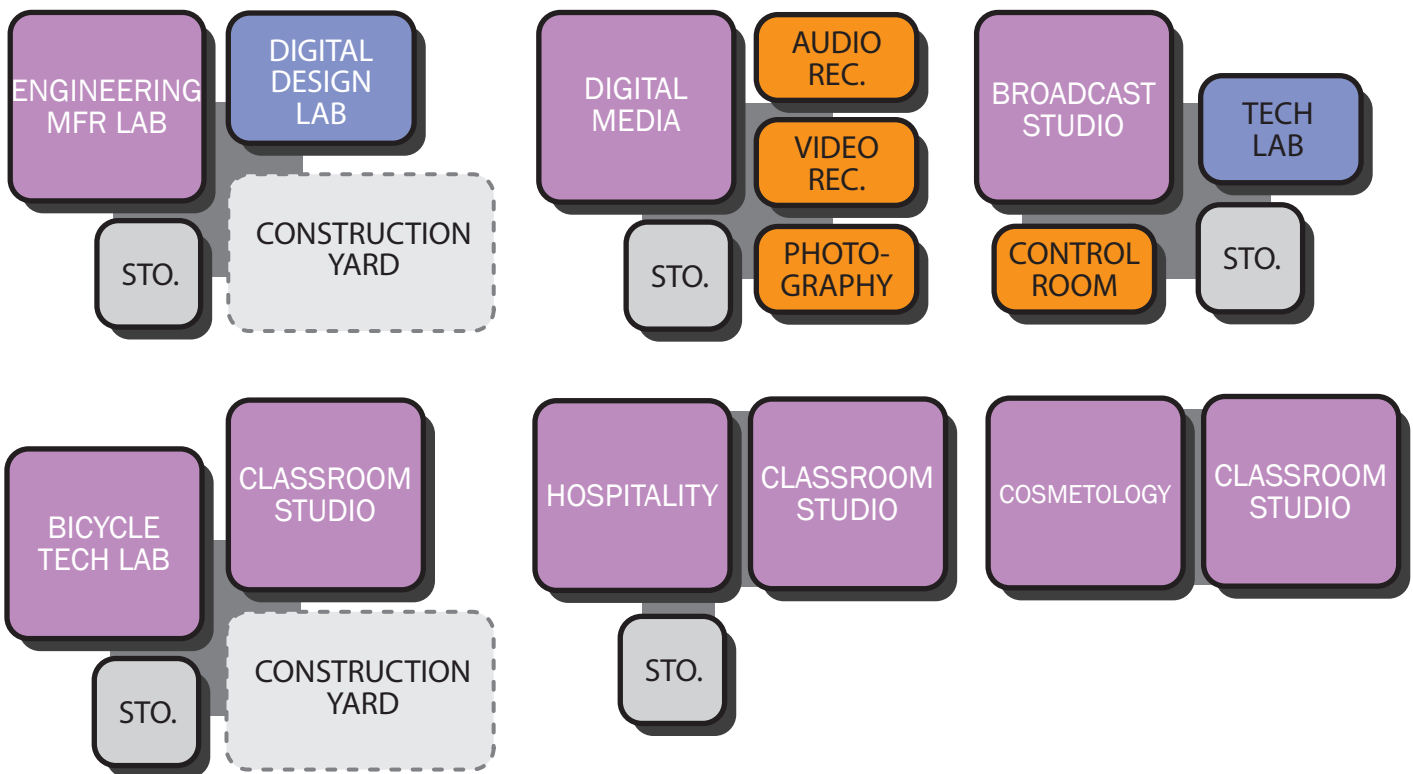
- Storage
- Construction Yard
- Outdoor Learning



SPECIAL CONSIDERATIONS

- Sample programs: ENGINEERING, DIGITAL MEDIA, BROADCAST MEDIA, BYCICLE TECH, COSMETOLOGY, HOSPITALITY
- Ceiling materials: acoustic cealign tile or open to structure as needed
- Ceiling height: 10'-0" min
- Wall finishes: durable and program dependent
- Possible high-acoustic separation needs depending on either loud nature of equipment or need for room recording.
- Lighting needs may vary from bright shop-like fixtures to controllable studio lighting
- Ample electrical and digital network support ranging from computer lab like connectedness to increased service to run CNC machinery.
- HVAC to support functions from manufacturing to heavy lighting and higher interior heat loads.
- Plumbing to range from typical classroom needs to special equipment hook-ups.
- Furniture ranging from computer desk stations and chairs to large work tables and amble storage units.
- Possible connection to smaller function specific rooms i.e. audio/video recording/isolation, control rooms, etc.

