Education Facilities Specifications

Middle School
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FOREWORD

It is with great pleasure that the DoDEA Education Facilities Specifications are presented for your records and use. This is an update to Version 2.0 of July 2007. These specifications will help this agency address our facility and classroom needs in all areas in the early part of the 21st Century.

The reader needs to be aware that the concept layouts provided in these specifications are just that, concepts. While the size (net square footage) and allocation of a functional area, in some cases, is fixed, the layout of a room is still open for design alterations. Architects/Engineer firms, and school administrators still have the flexibility and creativity to arrange a functional area within, to best fit a situation.

As our educational and technology processes evolve, so will the facilities specifications. A periodic review will be coordinated to coincide with curriculum updates to ensure that facility requirements keep up with new standards.
ACKNOWLEDGEMENTS

Attempting to combine the various cultural, environmental and educational factors that DoDEA must consider and implement in our education facilities is a monumental task. The development of these education facilities specifications was a collaborative effort and would not have been possible without the responses and support of the following: the DoDEA Education Coordinators, DoDEA Information Technology Operations Branch, DoDEA Safety and Security, DoDDS-Pacific Logistics Division, Facilities Branch, DoDDS-Europe Logistics Division, Facilities Branch, and DDESS Service Center Logistics Division, Facilities Branch.

The consolidation of this information and development of the first edition was authored by Hayes Large Architects, LLP. The Web Program development and electronic presentation was performed by PBS&J, Alexandria Office. The first and second revisions were conducted by Facilities Branch in July and October 2007.

To each of the individuals within the identified organizations who contributed to these Education Facilities Specifications, a sincere Thank You for your participation and commentary.

Facilities Branch
DoDEA Logistics Division

Middle School Specifications  Ver. 2.1 Oct 07
Education Facilities Specifications

Administrative Office Suite
Functional Area Descriptions

The administrative office area provides space for the school’s administrative functions. Locate this suite at the main school entrance to give staff visibility of visitors and the bus loading area. Locate toilets nearby. Put noisy equipment such as the copy machine in a separate area. Keep the entrance to this suite separate from the guidance counseling center.

1 WAITING AREA
Place the waiting area where visitors and students can access it easily. The use of two doors from this area, one from the entry vestibule and one from the lobby, can create a passive security layer to the facility. This arrangement forces visitors to pass through the office during the off-peak times when students are not arriving or leaving. Separate the waiting area from the reception/central work area with a counter.

2 RECEPTION/SECRETARY
The reception/central work area houses clerical staff, intercom system, clock and bell system, public address system, and telephone switchboard. Place the reception/central work area adjacent to the storage/copy room. The secretary should also see security monitors. Locate the secretary/clerk that supports the principal and assistant principal in this area.

3 WORK/COPY ROOM
The storage/copy room contains counter areas with a sink, reproduction equipment, and storage cabinets and shelves. Separate from the main work area in a manner that contains the noise and clutter associated with this space.
4 CONFERENCE ROOM
Furnish to accommodate meetings of up to 10 people. Visitors as well as the principal should be able to access this room easily.

5 PRINCIPAL'S OFFICE
The principal's office should directly access the central work area. The office windows should command views of the main entrance and bus loading area. Furnish this office to accommodate small conferences. Include a second way out of the suite for the principal.

6 ASSISTANT PRINCIPAL'S OFFICE
The assistant principal's office should access the confidential student records area. The office should include space for up to 3 people to meet with the assistant principal. Provide one office for each assistant principal assigned to the school.

7 STUDENT RECORDS ROOM
Provide a separate, secure, fire resistant area for storage of confidential records.

Planning Requirements
NSF:

<table>
<thead>
<tr>
<th>Area</th>
<th>Size</th>
<th>(Unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting Area</td>
<td>200 sf</td>
<td>(19 m²)</td>
</tr>
<tr>
<td>Reception/Secretary</td>
<td>300 sf</td>
<td>(28 m²) (+150 sf (14 m²) per assigned position &gt; 2)</td>
</tr>
<tr>
<td>Work/Copy Room</td>
<td>100 sf</td>
<td>(9 m²)</td>
</tr>
<tr>
<td>Conference Room</td>
<td>200 sf</td>
<td>(19 m²)</td>
</tr>
<tr>
<td>Principal's Office</td>
<td>200 sf</td>
<td>(19 m²)</td>
</tr>
<tr>
<td>Assistant Principal's Office</td>
<td>175 sf</td>
<td>(16 m²) (per assigned assistant principal)</td>
</tr>
<tr>
<td>Student Records Room</td>
<td>75 sf</td>
<td>(7 m²)</td>
</tr>
</tbody>
</table>
Typical Features:

Built-In Furnishings

- Counter for fax machine, laminators etc. in workroom
- Waiting room counter. Provide at age appropriate height
- Storage cabinets in copy room
- Sink (as required in work room)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, carpet, ceramic tile or other locally available low maintenance surface.
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: plaster, reinforced concrete or drywall (min. STC 55)

Loose Furnishings

- Desks and chairs
- File cabinets
- Shelving
- Guest chairs
- Small conference table (principal)
- Large conference table

Equipment

- Tack board (waiting)
- Marker board (all offices, waiting)
- Wall or ceiling suspended television monitor (optional in waiting)
- Refrigerator (work\copy room)
- Coffee pot (work\copy room)
- Microwave (work\copy room)
- Copy machine
- Window shades or blinds

HVAC

- Fresh air supply
- Independent temperature control
- Emergency shut off for all HVAC equipment

Electrical

- Fluorescent lighting (500 lux min.) (200 lux at storage and records)
- One duplex electric outlet at each computer location
- Outlet in ceiling for future video projector (conference room)
- General purpose electric outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Controls for PA, intercom, clock and bell systems
- PA / Intercom system
- Clock system
- Phone
- Two data connections to local area network for each computer location; provide one location in conference room.
- Cable television with COAX and LAN connection (optional)
- Monitor for security system
- LAN connection in ceiling for future video projector (conference room)
- Personal Emergency Alerting Station (PEAS)

Plumbing

- Double bowl sink

Other

- Pass thru window (as required)
Conceptual Plan

![Conceptual Plan Diagram]

Functional Area Descriptions

The Alcohol and Substance Abuse Counselor (ASAC) room provides space for counseling students at risk of abuse problems. The room should provide a private, quiet space, away from high student traffic areas, in which a counselor can speak one-on-one with a student. The room should also accommodate small group sessions. Preferably, place in proximity to the main administrative office and guidance office, but most importantly, ensure a discreet entrance into the ASAC room.

1 COUNSELING AREA
Provide a desk, bookshelves, and file storage for the counselor and chairs for both the counselor and student. Choose easily moveable chairs to allow students flexibility in finding the area where they are comfortable in relationship to the counselor.

Planning Requirements

| NSF | Counseling Area | 150 SF | (14 m²) |
Typical features

Built-In Furnishings

- None

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10’-0” (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 50)

Loose Furnishings

- Desks and chair
- File cabinets
- Shelving
- Guest chairs
- Small conference table

Equipment

- Marker board (6’ minimum)
- Tack board (6’ minimum)
- Window shades or blinds

HVAC

- Fresh air supply
- Independent temperature control
Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- Track lighting for displays
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 2 LAN connections at counselor’s desk
- Cable television with COAX and LAN connection
Education Facilities Specifications

Art Room
Conceptual Plan

Functional Area Descriptions

The art program at the middle school level provides a general curriculum that encourages students to express their thoughts and feelings in two and three-dimensional modes. Children explore many fundamental techniques with an emphasis on developing an understanding of self-expression through art. Orient the room with high level windows to the north to allow natural lighting and permit maximum use of wall space. Provide display cases and tack boards for displaying student work.

1 CENTRAL STUDENT WORK AREA
The general work area provides space for individual and small or large group activities. Space is required for tables and chairs, flat files, and shelves/cabinets. Provide tack boards for displaying artwork on the walls and display cases for pottery or ceramics. Locate this area adjacent to the instructional area and an outdoor patio.

2 INSTRUCTIONAL AREA
Locate at the front of the classroom, adjacent to the storage room and student work area. This area typically contains a demonstration desk, a marker board, and a projection screen.

3 STUDENT CLEAN-UP AREA
The student clean-up area provides space for students to clean themselves and their equipment.
4 KILN ROOM
The room requires space for a kiln, a quench sink, storage, and a small worktable. This is a wet area. Provide an extra wide door for equipment access. Provide interlocked outside supply air and exhaust air fans in the kiln room to prevent conditioned air from the adjacent classroom space from being exhausted.

5 GRAPHIC ARTS
Separate from the dusty activities in the instructional space. This room contains space for six computers, color printers, etc. Provide storage for computer reference materials. A large glass window allows supervision between the computer and instructional rooms.

6 WORKROOM/STORAGE ROOM
The storage area contains shelving for art supplies and equipment. Provide a teacher preparation area and lockable, vented storage cabinet for paints and thinners. This area opens into the classroom.

7 OUTDOOR PATIO AREA (OPTIONAL)
A paved, exterior space located adjacent to the central work area. This area functions as an extension of the central work area so that students can perform art activities outside of the classroom.

Planning Requirements

<table>
<thead>
<tr>
<th>NSF:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Student Work Area</td>
</tr>
<tr>
<td>Instructional Area</td>
</tr>
<tr>
<td>Student Clean-Up Area</td>
</tr>
<tr>
<td>Kiln Room</td>
</tr>
<tr>
<td>(or per manufacturer’s recommendations)</td>
</tr>
<tr>
<td>Graphic Arts</td>
</tr>
<tr>
<td>Workroom/Storage Room</td>
</tr>
</tbody>
</table>
Typical Features

Built-In Furnishings

- Base cabinets w/ counters and wall cabinets for storage of art supplies and materials (Central Work Area and Prep Room)
- Display cases (Central Work Area)
- Damp and dry storage (Kiln Room)
- Tall storage for manuals and software (Graphic Arts)

HVAC

- Fresh air supply
- Independent temperature control
- Kiln vent to exterior
- Interlock supply and return air in kiln room

Electrical

- Fluorescent lighting (500 lux min. at desk height) (300 lux – Kiln, Work room)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for future video projector
- General purpose outlets
- Emergency and exit lighting as required by code
- Kiln

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 10 (LAN) connections for students and 2 at teacher’s desk
- Cable television with COAX and LAN connection
- LAN outlet in ceiling for future video projector

 Plumbing

- Trough sinks (clean up)
- Quench sink (kiln room)
- Solids interceptor

Finishes

- Floor: sealed concrete, sheet rubber flooring, ceramic tile or other locally available, low maintenance, highly durable surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) suspended acoustical tile
- Walls: concrete block, plaster, drywall, reinforced concrete or other locally available, durable material. (min. STC 45)

Loose Furnishings

- Work tables and chairs (Central Work Area)
- Computer tables (Graphic Arts)
- Teacher desk and chair
- File cabinet
- Demo table
- Vented cabinet for paints and thinners

Equipment

- Marker board (8’ minimum)
- Overhead pull down screen
- Tack wall
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)
Education Facilities Specifications

Building Circulation
Building Circulation includes all the elements which enable people (including those with disability restrictions) to circulate through the building. A well designed circulation system should support clear way-finding, allowing users to identify entrances, move easily between floors, and find their final destinations with a minimum of effort. Users should be able to find and use public amenities such as restrooms, phones, and drinking fountains easily. Lockers are required for middle schools and included in the circulation areas as shown. Circulation components are the most viewed and used spaces within a building and require materials with exceptional durability. The overall impression of a building lies largely with the visual character of the circulation components.

1 LOBBIES
Lobbies allow large groups to enter and gather within a building. They serve as focal points that orient users. In addition to the main lobby, additional lobbies should be considered outside any space where large numbers of people gather, including the multipurpose room and gymnasium. Any functional area entered from the lobby gains prominence within a building. These often include the Information Center and Administration spaces.

2 CORRIDORS
Connecting all the spaces together, corridors allow movement through the building. In temperate areas, these may actually be simply covered exterior walkways. Due to code and security issues, avoid dead end corridors. Because the entire building population will often walk the corridors during class changes, avoid layouts that create bottlenecks and excessive cross traffic. The key dimension is the corridor width. Lockers increase the required corridor width.
3 STAIRS
Most importantly, stairs need to satisfy the egress requirements dictated by applicable codes. Place stairs in locations that facilitate both the arrival and dismissal of students as well as class changes. Consider the impact of the stairs on adjacent corridors and lobbies, since they tend to be bottlenecks in the circulation. This can be mitigated by over-sizing the width of these elements. Interior door widths at the top and bottom of stairways that feed into corridors shall be at least the width of the stairway. It is preferable to install the “normally open” type of doors with magnetic releases. Ensure compliance with applicable codes for headroom and railing placement. Avoid open wells which encourage students to drop objects down through them. Provide exterior protection from the weather if the exterior doors will be used as a point of entry.

4 ELEVATORS
The elevators enable those unable to use the stairs to change levels. Custodial staff also will use the elevator to move materials. The elevator should be centrally located. It should not be a prominent part of the design.

5 ENTRANCES/EXITS
Entrances and exits need to satisfy the egress requirements dictated by applicable codes. Entrances need to be coordinated with AT/FP access control guidelines. Door hardware also needs to be coordinated with AT/FP access control guidelines. The use of electronic, lock and/or ID credential systems or combinations thereof, will be based on local area requirements.

6 LOCKERS
Lockers can be either single or double-tiered design. Lockers should have built-in combination lock systems, multi-point latching, with either continuous hinges or full loop hinges welded to the frame and riveted to the door. Locker rows shall have closed bottoms and sloped top finishes for security purposes.
Typical Features

Built-In Furnishings

- N/A

Finishes

- Floor: sheet rubber flooring, vinyl tile, ceramic tile, terrazzo or any other low maintenance highly durable surface
- Base: as appropriate for floor
- Ceiling: gypsum, acoustical ceiling tile
- Walls: concrete block, reinforced concrete, ceramic tile or other locally available, durable material (min. STC 45)

Loose Furnishings

- None

Equipment

- Tack board (corridor and lobbies)
- Display cases
- Lockers

HVAC

- Fresh air supply

Electrical

- Fluorescent lighting (300 lux min.)
- Specialty lighting
- General purpose outlets as required
- Emergency and exit lighting as required by code

Systems

- Bell system
- Public phones
- PA / Intercom system
- Clock
- Security cameras

Plumbing

- Drinking fountain
Education Facilities Specifications

Building Design
Functional Area Descriptions

1 SITE
- Comply with all Anti-Terrorism / Force Protection standards.
- Provide a path from playgrounds and fields to building entries that avoids crossing vehicular traffic.
- Provide a clear path around the building for security and surveillance.
- Consider the hierarchy of entries and use the site to reinforce the function of each. Include access control considerations.
- Locate the service areas to avoid views from major approaches.
- Provide ADA accessibility.

2 EXTERIOR
- Coordinate the design with the local jurisdiction from the beginning of the project. Comply with base and local guidelines.
- Use durable low maintenance materials. These include masonry, concrete and stone.
- Window/Door hardware and glazing shall meet AT/FP design requirements.
- Though the design should have enough variation in form to be interesting and meet local design criteria, avoid creating niches and hidden building areas which create security “blind spots”
- A hierarchy of entrances should allow visitors to easily find their way to the main entry. Additional prominent entries for athletic or arts facilities may make this more difficult. In addition site limitations may require the use of entries other than the main entry for student arrival and dismissal.
- Light all exterior doors.

3 INTERIOR
- Use durable low maintenance materials.
- Comply with all Anti-Terrorism / Force Protection standards, to include access control.
- Create easily supervised and understood circulation paths.
- Place vertical circulation in locations that allow arriving and departing students to quickly move to the appropriate floor without traversing other floors.
- Use variation in ceiling heights to call attention to entries. Use this variation to create a hierarchy that calls more attention to special one of a kind rooms (Information Center) over typical instructional spaces.
- Zone spaces used after hours by the public so that they can be closed off from the remainder of the facility, so that users do not gain run of the entire facility when attending a basketball game or performance. Include restrooms in the segregated area.
- Provide for ADA Accessibility.
4 FACILITY ELEVATIONS
Although project site and Base Master Plans have a major impact on overall building design and its associated elevation, there are several dictates that should be followed:

- Major education facilities should be three (3) floors or lower.
- In particular site constrained situations, a 4 story facility may be considered.
- In no case, will an education facility exceed 4 stories for occupancy.
- In accordance with National Life Safety codes, Grades 1 and below shall be placed on the 1st (Ground) floor.
- For design purposes, it is recommended that approximately 60% of the classrooms and major school support functions be placed on the 1st (Ground) floor.
- A Split – level facility may be considered where terrain/site elevations dictate, thus allowing students to move either up or down one floor for classroom access.
- Facility designs shall take into consideration AT/FP progressive collapse criteria and local area seismic requirements.

5 UTILITY SYSTEMS (HVAC/ELECTRICAL/Mechanical/COMMUNICATIONS)

- Utility systems should be located in the facility where they are not intrusive and located for easy maintenance access for major system components subsequent to construction.
- Electrical/Mechanical support tie-ins to the facility shall be underground.
- Designers shall develop interior HVAC/Electrical/Mechanical/Communication “corridors” in the building for easy maintenance access and future upgrades.
- Comply with AT/FP design standards.

5A HEATING, VENTILATION AND AIR CONDITIONING (HVAC)

- As new and renovated facilities become more "closed" due to new AT/FP glazing and frame requirements, HVAC becomes more an issue. Facilities should have a minimum of four (4) changes of air ventilation per hour.
- The facilities HVAC system design should be in accordance with ASHRAE 62 and local host nation requirements as applicable.
- Air conditioning should be provided in geographical areas where it is required. Engineers and school administrators need to check with their assigned Area Office to determine if Air Conditioning is applicable to their particular geographical area.
Education Facilities Specifications

Bus Drop Off / Pick Up
Conceptual Plan (Right Hand Drive)
Conceptual Plan (Left Hand Drive)
Circulation and Layout

Safety is the primary concern in circulation design on school sites

- For safe and efficient movement, separate each different type of circulation.
- Eliminate or minimize pedestrian and vehicle cross traffic. Avoid crossing driveways.
- Separate auto and bus drop-off locations.
- Exclude service vehicle traffic from these drop-off areas. If not possible, restrict service activity to times when pedestrians will not be present. No pedestrian walks in the loading dock area.
- Plan the bus circulation and drop-off area so that busses never need to backup. Provide separate bus zones with a large waiting area to handle students at dismissal. Provide sidewalks for all areas where students approach or exit the school.
- Where possible, plan a one-way loop near the building entrance as it is safer.
- Bus loading and unloading should not prohibit emergency access to the school in case of an emergency.
- Parking plans must comply with Anti-terrorism/Force Protection (AT/FP) requirements.
- Adapt diagrams for regional specifics.

Planning Requirements

Controlled Linear Access
This system can be used in areas where ample curb space is available.
Minimum width required 16’ (4.8 m)
Lineal feet required 410’ (125 m) (10 buses)
Area required per bus 660 sf (61 m²) (includes circulation)

30° Peel-Off System (Shown in Diagram)
This parking system requires the front bus to leave first, then the next bus, etc.
Minimum width required 59’ (18 m)
Lineal feet required 240’ (73 m) (10 buses)
Area required per bus 1416 sf (132 m²) (includes circulation)

Bus Dimensions (Verify dimensions of local vehicles)
Typical bus dimensions to consider:
Length 40’ (12 m)
Width 8’ (2.4 m)
Inside turning radius 45’ (14 m)
Outside turning radius 60’ (18 m)
Education Facilities Specifications

Business Education
Conceptual Plan

Functional Area Descriptions

Business Education prepares students to become responsible citizens, capable of making astute personal and professional economic decisions, and lays a good foundation for students wanting to pursue a business degree in college. Locate this space adjacent to the computer science lab. Essentially a computer lab dedicated to business education, this space requires access to the technology integral to business education.

1 INDIVIDUAL COMPUTER STATION AREA
Arrange the computer stations to allow the instructor to view all computer screens from a position at the front of the room. Allow ample aisle width for over-the-shoulder tutoring and ease of movement through the equipment. Distribute printer locations throughout the room. Maximize the use of wall space above the workstations with tack boards for work display/review and with wall-mounted cabinets for storage.

2 INSTRUCTIONAL AREA
The instructional area provides a space for the teacher to provide group instruction and demonstrate computer applications and techniques.

3 SPECIAL PROJECTS AREA
The special projects area provides a space for a small group of students to work on special projects. Walls can separate this area from the rest of the lab; include a glass window in the wall between the lab and the special projects room for supervision. Include a counter in the room. The room should accommodate 6 students.

4 STORAGE
Provide secure storage space for materials and parts.
**Planning Requirements**

**NSF:**
- Individual Computer Station Area 1300 sf (121 m²) (25 workstations 5 support devices)
- Lecture Area included in 1300 sf
- Study Area included in 1300 sf
- Special Projects Area included in 1300 sf (4-6 workstations + 4 support devices)
- Storage included in 1300 sf

**Typical Features**

**Built-In Furnishings**

- Wall mounted shelves for books, and other class materials
- Lockable wall mounted cabinets
- Counter in Special Projects Area
- Teaching wall (features to include marker board, tack strip, and storage)

**Finishes**

- Floor: sheet rubber flooring, ceramic tile, vinyl composition tile, carpet or other non-static, locally available, low maintenance surface.
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 45)

**Loose Furnishings**

- Student work tables and chairs
- Student computer tables
- Teacher desk and chair
- File cabinets
- Audio visual cart (optional)

**Equipment**

- Marker board (8’ minimum)
- Overhead pull down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Smart board (optional)
- Ceiling mounted video projector
- Window shades or blinds
- Smartboard (as required)
HVAC

- Air conditioning
- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for video projector
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 40 (LAN) connections for students and 2 at teacher's desk
- Cable television with COAX and LAN connection
- LAN connection in ceiling for video projector
- Raised access floor (if required)
- Floor boxes with power and data at 6'-0" (1.83 m) on center under instructional area (if required)
Education Facilities Specifications

Computer Science Laboratory
Conceptual Plan

The computer science laboratory setting provides space for individual and group instruction in computer science applications and business education. This space should be located adjacent to the business classroom. Lighting, dedicated power, air conditioning, ventilation, noise control, and equipment security are important functional requirements to consider. Under-floor wiring, which is ideal for flexibility and access, is required. A maximum of 42 devices can be connected to the LAN from this room, including 31 workstations.

1 INDIVIDUAL COMPUTER STATION AREA
Arrange the computer stations to allow the instructor to view all computer screens from a position at the front of the room. Allow ample aisle width for over-the-shoulder tutoring and ease of movement through the equipment. Distribute printer locations throughout the room. Maximize the use of wall space above the workstations with tack boards for work display/review and with wall-mounted cabinets for storage.