SAMPLE SPATIAL DIAGRAMS



ROOM TYPE:

HIGH INTENSITY LAB

SIZE: 1500 - 2000 sf

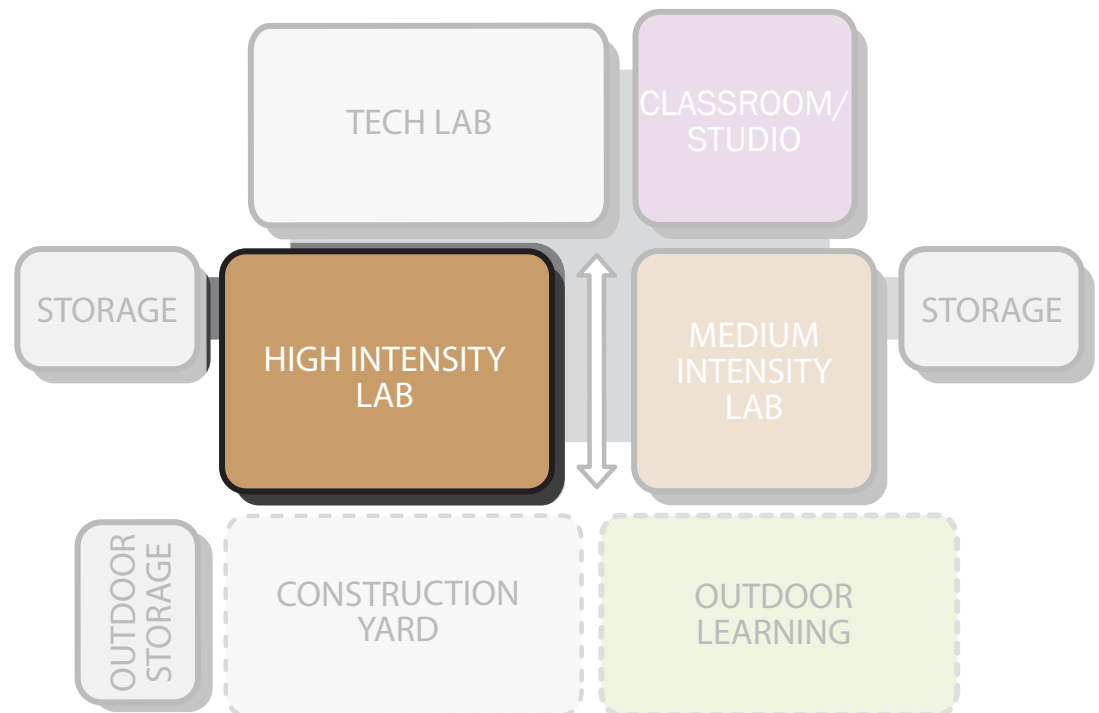
OCCUPANTS: 20 - 28

ACTIVITIES AND USES

This lab is a high-volume space outfitted with specialized, large equipment. It requires durable surfaces, ample electricity, potentially extensive plumbing, industrial ventilation systems, and large connection to exterior works areas. Each lab is customized to meet the intended program and related equipment needs.

SUPPORT SPACES

- Construction Yard
- Storage
- Classroom / Studio



SPECIAL CONSIDERATIONS

- Sample programs: AUTOMOTIVE/TRANSPORTATION, BUILDING \$ CONSTRUCTION
- Ceiling materials: Open to structure as needed
- Ceiling height: 12'-0" min
- Wall finishes: durable/high-impact GWB or block wall
- High-acoustic or physical building separation
- Lighting needs; bright day-light and shop lighting
- Ample high-needs and upgraded electrical service
- HVAC to support manufacturing functions; dust control w/ fire suppression for both metal & wood work labs
- Plumbing for industrial/commercial soiled parts cleaning and washing
- Furniture: general teacher station & office set
- Equipment

SAMPLE SPATIAL DIAGRAMS

ROOM TYPE:

CLASSROOM / STUDIO

SIZE: 960 sf

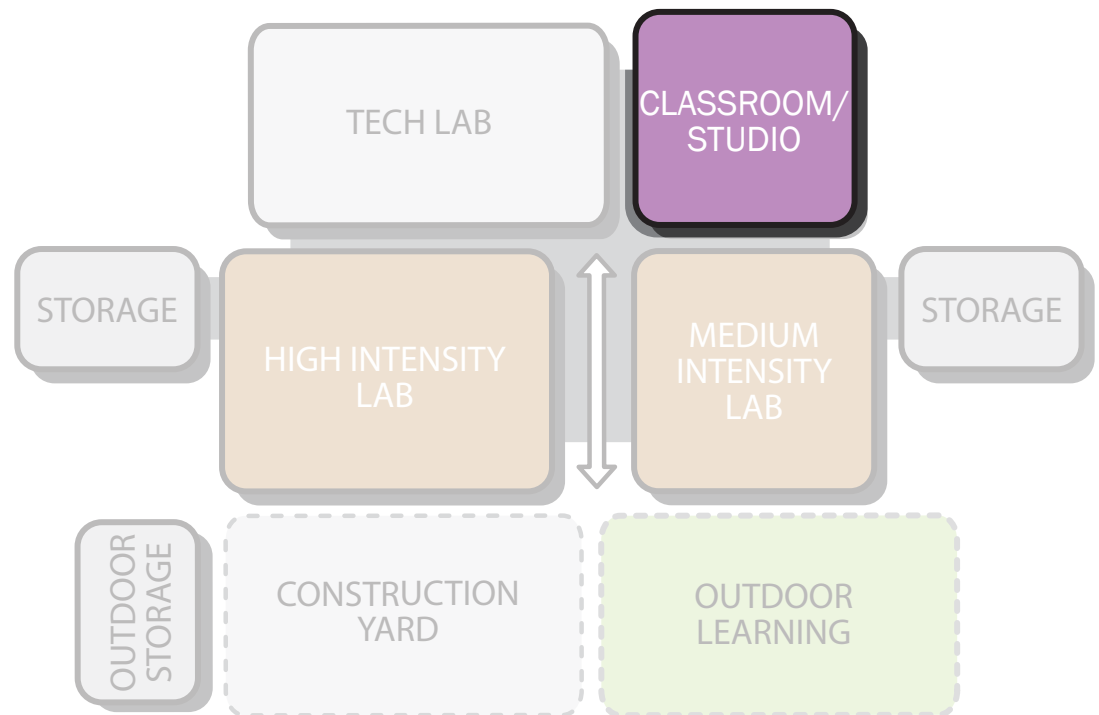
OCCUPANTS: 1 instructor, 29 students

ACTIVITIES AND USES

The learning studio provides flexible classroom space for whole and small group lecture/discussion, individual, cooperative, and collaborative teaching and learning activities, instructor group tutoring, peer tutoring, and student testing. Adaptable for multiple uses, multiple modes of learning including seminar, small group work, project/build work and independent work, abundant infrastructure and the greatest flexibility of space.

SUPPORT SPACES

- None



SPECIAL CONSIDERATIONS

- Ceiling material: acoustic ceiling tile
- Ceiling height: 9'-0" min.
- Wall material: painted gypsum board or concrete block
- Floor material: vinyl composition tile or carpet tile
- Acoustics: per ANSI/ASA S12.60-2010/ Part 1 "American National Standard Acoustical Performance Criteria, Design Requirements and Guidelines for Schools,"

- Part 1: Permanent Schools
- Capability of opening (2) adjacent classrooms (per team) to each other via operable partition(s) to accommodate large group/team meeting configuration
- Flexible/mobile furniture

DOORS / WINDOWS

- Natural light desirable
- Sidelight at door
- Window coverings providing the ability to darken space
- Skylights acceptable
- Keyless electronic lock access
- Ability to lock down door

FURNITURE / EQUIPMENT/ MILLWORK

- (1) instructor workstation
- (30) student workstations and/or (4-6) desktop computer workstations
- (1) 80" TV monitor display
- (1) 50"-55" TV monitor display
- (2) TV monitor wall-mount brackets
- Digital document camera (Elmo) and/or interactive/"smart" board
- Clock

- (2) 4' x 12' markerboards or marker wall
- (4) 4' x 6' tackboards
- Base cabinets with counter work surface, adjustable shelving and hinged doors and drawers, countertop sink, and locks (verify locations)
- Wall cabinets with adjustable shelving and hinged doors above base cabinets, locks (verify locations)
- Tall storage cabinets with adjustable shelving and hinged doors, locks (verify locations), sufficient space for storage of digital document camera

BUILDING SYSTEM REQUIREMENTS

MECHANICAL

- Independent temperature control of room within flexible range set by district's EMS system
- Room temperature sensor connected to campus EMS
- Fire alarm/suppression as required