2 INSTRUCTIONAL AREA
The instructional area provides a space for the teacher to provide group instruction and demonstrate computer applications and techniques.

3 SPECIAL PROJECTS AREA
The special projects area provides a space for a small group of students to work on special projects. Walls can separate this area from the rest of the lab; include a glass window in the wall between the lab and the special projects room for supervision.

4 STORAGE
Provide secure storage space for materials and parts.
Planning Requirements

NSF:
Individual Computer Station Area  1300 sf  (121 m²) (25 workstations + 5 support devices)
Lecture Area  included in 1300 sf
Study Area  included in 1300 sf
Special Projects Area  included in 1300 sf (4-6 workstations + 4 support devices)
Storage  included in 1300 sf

Typical Features

Built-In Furnishings
- Wall mounted shelves for books and other class materials
- Lockable wall mounted cabinets
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes
- Floor: sheet rubber flooring, ceramic tile, vinyl composition tile, carpet or other non-static, locally available, low maintenance surface.
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 45)

Loose Furnishings
- Student work tables and chairs
- Student computer tables
- Teacher desk and chair
- File cabinets
- Audio visual cart (optional)

Equipment
- Marker board (8’ minimum)
- Overhead pull down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Ceiling mounted video projector
- Window shades or blinds
- Smartboard (as required)

HVAC
- Air conditioning
- Fresh air supply
- Independent temperature control

Electrical
- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for video projector
- General purpose outlets
- Emergency and exit lighting as required by code

Systems
- Bell system
- Phone
- PA / Intercom system
- Clock
- 40 (LAN) connections for students and 2 at teacher’s desk
- Cable television with COAX and LAN connection
- LAN connection in ceiling for video projector
- Raised access floor (as required)
- Floor boxes with power and data at 6'-0" (1.83 m) on center under instructional area (as required)
Education Facilities Specifications

Distance Learning Center
Conceptual Plan

Functional Area Descriptions

Distance learning uses audio, video, and computer technology to offer students classes not available at their local school. While some units are designed to move from room to room, the more common practice employs a dedicated center designed to accommodate a group of up to 10 students, a teacher or facilitator, and cameras and monitors.

1 INSTRUCTIONAL AREA
Provide an area for presentation of video materials to small groups of students. Include infrastructure for computers to allow other uses for room.

2 STUDENT INSTRUCTION AREA
Size of area based on students enrolled in the course (up to 10 students). The area includes desks and chairs. Design this area to allow instruction by video to small groups of students. Furnish with student desks and/or tables. Locate the student instruction area adjacent to the instructional and storage areas.

3 WORK/STORAGE AREA
The storage area provides storage space for equipment and instructional materials.

Planning Requirements

<table>
<thead>
<tr>
<th>NSF Subject</th>
<th>Area</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Instruction Area</td>
<td>450 sf</td>
<td>(42 m²)</td>
</tr>
<tr>
<td>Instructional Area</td>
<td>included in 450 sf</td>
<td></td>
</tr>
</tbody>
</table>
Typical Features

Built-In Furnishings

- Shelves for books and other class materials
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes

- Floor: sheet rubber flooring, ceramic tile, vinyl composition tile, carpet or other non-static, locally available, low maintenance surface.
- Base: as appropriate for flooring material
- Ceiling: 10’-0” (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 55)

Loose Furnishings

- Student work tables and chairs
- Student computer tables
- Teacher desk and chair
- File cabinet

Equipment

- Marker board (16’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Video projector
- Cameras and camera equipment
- Window shades or blinds
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for video projector
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 8 (LAN) connections for students and 2 at teacher’s desk
- Cable television with COAX and LAN connection
- LAN outlet in ceiling for video projector
Education Facilities Specifications

Emotionally Impaired/
Learning Impaired
Mild to Moderate
Conceptual Plan

Functional Area Descriptions

The Mild to Moderate Learning Impaired Area serves as the instructional space for up to 15 children per instructional session with mild to moderate learning difficulties or mild to moderate emotional difficulties. These students will spend less than 50% of their day in this room. However, classroom space must be available to support students who may require more time in the special education classroom. Learning impaired and emotionally impaired classrooms should be located to provide convenient access to mainstream education and as close to peers the same age as possible. Built in and loose furniture must be ADA compliant.

1 STUDENT INSTRUCTION AREA
Student desks and/or tables occupy the student instruction area. This area is designed to allow demonstrations by the teacher in groups or individual settings. The area is the largest space in the room and is adjacent to the instructional area and the storage area.

2 INSTRUCTIONAL AREA
Locate at the front of the classroom with direct access to the intercom and main entrance.

3 STORAGE AREA
The storage area provides space for equipment and instructional materials. Include a sink and drinking fountain. Base the counter and sink heights on the age group of the students using them.

Planning Requirements

NSF:

Student Instruction Area 900 sf (84 m²)
Instructional Area included in 900 sf
Storage Area included in 900 sf
Typical Features:

**Built-In Furnishings**

- Shelves for books and other class materials
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Storage cabinets
- Teaching wall (features to include marker board, tack strip, and storage)

**Finishes**

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 45)

**Loose Furnishings**

- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)

**Equipment**

- Marker board (24‘ minimum)
- Overhead pull-down screen
- Tack board (16‘ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)

**Electrical**

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

**Systems**

- Bell system
- Phone
- PA / Intercom system
- Clock
- 8 (LAN) connections for students and 2 at teacher’s desk
- Cable television with COAX and LAN connection
- Sound field system
- Master switch

**Plumbing**

- Sink with bubbler

**Other**

- Sound proofing
Education Facilities Specifications

English as a Second Language
Conceptual Plan

Functional Area Description

The English as a Second Language (ESL) program provides specialized instruction and practice to improve English reading, writing, and verbal skills for those students having limited or no English proficiency. The ESL classroom also serves as the center for related social, psychological, and other student/family support mechanisms.

1 STUDENT INSTRUCTION AREA
Accommodate up to 15 students and one specialist. The specialist may work closely with up to 2 students, while the remaining students do independent or cooperative group work. At other times the specialist instructs the group as a whole. The room should accommodate teaching methodologies that include physical demonstrations and cooperative games. Locate the student instruction area adjacent to the instructional and storage areas.

2 INSTRUCTIONAL AREA
The instructional area of the classroom is occupied by the teacher and instructional equipment. This area should be located at the front of the classroom with direct access to the intercom and main classroom entrance.

3 WORK/STORAGE AREA
The storage area provides storage space for equipment and instructional material.

Planning Requirements

<table>
<thead>
<tr>
<th>Total NSF</th>
<th>450 sf</th>
<th>In</th>
<th>42 m^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>450 sf</td>
<td>included in total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage/Work Area</td>
<td>included in total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Typical Features:

Built-In Furnishings

- Shelves for books and other class materials
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Storage cabinets
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 45)

Loose Furnishings

- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (as required)
- Assistive technology devices – sound field system (as required)

Equipment

- Marker board (16’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)
HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Outlet in ceiling for future video projector
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 8 (LAN) connections for students and 2 at teacher’s desk
- LAN connection in ceiling for future video projector
- Cable television with COAX and LAN connection
Education Facilities Specifications

Food Service
Conceptual Plan

Functional Area Descriptions

The school food service program provides space for delivery, storage, preparation and serving of student lunches, as well as dining space. Programs are run by Army and Air Force Exchange Service (AAFES), the Navy Exchange (NEX), a Navy galley, or a contractor.

The kitchen provides either full service, satellite, or serving only operations. A full service kitchen includes a full complement of spaces to allow for the storage and preparation of the food served. A satellite kitchen serves food prepared elsewhere. A satellite kitchen may heat up prepared items and do other finishing work on meals. A serve-only kitchen dispenses food completely prepared elsewhere.

A food service equipment professional with specialized expertise typically prepares the food service equipment floor plans and specifications. The space for the kitchen is generally allocated in the planning stage by the number of meals served (or total student capacity) and refined by the size and requirements of the actual food service equipment.

Locate the cafeteria convenient to toilet facilities for student use. Buffer the noise of the kitchen and cafeteria from the quiet areas of the school. Locate the kitchen near the building service entrance.

1 SERVING LINES
Multiple factors determine the number of serving lines: the number of students per serving period, the variety of foods offered, the length of the lunch period, and the method of payment for meals. Assume that students require half of the lunch period to eat. A serving line can process about 5 students per minute. Paying at the cashier limits the speed of the line. If utilizing a card system, the speed can increase to 6 students per minute. In general, a line can serve approximately 100 students per period. Utilize mobile serving line equipment for ease of cleaning. At the middle and high school level, scatter or “Food Court” arrangements can work more effectively than traditional serving lines.

2 FOOD PREPERATION
Layout of this space should allow for efficient preparation of food. In a serving kitchen this might include only reheating. In a full service kitchen this will involve large scale equipment for baking, steaming and frying of foods. Equipment selection is greatly affected by menu variety and types of foods served. Include hand washing sinks for staff in this area.
3 DISHWASHING
The size of this area will vary depending on the type of dishware used. This space should share wall space with the cafeteria for dish drop off.

4 FOOD STORAGE
All kitchens require refrigerator and freezer space as well as dry storage. Size may increase if the facility buys in bulk.

5 OFFICE
The office should enable the food service director to see the receiving and food preparation areas.

6 RESTROOM
An ADA compliant restroom should access the locker area.

7 LOCKERS
Provide an area for staff to change clothes and store personal belongings.

8 JANITOR’S CLOSET
Provide a janitor’s closet specifically for kitchen and cafeteria.

9 SEATING
See multi-purpose room.
**Planning Requirements**

### Full Service NSF

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Area (sf)</th>
<th>(m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving Line/Food Preparation</td>
<td>1600</td>
<td>(149)</td>
</tr>
<tr>
<td>(Not sized for food court style serving)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 sf per student</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dishwashing</td>
<td>200</td>
<td>(19)</td>
</tr>
<tr>
<td>Dry Storage</td>
<td>100</td>
<td>(9)</td>
</tr>
<tr>
<td>(.5 sf per student served)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerator / freezer*</td>
<td>100</td>
<td>(9)</td>
</tr>
<tr>
<td>(.5 sf per student served, 1/3 freezer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>100</td>
<td>(9)</td>
</tr>
<tr>
<td>Restroom</td>
<td>50</td>
<td>(5)</td>
</tr>
<tr>
<td>Lockers</td>
<td>80</td>
<td>(7)</td>
</tr>
<tr>
<td>Janitor</td>
<td>20</td>
<td>(2)</td>
</tr>
<tr>
<td>Receiving Area</td>
<td>100</td>
<td>(9)</td>
</tr>
</tbody>
</table>

### Satellite NSF

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Area (sf)</th>
<th>(m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving Line/Food Preparation</td>
<td>1000</td>
<td>(93)</td>
</tr>
<tr>
<td>2 sf per student</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dishwashing</td>
<td>200</td>
<td>(19)</td>
</tr>
<tr>
<td>Dry Storage</td>
<td>50</td>
<td>(5)</td>
</tr>
<tr>
<td>(.5 sf per student served)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerator / freezer*</td>
<td>50</td>
<td>(5)</td>
</tr>
<tr>
<td>(.5 sf per student served, 1/3 freezer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>100</td>
<td>(9)</td>
</tr>
<tr>
<td>Restroom</td>
<td>50</td>
<td>(5)</td>
</tr>
<tr>
<td>Lockers</td>
<td>80</td>
<td>(7)</td>
</tr>
<tr>
<td>Janitor</td>
<td>20</td>
<td>(2)</td>
</tr>
<tr>
<td>Receiving Area</td>
<td>100</td>
<td>(9)</td>
</tr>
</tbody>
</table>