PLUMBING

- Counter sink with drinking fountain bubbler

ELECTRICAL / LIGHTING

- Outlets for general room, instructor workstation, digital document camera, laptop computer charging and student computer workstations, TV monitor display locations
- Clean, segregated power distribution with surge suppression
- Glare reducing lenses
- Independently controlled banks of adjustable lightingLighting: per IES Lighting Handbook guidelines

TECHNOLOGY

- Telephone/intercom handset, VoIP
- Hardwired outlet to receive transmission from on-campus distribution system at TV monitor display and three additional hardwired drops for Apple TV and Mac Mini
- Wireless access capable for most computer communications/applications
- Apple TV available for various network devices to connect to TV monitor display via iPad, Mac and Windows mirroring

ROOM TYPE:

CONSTRUCTION YARD

SIZE: 2000 sf

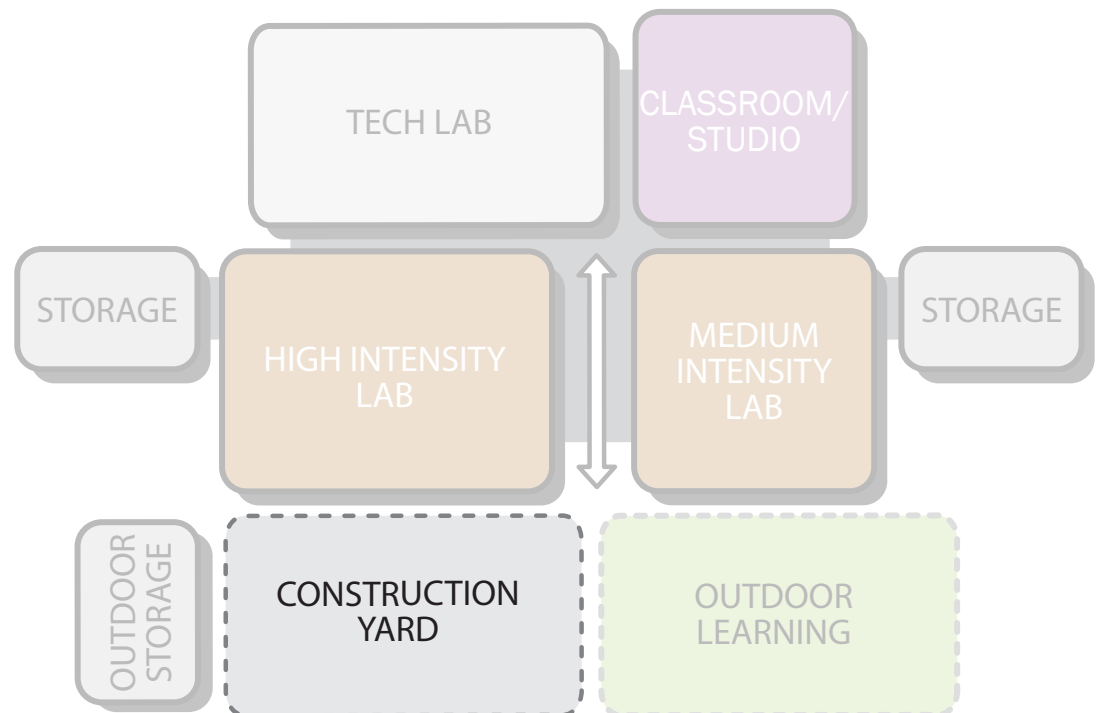
OCCUPANTS: Varies

ACTIVITIES AND USES

The Construction Yard supports the Tech Lab and both High and Medium Intensity Labs providing large, covered construction space for oversized projects, and program specific equipment. The yard is enclosed by a security gate and has access for delivery trucks for moving equipment on and off site and provides space for exterior material storage racking.

SUPPORT SPACES

- Outdoor storage (fenced & covered)
- Possible other adjacencies: kiln room, print room, barns, gear shed, green house, farm equipment storage, varies



SPECIAL CONSIDERATIONS

- High volume covered area
- Area open to sky
- Asphalt ground surface w/ area drains
- Driveway access
- Access to fields

DOORS / WINDOWS

- Security gate w/ emergency man door
- Maximum natural light desirable
- Lockable open-air storage area

FURNITURE / EQUIPMENT/ MILLWORK

- Exterior grade metal material storage racks

BUILDING SYSTEM REQUIREMENTS

MECHANICAL

- N/A

PLUMBING

- Exterior hose bibs

ELECTRICAL / LIGHTING

- Exterior outlets for general equipment use
- Overhead lighting at covered work area: per IES Lighting Handbook guidelines

TECHNOLOGY

- Wireless access capable for most computer communications/applications