### Serve Only NSF

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Area (sf)</th>
<th>(m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving</td>
<td>300</td>
<td>(28)</td>
</tr>
</tbody>
</table>

* When refrigerator/ freezer requirement is less than 125 sf, use upright units
**Typical Features:**

**Built-In Furnishings**
- Stainless steel counter

**Finishes**
- Floor: quarry tile, poured seamless floor, sheet rubber, sealed concrete or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 12'-0" (3.65 m) AFF, suspended ceiling tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material, (min. STC 55)

**Loose Furnishings**
- Dry storage shelving

**Equipment**
- Tack board (office)
- Full complement of appropriate kitchen and serving equipment
- Walk in refrigerator and freezer

**HVAC**
- Fresh air supply
- Independent temperature control
- Kitchen hood with fire suppression

**Electrical**
- Fluorescent lighting (500 lux min. at desk height) See Appendix D
- Specialty lighting (optional cafeteria)
- Two data connections to local area network for each computer location
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code
- Emergency power shut off

**Systems**
- Bell system
- Phone
- PA / Intercom system
- Clock

**Plumbing**
- Hand washing sinks
- Food prep sinks
- Scullery sink
- Dishwasher
Education Facilities Specifications

General Purpose Classroom
Conceptual Layout

COUNTER WITH CABINETS BELOW

BUILT-IN CABINETS

COUNTER WITH CABINETS BELOW

SINK WITH FOUNTAIN

0  4ft  8ft  16ft

0  1m  2m  5m
Functional Area Descriptions

As the primary instructional space in a school, the general purpose classroom supports instruction for Math, English, Social Studies, and Language Arts. Generally group the classroom units by subject matter or teams. Cluster classrooms around the central portion of the school, close to the media center.

An approximately square plan serves general purpose classrooms best. Place the room entrance adjacent to the instructional area. Include variable light control and high quality acoustical treatments.

1 STUDENT INSTRUCTION AREA
Design this area to allow lectures and demonstrations by the teacher in group and individual settings. Furnish with student desks and/or tables. Locate the student instruction area adjacent to the instructional area and the storage area.

2 INSTRUCTIONAL AREA
The instructional area of the classroom is occupied by the teacher and instructional equipment including a marker board, projection screen, personal storage cabinet, and desk. This area should be located at the front of the classroom with direct access to the intercom and main classroom entrance.

3 WORK/STORAGE AREA
The storage area provides storage space for equipment and instructional materials.
Planning Requirements

NSF:
Classroom  900 sf  (84 m²)

Typical features

Built-In Furnishings

- Shelves for books and other class materials
- Storage cabinets
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Teaching wall (features to include markerboard, tack strip, and storage)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10’-0” (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min STC 45)

Loose Furnishings

- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)

Equipment

- Marker board (24’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for future video projector
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 8 (LAN) connections for students and 2 at teacher’s desk
- Cable television with COAX and LAN connection
- LAN outlet in ceiling for future video projector

Middle School Specifications    Ver. 2.1 Oct 07
Education Facilities Specifications

Gifted Education
Conceptual Plan

Functional Area Description

The Gifted Program provides supplementary and/or intensified instruction for those students who benefit from challenges. This room functions as a resource room for individual and group instruction, a laboratory for individual and small group research, and as a center for development of student projects. If desired, place partitions to separate the room into smaller areas. Locate the Gifted Program classroom close to the media center.

1 STUDENT INSTRUCTION AREA
Design this area to allow lectures and demonstrations by the teacher in groups and individual settings. Furnish with student desks and/or tables. Locate the student instruction area adjacent to the instructional area and the storage area.

2 INSTRUCTIONAL AREA
The instructional area of the classroom is occupied by the teacher and instructional equipment, including a marker board, projection screen, personal storage cabinet, and desk. This area should be located at the front of the classroom with direct access to the intercom and main classroom entrance.

3 WORK/STORAGE AREA
The storage area provides storage space for equipment and instructional materials.
Planning Requirements

NSF:
Classroom 900 sf \((84 \text{ m}^2)\)
If enrollment \(\leq 15\) use \(\frac{1}{2}\) the size listed above

Typical Features:

Built-In Furnishings
- Shelves for books and other class materials
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Storage cabinets
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes
- Floor: vinyl composition tile, carpet, ceramic tile or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10’-0” (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 45)

Loose Furnishings
- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)

Equipment
- Marker board (24’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)

HVAC
- Fresh air supply
- Independent temperature control

Electrical
- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Outlet in ceiling for future video projector
- Emergency and exit lighting as required by code

Systems
- Bell system
- Phone
- 8 (LAN) connections for students and 2 at teacher’s desk
- PA / Intercom system
- Clock
- LAN connection in ceiling for future video projector
- Cable television with COAX and LAN connection
Conceptual Plan

Functional Area Descriptions

The guidance counseling area shares a strong functional relationship with the general office but they should not share the same area. The Guidance Counseling Center provides space for counselors and/or psychologists to work with, counsel, and test students. The design should consider the confidential nature of the telephone calls and meetings that take place. Student enrollment will determine the number of spaces needed. Though not required, a location near the administration is desirable.

1 RECEPTION/WAITING AREA
There should be a dedicated reception/waiting area for the guidance suite.

2 PSYCHOLOGIST/COUNSELOR OFFICES
The number of private offices for counselors and psychologists varies with the size of the school. While all private offices should open onto the reception area or common corridor, also provide privacy and quiet. Provide a secure, locked storage area for student records and testing materials. If a single counselor is assigned full time to the school, provide a mini suite. Visiting psychologists assigned to the school should use the itinerant office. In buildings with only one position assigned to the school a single space is scheduled.

3 CONFERENCE/TEACHER AND STUDENT ASSISTANCE TEAM ROOM
The room should access the reception/waiting area and the main corridor. It provides space for teachers, parents, and students to meet and develop academic and behavioral interventions and graduation plans.

4 CAREER INFORMATION/EXPLORATION CENTER
This room is to be used by students to research career possibilities.

5 STORAGE AREA
The storage area provides space for shared materials used in testing and counseling.
Planning Requirements

LARGE SUITE NSF
Reception/Waiting Area 100 sf  (9 m²)
Psychologist/Counselor Offices 300 sf  (28 m²) (150 SF (14 m²) per office)*
Conference Room/Testing 200 sf  (19 m²)
Career Information/ Exploration Center 150 sf  (14 m²)
Storage 50 sf  (5 m²)
* +150 sf for each assigned position >2

SMALL SUITE NSF
Reception/Waiting Area 100 sf  (9 m²)
Counselor Office 150 sf  (14 m²)
Conference Room/Testing 200 sf  (19 m²)
Career Information/Exploration Center 100 sf  (9 m²)
Closet 50 sf  (5 m²)

SINGLE COUNSELOR SUITE NSF
Psychologist/Counselor Offices 200 sf  (19 m²)
Typical Features:

Built-In Furnishings

- Storage shelving (as required, storage room)

Finishes

- Floor: vinyl composition tile, sheet rubber tile, carpet, ceramic tile or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: plaster or drywall (min. STC 55)

Loose Furnishings

- Desks and chairs
- Computer desks and chairs
- File cabinets
- Shelving
- Guest chairs
- Small and large conference tables

Equipment

- Marker board (4’ minimum each room)
- Tack boards (4’ minimum each room)
- Wall or ceiling suspended television monitor (as required in waiting)
- Window shades or blinds

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min.)
- One duplex outlet at each computer location
- General purpose outlets
- Outlet in ceiling for future video projector (conference room)
- Emergency and exit lighting as required by code

Systems

- Bell system
- PA / Intercom system
- Phone (each room)
- Two data connections to local area network for each computer location
- Cable television with COAX and LAN connection (optional)
- Clock system
- LAN connection in ceiling for future video projector (conference room)
Education Facilities Specifications

Gymnasium/Multipurpose Room
Functional Area Descriptions

The Gymnasium provides a dedicated space for physical education and organized sports. After school use requires that the area function discretely from the remainder of the school building. A moveable partition or drop curtain allows two activities to run simultaneously. The gym supports basketball, volleyball, dancing, running, gymnastics, and tumbling. The multipurpose room can combine space for physical education, lunchroom student dining, and performances or assemblies. The above Conceptual Plan is a concept layout only and can be used as planning guidance. Extracurricular activities in the multipurpose room may require the room to function as a completely separate facility with dedicated restrooms and mechanical equipment. Provide enough height for physical education activities.

1 COURT AREA
The primary functional area of the gymnasium should accommodate a 50’x 84’ basketball court and a regulation volleyball court. Supply additional lines to accommodate the educational program. Allow 10’ out-of-bounds at the ends of the court and 6’ at the side. If seating is provided, adjust the area accordingly. The seats should not encroach on the out of bounds areas. A small amount of seating allows for community use of the facility. Allow a clear ceiling height of 24’. Windows, light fixtures, and mechanical equipment must withstand the impact abuse of balls. Include recessed alcove with drinking fountains.

2 LOCKER ROOMS
Locker rooms provide space for students to change clothing and store personal belongings while engaging in physical education or athletic events. The rooms also contain up to 6 showers, drinking fountains, and toilet facilities. Provide separate facilities for male and female students. Access the locker rooms directly from the court area or a supervised corridor. The locker rooms should also provide easy access to the exterior play fields. Consider privacy as well as easy supervision in the layout of the whole space.

3 COACH/FACULTY OFFICES
Provide a small office for each physical education teacher near the entry to the gymnasium. Provide a view window from the office into the gymnasium. Also provide a restroom for the teachers.

4 STORAGE AREA (GYM EQUIPMENT)
The storage area provides storage for gym equipment. The room should include a pair of doors for a min. 6’ wide opening directly adjacent to the court area.

5 AUXILIARY GYM (AS AUTHORIZED)
When middle schools need an additional teaching station, provide this space for dancing classes, exercise, gymnastics, table tennis, wrestling, etc. The auxiliary gym should accommodate a 38’ x 38’ wrestling mat. The ceiling should be 24’ high if possible, or a minimum of 16’. Provide (overhead) mat storage.
6 MULTIPURPOSE ROOM
For schools with low student enrollments the physical education function dictates the overall proportions of this room and will need to be arranged to accommodate a 50’ x 84’ basketball court and a regulation volleyball court. Supply the appropriate lines. Allow 10’ out-of-bounds at the ends of the court and 6’ at the side. Provide basketball hoops and other physical education equipment. For larger enrollments the inclusion of a dedicated gymnasium in the program allows a wider range of design options for this room’s shape and finishes. A moveable wall or drop curtain can provide versatility and allows the lunchroom and physical education functions to occur simultaneously. Allow a clear ceiling height of 24’. For assembly functions, the audience will sit on folding chairs. For lunch, the students sit at folding tables.

7 STAGE/PERFORMANCE AREA
The stage provides space for presentations and theatrical or music performances. Locate opposite the serving line to allow for use during lunch periods, while the partition in the multipurpose room is closed. Consider placing near music spaces to allow for staging of productions. Consider under stage storage for folding chairs. Provide catwalk above stage for maintenance. The proscenium height should be approximately 18’. Leave adequate space at the sides of the proscenium for the curtain stacking depth.

8 FOOD SERVICE
See Food Service section. Locate entrances to minimize interference with physical education equipment.

9 LOBBY AREA
The foyer provides an interior gathering/meeting space directly adjacent to the multipurpose functions. The area should connect to both interior and exterior school circulation. Include public restrooms.

10 OFFICE (OMIT IF SEPARATE GYMNASIUM)
Provide a small office with restroom for the physical education teacher near the entry to the multipurpose room.

11 STORAGE AREA (MISC)
Provide dedicated storage for physical education equipment, lunchroom tables, chairs for assemblies, and stage equipment. Place these rooms adjacent to the areas they support.
Planning Requirements

<table>
<thead>
<tr>
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Note 1-Use Equation $1200 + ((\# \text{ students} – 300) \times 2)$

Note 2-Use Equation $200 \times (\# \text{ full time PE teachers})$

Note 3-Use Equation $0.9 \times (\# \text{ students}) \text{ OR } 400 \text{ min.}$

Note 4-Use Equation $3.75 \times (\# \text{ students} – 300) + 2,500$

Note 5-Multipurpose Room can include gymnasium/court area, cafeteria, and assembly.
Typical Features:

Built-In Furnishings

- N/A

Finishes

- Floor: sports flooring, wood, sheet vinyl or other locally available, low maintenance surface. See Appendix C
- Base: as appropriate for flooring material
- Ceiling: 24'-0" (7.3 m) AFF, exposed structure, suspended acoustical tile. See Appendix C
- Walls: concrete block, reinforced concrete, or other locally available material capable of enduring ball strikes (min. STC 55) See Appendix C

Loose Furnishings (include as required)

- Volleyball standards
- Teacher desk and chair
- File cabinet
- Shelving
- Storage cabinets
- Stackable or folding chairs
- Folding lunch tables

Equipment (include as required)

- Lockers
- Benches
- Basketball hoops
- Wall padding < 6’ (Main Court Area, Aux Gym)
- Moveable wall partition
- Overhead mat storage
- Gym divider curtain
- Chinning bars
- Overhead screen at stage
- Simple stage rigging
- Fire rated stage curtain
- Large projection screen (stage)
- Cyclorama curtain
- Scoreboard
- Volleyball equipment
- Under stage storage trucks
- Acoustical panels

HVAC

- Dedicated system
- Fresh air supply
- Independent temperature control
Education Facilities Specifications Gymnasium/Multipurpose Room

Electrical (include as required)

- HID (500 lux min. at desk height) (self lowering)
- Fluorescent (500 lux in gym, office areas, MP room, dressing room and stage) (300 lux at rest rooms) (200 lux in locker rooms, and storage areas)
- Scoreboard
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code
- Stage lighting with control board

Other (include as required)

- Main court basketball lines
- Main court volleyball lines
- Side court basketball lines
- Side court volleyball lines
- Side court badminton
- Acoustical panels (main court area)
- Protect all devices from ball strikes
- Catwalk above stage
- If designated an emergency shelter or chief consolidation point, include exterior connection for generator to serve lighting and independent HVAC

Systems (include as required)

- PA / Intercom system
- Clock
- Bell system
- Phone (office)
- LAN Connections-See Appendix D
- Two LAN connections to local area network for each computer location
- Independent sound system

Plumbing

- Sinks
- Showers
- Water fountains (gym, locker rooms)
Education Facilities Specifications

Health Services
Functional Area Descriptions

The Health Services area provides space for the treatment of students during school hours. Schools assigned a nurse should include a nurse’s office within the suite. Schools without a nurse should include a visual and physical connection to the administration area to allow a receptionist or other staff person to continuously monitor ill students.

1 WAITING AREA (SCHOOL WITH ASSIGNED NURSE ONLY)
A small area where students and parents can wait for the nurse to see them should be located in the vicinity of the nurse’s office.

2 OFFICE AREA (SCHOOL WITH ASSIGNED NURSE ONLY)
Locate next to the rest area. The office provides a private space for a nurse to have a desk, several file cabinets, and side chairs.

3 STORAGE (SCHOOL WITH ASSIGNED NURSE ONLY)
Provide a room to store supplies, a wheelchair, and other miscellaneous supplies.

4 REST AREA
The rest area should provide an area for ill students to lie down. Place directly adjacent to the nurse’s office. The room should have enough space for a small sink, a work counter, a refrigerator, a physician’s scale, and a lockable medicine cabinet. Include cots with small bedside tables and ceiling hung curtains to provide privacy for each cot. If no school nurse is assigned, the rest area should open into the administration secretary’s office.
5 TOILET AREA
Provide a toilet area with easy access from the rest area. The room should have a lavatory, water closet and a shower stall.

Planning Requirements

NSF:
Office Area 150 sf (14 m²) (only if assigned nurse)
Rest Area 250 sf (23 m²) (2-4 cots)
Toilet Area 65 sf (6 m²)
Waiting Area 80 sf (7 m²) (only if assigned nurse)
Storage 50 sf (5 m²)
(If projected enrollment >1000 add 250 sf to suite)
Typical Features

Built-In Furnishings

- Counter and cabinets
- Lockable medicine cabinet
- Sink

Finishes

- Floor: vinyl composition tile or other locally available low maintenance surface.
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: plaster reinforced concrete, or drywall (min STC 45)

Loose Furnishings

- Desks and chairs
- File cabinets
- Shelving
- Guest chairs
- Small table
- Cots
- Wheelchair

Equipment

- Tack board
- Cubicle curtains
- Refrigerator with icemaker
- Window shades or blinds

- Scale

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min.) (200 lux at storage)
- One duplex outlet at each computer location
- General purpose electric outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock system
- Two data connections to local area network for each computer location
- Cable television with COAX and LAN connection (optional)

Plumbing

- Counter sink
- Restroom fixture
Education Facilities Specifications

Hearing Impaired
Conceptual Layout

![Conceptual Layout Diagram]

Functional Area Descriptions

The Hearing Impaired program serves students who require environmental and/or academic modifications to access their academic and school program. Sign language interpreters work with the students in both small settings as well as in the general classroom. The following program requirements assume an enrollment of up to five students per instructional session.

The Individuals with Disabilities Education Act Amendments of 1997 provides for “Assistive Technology Devices.” This is any item, piece of equipment or product system, whether acquired commercially off the shelf, modified or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability. For example, the Hearing Impaired program needs a sound-field system to support the needs of students with hearing impairments. DoDEA shall determine any such assistive technology devices in the planning and design phase of each project.

1 FLEXIBLE INSTRUCTION AREA
Provide a flexible space that can accommodate a variety of activities, including space for students to work in small groups as well as one-on-one with a sign language interpreter. Incorporate storage areas within the room.

Planning Requirements

| NSF | Flexible Instruction Area | 450 sf | (42 m²) |
Typical Features:

Built-In Furnishings

- Shelves for books and other class materials
- Lockable cabinets for teacher’s personal belongings
- Storage cabinets
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10’-0” (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 55)

Loose Furnishings

- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)
- Assistive technology devices – sound field system (as required)

Equipment

- Marker board (16’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Window shades or blinds
- Audiometric Booth (as required)
- Wall or ceiling suspended television monitor
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Outlet in ceiling for future video projector
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- 8 (LAN) connections for students and 2 at teacher’s desk
- PA / Intercom system
- Clock
- Cable television with COAX and LAN Connection
- LAN outlet in ceiling for future video projector
- Sound-field system (as required)
- Strobe alarm and bell

Other

- Sound absorbent wall panels
Education Facilities Specifications

Home School Partnership/Parents Center
The Home School Partnership/Parents Center provides space for meetings pertaining to the home school program. The space also serves as a workspace for parent volunteers. Any parent/community volunteer program for the school may use it. Locate near the Teacher Workroom and Administrative Suite; this provides better accessibility to the faculty and equipment, such as copiers.

1 CONFERENCE/MEETING AREA
Provide adequate space for small groups to meet. Provide storage for miscellaneous materials, and space for parents to work on projects.

Planning Requirements

NSF
Conference/Meeting Area 150 sf (14 m²)
Typical Features:

Built-In Furnishings
- None

Finishes
- Floor: vinyl composition tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 45)

Loose Furnishings
- Work table and chairs

Equipment
- 4' Tack board
- 4' Marker board
- Copier
- Window shades or blinds
- Smartboard (as required)

HVAC
- Fresh air supply
- Independent temperature control

Electrical
- Fluorescent lighting (500 lux min. at desk height)
- One duplex outlet near data connection
- General purpose outlets
- Emergency and exit lighting as required by code

Systems
- Bell system
- Phone
- Two data connections to local area network
- PA / Intercom system
- Clock
- Cable television with COAX and LAN connection
Education Facilities Specifications

Host Nation
Conceptual Layout

(FOR JAPAN ONLY)
Functional Area Descriptions

A school program at DoDDS overseas schools, the Host Nation program provides school students with an introduction to host nation languages, taught by host nation teachers, as an essential experience of the DoDEA curriculum. With host nation teachers as guides, students also participate in activities that build appreciation and understanding of the culture of the country in which they are located. Similar to a general-purpose classroom, the Host Nation Classroom includes other amenities for specialized cultural activities and light preparation of host nation foods.

1 STUDENT INSTRUCTION AREA
Design this area to allow teacher lectures and demonstrations for groups and individuals. Furnish with student desks and/or tables. Locate the student instruction area adjacent to the instructional area and the storage area.

2 INSTRUCTIONAL AREA
The instructional area of the classroom is occupied by the teacher and instructional equipment including a marker board, projection screen, personal storage cabinet, and desk. This area should be located at the front of the classroom with direct access to the intercom and main classroom entrance.

3 WORK/STORAGE AREAS
The storage area provides storage space for equipment and instructional materials. A space for light food preparation may be included in this area.

4 SPECIALIZED CULTURAL AREA
Include additional flexible open space within the classroom to accommodate special customs activities. In Japan, specific requirements for the area are provided by DoDDS-P.
Planning Requirements

NSF:
Classroom 900 sf (84 m²)
Tatami Room/Kitchenette 300 sf (28 m²) (Japan only)

Typical features

Built-In Furnishings

- Shelves for books and other class materials
- Storage cabinets
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Teaching wall (features to include markerboard, tack strip, and storage)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10’-0” (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 45)

Loose Furnishings

- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)

Equipment

- Marker board (24’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Refrigerator (as required)
- Window shades or blinds
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for future video projector
- General purpose outlets
- Emergency and exit lighting as required by code
- Small range
- Microwave oven

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 8 (LAN) connections for students and 2 at teacher’s desk
- LAN outlet in ceiling for future video projector
- Cable television with COAX and LAN connection

Plumbing

- Sink
Education Facilities Specifications

Information Center
Conceptual Plan

The information center is the focal point of the school and should be aesthetically pleasing. It is also a quiet area and must be designed to keep noise to a minimum. The information center must include a closed circuit TV system that transmits programs from the information center throughout the school. Collocate with multipurpose computer lab.

1 INSTRUCTIONAL AREA
Provide an open area with table and chairs for group instruction and independent study.

2 INDEPENDENT READING AREA
Allow space for comfortable furniture for independent reading and study.

3 STACK AREA
Utilize 5’ high perimeter shelving and 3.5’ high stand-alone shelving. Provide ample low sloped-top picture book display areas. Amount determined by collection size. Provide shelving for the professional library.

4 COMPUTER AREA
This area includes both computers for general use as well as providing access to the card catalogue. Some of the computers may be placed in the stack area.

5 CIRCULATION DESK
Locate the circulation desk near the main library entrance with direct access to the AV storage and production. The desk should maintain visibility to all the library components.
6 ADMINISTRATION AREA/AV AREA /STORAGE
This area provides space for administrative duties associated with the information center, book repair and cataloguing, and storage of reference material. Allocate a portion of the space for secure storage; this can be accomplished with a room within the space or lockable storage cabinets. In schools without a separate audio visual room, a small area will serve for school broadcasts.

Planning Requirements

NSF
Instructional Area 800 sf (74 m²) (min) 2400 sf (223 m²) (max)
(30 sf times 10% student capacity)
Independent Reading Area 175 sf (16 m²)
Stack Area (2 sf times student enrollment) 400 sf (min) (37 m²)
Computer Area (enrollment < 350, 12 computers) 200 sf (19 m²)
(enrollment 350 – 700, 16 computers) 250 sf (23 m²)
(enrollment >700, 20 computers) 300 sf (28 m²)
Circulation Desk 125 sf (12 m²)
Administration Area/Storage 325 sf (min) (30 m²)
(150 sf +.5 sf times student enrollment)
Professional Library 50 sf (5 m²)
Typical Features

Built-In Furnishings

- Book shelves 42” high in center 60” at perimeter.
- Circulation desk
- Base cabinets w/ counters and wall cabinets for storage (AV storage area)

Finishes

- Floor: sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 12’-0” min. (3.65 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 55)

Loose Furnishings

- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- Conference table and chairs
- File cabinets

Equipment

- Marker board (16’ minimum)
- Overhead pull-down screen
- Tack board (32’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- Outlet in ceiling for video projector
- The minimal number of (LAN) connections should coincide with the number of computers as dictated in the Planning Requirements
- LAN outlet in ceiling for video projector
- Independent sound system
- Cable television with COAX and LAN connection
- AV broadcast equipment
- Book security system
- Raised access floor (as required)
- Floor boxes with power and data at 6’-0” (1.83 m) on center under instructional area (if required)

Plumbing

- Single bowl sink
Education Facilities Specifications

Itinerant Office
Conceptual Plan

![Diagram of Itinerant Office]

Functional Area Descriptions

The Itinerant Office is a workspace for educators or other personnel visiting or working at the school on a short-term or irregular basis. The program requires a small, one-person office area with space for small group meetings. This room has no special adjacencies.

1 OFFICE AREA

Provide space for a desk, file cabinets, and side chairs. The office should include space for up to 3 people to meet.

Planning Requirements

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<tr>
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<td>150 sf</td>
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TYPICAL FEATURES:

Built-In Furnishings

- None

Finishes

- Floor: vinyl composition tile, sheet rubber floor, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 45)

Loose Furnishings

- Desk and chair
- Small table and chairs
- File cabinets
- Storage cabinets

Equipment

- 4' Tack board
- 4' Marker board
- Window shades or blinds

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code
The school janitorial staff uses the janitorial administration room / break room. The program requires a one-person office area and space for the janitorial staff to take breaks.

1 OFFICE / BREAK AREA
The office provides space for a desk, file cabinets, and side chairs. The office should allow space for up to 6 people to take their breaks.

Planning Requirements

NSF:

<table>
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<th>Office Area</th>
<th>250 sf *</th>
<th>(23 m²)</th>
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* +15 sf (1.4 m²) for each staff member per shift >5
Typical Features:

**Built-In Furnishings**

- 6’ cabinets with plastic laminate counter, wall cabinet with microwave shelf

**Finishes**

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 50)

**Loose Furnishings**

- Desk and chair
- Table and chairs
- Shelves
- File cabinet

**Equipment**

- 4’ tack board
- 4’ marker board
- Window shades or blinds
- Refrigerator
- Microwave
- Coffee maker

**HVAC**

- Fresh air supply
- Independent temperature control

**Electrical**

- Fluorescent lighting (500 lux min. at desk height)
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code
Systems

- Bell system
- Phone
- 2 (LAN) connections
- PA / Intercom system
- Clock
- Cable television with COAX and LAN connection

Plumbing

- Double bowl sink at counter
Education Facilities Specifications

Language Arts/Reading Specialist
Conceptual Plan

Functional Area Description

The Language Arts/Reading Specialist Classroom provides space for specialized instruction and testing to improve reading skills. This instruction requires a quiet environment for individual and small group work. Sub-grouping of the students is common; the specialist may work closely with one or two students, while the remaining students are reading or working independently. Locate the Language Arts/Reading Specialist classroom near the Information Center and speech therapy area.

1 INDEPENDENT STUDY AREA
This area provides space for students to read and work independently.

2 INSTRUCTIONAL AREA
The instructional area of the classroom is occupied by the teacher and instructional equipment. This area should be located at the front of the classroom with direct access to the intercom and main room entrance.

3 WORK/STORAGE AREA
The storage area provides storage space for equipment and instructional materials.

4 SMALL GROUP AREA
This provides an area for the specialist to work closely with one or two students, while the remaining students are doing independent work.
Planning Requirements

NSF
Instructional Area 450 sf (42 m²)
Small Group Area included in 450
Independent Study Area included in 450
Storage Area included in 450

Typical features

Built-In Furnishings

- Shelves for books and other class materials
- Storage cabinets
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Teaching wall (features to include markerboard, tack strip, and storage)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10’-0” (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 50)

Loose Furnishings

- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (as required)

Equipment

- Marker board (24’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboards (as required)

HVAC

- Fresh air supply
- Independent temperature control
### Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

### Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 8 (LAN) connections for students and 2 at teacher’s desk
- Cable television with COAX and LAN connection
Education Facilities Specifications

Learning Impaired (Severe)
The Learning Impaired – Severe (LIS) area is the instructional space for children with severe learning difficulties. The room should accommodate up to 12 students. These students will spend more than 50% of their day in this room. Learning impaired classrooms should be located to provide convenient access to mainstream education and as close to peers of the same age as possible. The classroom should have variable light control and high quality acoustical controls including ADA compliant, built-in sound field systems to accommodate students with specific learning disabilities, hearing impairments, and/or severe auditory processing deficits. The room should be on the ground floor close to the general play area. Built in and loose furniture must be ADA compliant.

1 STUDENT INSTRUCTION AREA
This area uses desks and/or tables to allow demonstrations by the teacher in group or individual settings. Structure should support specialized equipment hung from the ceiling.

2 INSTRUCTIONAL AREA
Locate at the front of the classroom with direct access to the intercom, main entrance, and a teacher-controlled master switch for all electrical equipment.

3 COMPUTER AREA
Provide accessible stations with ample room for over-the-shoulder tutoring. Provide adequate maneuvering clearances for students to make and retrieve their own printouts. There should be a common printer location.

4 STORAGE AREA
The storage area provides space for equipment and instructional materials. A sink and drinking fountain should be provided. Counter and sink heights should be based on the age of the students using them.
5 KITCHEN
Incorporate the kitchen into the classroom area or provide as a separate room as shown. If a separate room, include a large glass observation window between the classroom and the kitchen. The kitchen should provide a double sink, refrigerator, cooking range, microwave, dishwasher, and clothes washer and dryer.

6 RESTROOM AREA
A unisex, ADA compliant restroom should contain sufficient space for diapering/hygiene needs. Include a shower and a changing table space for diapering/hygiene needs. The changing table may require a hydraulic lift with appropriate electrical outlets. Include storage for supplies.

7 HOME LIVING AREA
Dedicate part of the primary area to dining area, living room, and bedroom areas. Locate these areas adjacent to the kitchen and restroom area.

Planning Requirements

<table>
<thead>
<tr>
<th>NSF</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Instruction Area</td>
<td>1100 sf</td>
<td>(102 m²)</td>
</tr>
<tr>
<td>Instructional Area</td>
<td>included</td>
<td>in 1100 sf</td>
</tr>
<tr>
<td>Computer Area</td>
<td>included</td>
<td>in 1100 sf</td>
</tr>
<tr>
<td>Storage/Work Area</td>
<td>included</td>
<td>in 1100 sf</td>
</tr>
<tr>
<td>Kitchen and Restroom Area</td>
<td>300 sf</td>
<td>(28 m²)</td>
</tr>
<tr>
<td>Home Living Area</td>
<td>200 sf</td>
<td>(19 m²)</td>
</tr>
</tbody>
</table>
**Typical Features:**

**Built-In Furnishings**
- Shelves for books and other class materials
- Coat storage
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Kitchen counter and cabinets
- Storage cabinets
- Sink w/ bubbler
- Teaching wall (features to include marker board, tack strip, and storage)

**Finishes**
- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 55)

**Loose Furnishings**
- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)
- Sofa and dining furniture
- Changing table (restroom)

**Equipment**
- Marker board (16’ minimum)
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Overhead pull-down screen
- Window shades or blinds
- Smartboard (as required)

**HVAC**
- Fresh air supply
- Independent temperature control

**Electrical**
- Fluorescent lighting (500 lux min. at desk height) (300 lux at restroom)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code
- Master switch for all power

**Systems**
- Bell system
- Phone
- 8 (LAN) connections for students and 2 at teacher’s desk
- PA / Intercom system
- Clock
- Cable television with COAX and LAN connection

**Plumbing**
- Long sink with multiple fixtures and bubbler
- Double bowl sink
- Restroom fixtures

**Other**
- Ceiling hook
Education Facilities Specifications

With DoDDS-E Recommendations
of 15 December 2006

Local Area Network
Overview

The Local Area Network (LAN) provides a medium for network devices to communicate with other networked devices on an intranet at either Fast Ethernet (100MB) or Gigabit Ethernet (1000MB) speeds. Depending on the size of the network, single or multiple rooms are necessary to provide ample space to house LAN cabinets that contain critical network equipment to promote network connectivity.

Conceptual Plan

Functional Area Descriptions

The local area network requires a series of small rooms. These rooms, placed throughout the school, contain concentrators. Cable length from any workstation to a concentrator cannot exceed 295 feet (90 meters) - this limitation will dictate the number and location of rooms provided within a school.

1 LAN ROOM (SIZE ROOM AS REQUIRED)

Physical rooms located throughout a building that contain LAN cabinets required to connect horizontal copper cabling between patch panels and room wall outlets. Each LAN room will connect to the main communications room via horizontal fiber optic cabling. A climate controlled environment capable of maintaining cooling at 20 degrees Celsius (68 degrees Fahrenheit) is required while input power for the LAN cabinet will be provided from an online UPS system. At minimum, one LAN room shall be allocated per building per floor. In multi-level buildings, it is feasible to configure LAN rooms on top of each other for ease of maintenance and future upgrades. Adequate clearance around the entire LAN cabinets and unrestricted access to all cabinet doors and side panels is necessitated. Security locks will be provided for each LAN room and keys will be issued only to IT Division, Facility, and Security personnel authorized access by the Area Office Designated Approving Authority (DAA).

1 COMMUNICATIONS ROOM (SIZE ROOM AS REQUIRED)

Physical room located in a centralized area of the campus used to aggregate horizontal fiber optic cabling from LAN rooms and accommodate network servers, routers, and phone systems. A climate controlled environment capable of maintaining cooling at 20 degrees Celsius (68 degrees Fahrenheit) is required while input power for the entire room will be provided from an online UPS system. Conditioned power will be delivered to each cabinet via overhead cable tray distribution systems and will provide a minimum of three 16-amp power feeds. A minimum of 2-3 LAN cabinets is required to support the majority of all LAN connectivity and IT resource requirements. However, additional LAN cabinets (maximum of 6) may be required to support site-specific requirements. Fiber and copper termination cabinets shall not be combined in a single LAN cabinet and shall be located adjacent from each other. Adequate clearance around the entire LAN cabinets and unrestricted access to
all cabinet doors and side panels is necessitated. Security locks will be provided for the communications room and keys will be issued only to IT Division, Facility, and Security personnel authorized access by the Area Office Designated Approving Authority (DAA).

1 ON-LINE UPS ROOM (SIZE ROOM AS REQUIRED)

An on-line UPS room shall be provided to accommodate an on-line UPS system that will support a minimum of 120 minutes of battery support for all critical network devices identified by the IT Division. The room shall be located in the vicinity of the incoming building mains power and must be climate controlled to 20 degrees Celsius (68 degrees Fahrenheit). Horizontal electric cabling will be installed from the online UPS to the communications room and shall terminate in a standard country specific circuit breaker panel. Circuit breaker panel shall contain sufficient capacity to support three 16-amp power feeds per communications room LAN cabinet and a single 16-amp power feed for each LAN room cabinet. The LAN room horizontal electric cabling will be installed from each 16-amp breaker within the communications room circuit breaker panel and terminate in a country specific power strip containing 12 outlets. The power strip will be mounted horizontally in the bottom of the LAN cabinet above the grounding plate. Adequate clearance around the UPS system is necessitated. Security locks will be provided for the UPS room and keys will be issued only to IT Division, Facility, and Security personnel.

- NETWORK CABLING (COPPER)
  Category 6 (CAT6), Class E cabling is the standard horizontal LAN cable for all DoDEA sites. CAT6 cabling is capable of sustaining 1000Base-T (Gigabit) speeds with a performance rating not less than 250 MHz. CAT6 cabling shall be installed in continuous, un-spliced, lengths between the LAN cabinet patch panel and the classroom or office wall outlet and cannot exceed 295 feet (90 meters). All cabling installations shall conform to applicable Electrical Code, local regulations, and EIA/TIA 568 B.2 standards.

  - Installation Guidelines
    - Install Plenum rated cabling where applicable.
    - Copper patch panels will be located in the lower portion of the LAN cabinet and will be separated by 1 RU of space.
    - Cables shall run parallel or at right angles to the building structure and shall not be installed diagonally across ceiling spaces.
    - Cables shall be supported by J-Hooks or equivalent, installed at intervals not exceeding 5’ between supports, and be permanently anchored to building structure or building surfaces.
    - Cabling shall not be supported from ductwork, water or waste piping, electrical conduits, suspended ceiling supports, or be supported from the ceiling suspension system.
    - Provide 24” service loop for cables at each LAN cabinet. Excess cable shall be located neatly in cable tray.
    - Provide 12” service loop at each LAN wall outlet. Excess cable shall be located in wall, conduit, or ceiling.
    - Machine printed labels will be provided for copper patch panel and wall outlet identification. Copper patch panel labeling will include Room # and port #. Wall outlet will include LAN cabinet #, patch panel #, and port #.
    - All CAT6 cabling will be certified to EIA/TIA 568 B standards. Test report data must be presented, unaltered, in a common electronic format prior to acceptance of horizontal cabling infrastructure.
- **FIBER OPTIC CABLE (SINGLE MODE AND MULTI MODE)**
  - **Renovation projects or additions to existing LAN infrastructure**

  At a minimum, backbone network cabling shall consist of one (1) 4-strand, 62.5/125-micron multi-mode fiber (MMF) optic cable terminated in a fiber optic distribution panel with ST connectors and one (1) 8-strand 9/125-micron single-mode fiber (SMF) optic cable terminated in a fiber optic distribution panel with SC connectors. The installation of MMF in renovation projects allows for backward compatibility with existing legacy networks already using this technology. SMF optic cabling provides more efficient data throughput, increased bandwidth capacity, and greater distance support in comparison to MMF optic cable. Fiber optic cabling shall meet all applicable EIA/TIA 568 B.3 standards capable of supporting 1000Base-T and 10GBASE-T deployments conforming to IEEE 802.3ae and 802.3an.

  - **New construction projects**

    At a minimum, backbone network cabling shall consist of one (1) 12-strand, 9/125-micron single-mode fiber (SMF) optic cable terminated in a fiber optic distribution panel with SC connectors. Fiber optic cabling shall meet all applicable EIA/TIA 568 B.3 standards capable of supporting 1000Base-T and 10GBASE-T deployments conforming to IEEE 802.3ae and 802.3an.

  - **Installation Guidelines**

    - Install Plenum rated cabling where applicable.
    - Fiber optic patch panels shall be located in the upper portion of the LAN cabinet.
    - Single-mode fiber will be terminated with SC connectors
    - Multi-mode fiber will be terminated with ST connectors.
    - Provide 48” service loop for fiber optic cables in each LAN cabinet. Excess cable shall be located neatly in cable tray.
    - Machine printed labels will be provided for fiber optic patch panel identification. Fiber optic patch panel labeling will include Bldg #, Room # and Cabinet # depicting the origin of the fiber.
    - All fiber optic cabling will be certified to EIA/TIA 568 B.3 standards. Test report data must be presented, unaltered, in a common electronic format prior to acceptance of horizontal cabling infrastructure.

- **DATA NETWORKING/ GROUNDING**

  A communications ground (#6 AWG minimum) shall be installed from the main service entrance ground bus to each LAN and communications room LAN cabinet and terminate on a 4”x10”x0.25” copper ground plate located in the bottom rear of the cabinet.
• **ENVIRONMENTAL CONTROL**

A dedicated air conditioning (A/C) unit shall be installed in each LAN, Communications, and UPS room to maintain temperature and humidity to a maximum of 20 degrees Celsius (68 degrees Fahrenheit) and 30 - 70% relative humidity. Rating of A/C units should be based on the heat generation and power consumption ratings of the installed equipment to maintain this ambient level. Fluorescent lighting shall be installed to provide 500-lux minimum at desk height.

• **Cabinet 1: LAN CABINETS FOR CABLE TERMINATION**  
Reference LAN Cabinet Space Allocation Diagram

Data cabling shall be secured to prevent unauthorized access to mission critical LAN resources. When LAN cabling is installed in a LAN room, the cabling shall be terminated in a floor standing fully lockable LAN cabinet secured with a traditional lock and key system. The LAN cabinet shall be height-wise, 42 Rack Units (RU) (One RU=1.75”) and will support a maximum of 216 copper patch panel ports using a standard 19” rack mount patch panel containing 24 ports. The LAN room cabinet shall accommodate standard 482mm (19”) width LAN equipment and shall maintain a minimum depth of 812mm (32”) with a functional depth of 660mm (26”). Depending on the type of Facility Project (Renovation or New Construction), to connect the LAN equipment in the LAN cabinets to the main fiber distribution panel, single-mode fiber (SMF) or multi-mode fiber (MMF) will be required. All LAN cabinet locks shall be identically keyed for management ease. In addition, all LAN rooms will be secured with a traditional lock and key system that will be keyed different than the LAN cabinet key. Access to the Communications room will be controlled. Keys to LAN cabinets and LAN rooms shall be controlled by the local key custodian and issued to IT Division, Facility Branch, and Security personnel authorized access by the Area Office Designated Approving Authority (DAA).

• **Cabinet 2: LAN CABINETS FOR NETWORK RESOURCES**

Network Resources shall be secured to prevent unauthorized access to mission critical data storage devices. When network resources are installed in a Communications room, the equipment shall be co-located in a floor standing fully lockable LAN cabinet secured with a traditional lock and key system. The LAN cabinet shall be height-wise, 42 Rack Units (RU) (One RU=1.75”) and capable of supporting standard rack mount server mounting hardware. Communication Room LAN cabinets shall accommodate standard 482mm (19”) width network resources and shall maintain a minimum depth of 1000mm (39”) with a functional depth of 914mm (36”). To connect these network resources to the main fiber distribution panel, 4 strands of 9/125-micron single-mode fiber (SMF) optic cable terminated in a fiber optic distribution panel with SC connectors will be required. All LAN cabinet locks shall be identically keyed for management ease. In addition, the Communications room will be secured with a traditional lock and key system that will be keyed different than the LAN cabinet key. Access to the Communications room will be controlled. Keys to LAN cabinets and Communications rooms shall be controlled by the local key custodian and issued to IT Division, Facility Branch, and Security personnel authorized access by the Area Designated Approving Authority (DAA).
• **CABLE TRAY FOR CABLE INSTALLATION**
  The most advantageous method of installing data cabling (copper and fiber) is to use a cable tray system. The use of a cable tray is ideal for installing all low voltage cables; telephone, television, security, data cables etc. at the time of installation, saving time and money. Installing a cable tray with space for future cabling also provides an easy way to add data cables in the future without extensively disturbing the existing ceiling. Any surface mounted raceway used (e.g. in renovation) to house data and power outlets shall have a center divider to separate power from data cabling.

• **UNINTERRUPTED POWER SOURCE (UPS)**
  To protect network resources and LAN equipment from damage or data loss resulting from electrical surges or power outages, UPS systems are needed. An on-line UPS shall be the recommended system installed to provide conditioned power to network resources and LAN equipment installed in Communication and LAN rooms. The UPS system shall be hard wired into the building mains power and will provide a minimum of 120 minutes back up power when a power outage is incurred. Accurate wattage consumption for all planned equipment will be provided to allow for selection of a UPS that can support the existing power requirements. Placement of the UPS battery room should be on the ground floor and will be climate controlled to 20 degrees Celsius (68 degrees Fahrenheit).

  Note: The UPS is considered equipment. It will not be funded with MILCON or FSRM funds.

• **WIRELESS**
  Wireless networks shall be installed as a supplement to the existing network infrastructure. A controller based wireless configuration will be used as a compliment to the wired data infrastructure. A Radio Frequency (RF) survey shall be performed to identify specific locations for the placement of LAN connections that will support access point distribution throughout the building. Power to the access points will be provided via a Power over Ethernet (PoE) LAN switch co-located in the LAN room that terminates the wireless access point cabling. Wireless access point cabling shall be terminated in a patch panel separate from normal wired connections and should not exceed more than 24 ports per LAN cabinet.

  Note: Installation of wireless LAN drops will take away from the default LAN cabinet capacity of 216 drops leaving a maximum wired port density of 192 copper patch panel ports.

  Wireless technologies that are integrated or connected to DoDEA networks must comply with DoD Directive 8500.1 and DoD Instruction 8500.2. Wireless technologies under consideration for access to DoDEA networks and information are required to undergo vulnerability testing, complete the Interim Department of Defense (DoD) IA Certification and Accreditation Process Guidance (DIACAP)(previously known as the Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP)), meet DoD standards and security requirements, and be approved by the DoDEA Chief Information Officer (CIO).

  Activities considering wireless technologies for use in a test or educational setting must ensure that there is physical and logical separation from any DoDEA network, in addition to, physical and logical separation from any associated DoD networks, and that those technologies do not process Unclassified, sensitive, or privacy information.

  DoD has provided guidance for wireless technology in DoD Directive 8100.2.
In addition, other guidance and directives are provided in the following publications.

DoD Directive 8500.1, “Information Assurance (IA)”, October 24, 2002
Interim DoD IA Certification and Accreditation Process (DIACAP) Guidance, July 06, 2006
Chairman, Joint Chiefs of Staff Instruction 6510.01, “Information Assurance and Computer Network Defense (CND)”, August 10, 2004
Defense Information Security Agency (DISA) Wireless Mobile Computing Addendum V1R1, October 31, 2005
Defense Information Security Agency (DISA) Wireless Site Survey Addendum V1R1, October 31, 2005

Under authorization of DoDEA memorandum dated September 16, 2004, total oversight and management responsibilities for IA and protection of the Activity’s critical IT infrastructure fall under the purview of the DoDEA CIO and DoDEA Information Assurance (IA) Chief. **All requests for use of wireless technologies within DoDEA are to be routed to the DoDEA CIO and DoDEA IA Chief for approval.**

**NOTE:** Due to emerging network technologies, the LAN Standards shall be reviewed on an annual basis. Check with your Area IT Director or DoDEA IT to ensure that this is the most current LAN standard.
Planning Requirements

NSF
Concentrator Room(s)  70-110 sf per room  (6.5 m²-10 m²)
(subject to actual equipment and required clearances)

Typical Features:

Built-In Furnishings

• LAN equipment racks (option-based on chosen model)

Finishes

• Floor: sealed concrete
• Base: as appropriate for flooring material
• Ceiling: no finish; waterproof
• Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material

Equipment

• LAN equipment (as required)
• LAN component racks
• Punch boards (as required) – minimum 4’ x 8’ ¾” plywood
• Rack mounted servers (as required)

HVAC

• Fresh air supply
• Independent temperature control

Electrical

• Fluorescent lighting (500 lux min. at desk height)
• General purpose outlets as required for equipment(110V and 208V)
• Rack mounted servers
• Concentrator

Fire Protection

• Fire protection system as required by NFPA
LAN Cabinet Space Allocation

Total LAN cabinet area: 42 RU
Section 1 – Fiber = 4 RU
Section 2 – Switches = 20 RU (with Spacing)
Section 3 – Cat 6 Panels = 18 RU (with spacing)
Education Facilities Specifications

Maintenance Support
Conceptual Plan

Functional Area Descriptions

Include this area where applicable and authorized. This functional area houses maintenance support that serves a complex of schools. The maintenance office area provides space for the director of maintenance. This space includes an office, workshop, storage, and receiving area. Locate this space near the supply room and vehicular access.

1 OFFICE AREA
The office area should have direct access to the corridor and workshop. The area should include a desk, shelves, and file storage.

2 WORKSHOP
The workshop provides a place for the maintenance contractor to work on repair projects. The area should include workbenches, stools, and heavy-duty shelving and cabinets.

3 RECEIVING AREA
A receiving area should be provided that allows space for receiving deliveries and unpacking boxes, etc. This should be located near an exterior door.

4 STORAGE AREA
The storage area should be near the receiving area. It should include steel storage shelving and lockable cabinets.
Planning Requirements

NSF
Student enrollment ≤ 500 400 sf (37 m²)
Student enrollment 501-750 600 sf (56 m²)
Student enrollment 751-900 720 sf (67 m²)
Student enrollment 901-1200 960 sf (89 m²)

Typical Features:

Built-In Furnishings
- Work bench (as required)
- Shelves and cabinets for storage (as required)
- Supplies (as required)

Finishes
- Floor: sealed concrete
- Base: sheet rubber, VCT or sealed concrete
- Ceiling: 10'-0" (3.05 m) AFF gypsum board, exposed structure
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 45)

Loose Furnishings
- Work bench (as required)
- Storage cabinets and shelves
- Desk and chair
- File cabinet

Equipment
- 4' marker or tack board

HVAC
- Fresh air supply
- Independent temperature control
- Workbench ventilation

Electrical
- Fluorescent lighting (500 lux min. at desk height)
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems
- Bell system
- Phone
- 2 (LAN) connections
- PA / Intercom system
- Clock
Education Facilities Specifications

Multipurpose Computer Laboratory
Functional Area Descriptions

The multipurpose computer laboratory provides space for individual and group instruction in computer applications. Locate one lab near the Information Center. Provide one lab for an enrollment of 0-349 students. Provide a second lab when enrollment is 350 to 699 students and a third lab when enrollment is 700 or greater students.

1 INDIVIDUAL COMPUTER STATION AREA
Arranged computer stations to allow the instructor to view all computer screens from a position at the front of the room. Allow ample aisle width for over-the-shoulder tutoring and ease of movement through the equipment. Distribute printer locations throughout the room. Maximize the use of wall space above the workstations with tack boards for work display/review and with wall-mounted cabinets for storage.

2 INSTRUCTIONAL AREA
The instructional area provides a space for the teacher to provide group instruction and demonstrate computer applications and techniques.

3 SPECIAL PROJECTS AREA
The special projects area provides a space for small groups to work on special projects. Walls can separate this area from the rest of the lab; include a glass window in the wall between the lab and the special projects room to enable supervision. Include a counter in the room. The room should accommodate 6 students.

4 STORAGE
Provide secure storage space for materials and parts.
Planning Requirements

NSF:
- Individual Computer Station Area: 1300 sf (121 m²) (25 workstations + 5 support devices)
- Lecture Area: included in 1300 sf
- Study Area: included in 1300 sf
- Special Projects Area: included in 1300 sf (6 workstations + 4 support devices)
- Storage: included in 1300 sf

Typical Features

Built-In Furnishings
- Wall mounted shelves for books and other class materials
- Lockable wall mounted cabinets
- Counter in Special Projects Area
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes
- Floor: sheet rubber flooring, ceramic tile, Vinyl composition tile, carpet or other non-static, locally available, low maintenance surface.
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 45)

Loose Furnishings
- Student work tables and chairs
- Student computer tables
- Teacher desk and chair
- File cabinets
- Audio visual cart (optional)

Equipment
- Marker board (8’ minimum)
- Overhead pull down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Smart board (optional)
- Ceiling mounted video projector
- Window shades or blinds
- Smartboard (as required)

HVAC
- Air conditioning
- Fresh air supply
- Independent temperature control

Electrical
- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for video projector
- General purpose outlets
- Emergency and exiting lighting as required by code

Systems
- Bell system
- Phone
- PA / Intercom system
- Clock
- 40 (LAN) connections for students and 2 at teacher’s desk
- Cable television with COAX and LAN connection
- LAN connection in ceiling for video projector
- Raised access floor (if required)
- Floor boxes with power and data at 6'-0" (1.83 m) on center under instructional area (if required)
Education Facilities Specifications

Music Suite
(Band and Choral)
Conceptual Plan

Functional Area Descriptions

The music studio serves as the primary area for music education. The space should provide large and small practice areas and have adequate lockable storage areas. Include exterior access for the loading and unloading of equipment for band trips. Optimally locate near the performance area or stage. The activities in these rooms require consideration of acoustics within rooms and sound transmission between them.

1 BAND ROOM
The primary space for band practice, this room requires access to the exterior as well as all the support spaces. Suitable for large ensembles, the room requires a large volume for acoustics. An instructional area sits at the front of the room and a small computer area on one edge. The ceiling height should be 16' for a 1,250 sf room. Twenty four feet high for larger rooms per Wenger guidelines.

2 OFFICE
The primary space for the band director; this room provides a desk and file storage. Locate adjacent to the band room near the primary entrance and near the music copy room.

3 PRACTICE ROOMS
The practice rooms provide space for individuals or small groups of students to practice. The rooms require appropriate sound absorbing wall construction and finishing. Manufactured acoustically-isolated modular practice rooms may also be considered.

4 SHEET MUSIC STORAGE ROOM
The sheet music storage room serves as a storage room/library for the music copy available to the band.
5 COMPUTER / KEYBOARD LAB
This is an instructional area for students to access and practice on midi computers and keyboards.

6 INSTRUMENT STORAGE ROOM
This room provides for the storage of instruments and large equipment. Locate close to an exterior exit for ease in loading and unloading equipment. Provide a deep wide sink for the cleaning of instruments.

7 CHORAL ROOM
The Choral Room serves as an area for singing practice. Ceiling height should be 16’ to 24’ per Wenger guidelines.

Planning Requirements

<table>
<thead>
<tr>
<th>Music Program</th>
<th>Area (Top Square Feet, Bottom Meters)</th>
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<tbody>
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<td>Music Room</td>
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<td>Office</td>
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<tr>
<td>Practice Rooms</td>
<td>2@100</td>
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<tr>
<td></td>
<td>2@9</td>
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<tr>
<td>Sheet Music Storage</td>
<td>75</td>
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<tr>
<td>Computer/Keyboard Lab</td>
<td>500</td>
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<td>46</td>
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<tr>
<td>Instrument Storage Room</td>
<td>250</td>
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<tr>
<td>Choral Room</td>
<td>1,250</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Typical Features:

Built-In Furnishings

- Cabinets for books, instruments, and other class materials
- Lockable cabinets for teacher’s personal belongings
- Sliding marker board with one panel with permanent staff markings
- Cabinet for sound system components
- Instrument storage cabinets
- Sink for instrument cleaning
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes

- Floor: sheet rubber flooring or other locally available low maintenance acoustically absorbent surface. See Appendix C
- Base: as appropriate for flooring material
- Ceiling: AFF, suspended acoustical tile. See Appendix C
- Walls: concrete block, plaster, drywall or other locally available, durable material (min. STC 55) See Appendix C

Loose Furnishings

- Student chairs
- Music stands
- Student computer tables
- Teacher desk and chair
- File cabinets
- Podium (optional)
- Tables for midi or keyboard stations

Equipment

- Overhead pull-down screen
- Tack board (24’ minimum)
- Wall or ceiling suspended television monitor (2)
- Mirrors in practice rooms
- Marker board (24’ minimum)
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min.) (200 lux at storage)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Two data connections to local area network for each computer location. See Appendix D
- Bell system
- Phone
- PA / Intercom system
- Clock
- Cable television with COAX and LAN connection
- Independent sound system

Other

- Soundproofing
- Acoustic absorber and diffuser panels
Education Facilities Specifications

Occupational Therapy/
Physical Therapy
Conceptual Plan

Functional Area Descriptions

The area provides space for students to receive needed support in developing cognitive and/or motor skills. Provide an open, flexible space within to accommodate any variety of activities needed for student therapy. Locate the therapy rooms adjacent to each other, separated by a movable partition wall. The movable partition allows use as individual rooms or as one large space, depending on the number of students. Consider hanging adaptive equipment supported by the floor/roof structure. This prototype accommodates two therapists. Locate room on ground floor. Built in and loose furniture must be ADA compliant.

1 OCCUPATIONAL THERAPY AREA
The occupational therapy area focuses on processing skills. The area should provide a quiet and comfortable learning environment and include an adjacent storage room.

2 PHYSICAL THERAPY AREA
The physical therapy area focuses on motor skills. The space requires an open, flexible space that can accommodate a variety of movement activities using equipment such as balance bars, tricycles, and floor mats. The space should accommodate free movement exercises and dance. The area should include an adjacent storage room. A heavy duty ceiling hook (1000# capacity) needs to be provided in the center of the room for mounting vestibulators and other PT devices.

3 STORAGE AREAS
Provide secure storage for equipment.

4 OFFICE
Provide an office for the therapist to perform basic administrative tasks.
Planning Requirements

NSF
Occupational Training Area       800 sf \hspace{1cm} (74 \text{ m}^2)
Physical Training Area           800 sf \hspace{1cm} (74 \text{ m}^2)
Storage Rooms 2 @150 sf          300 sf \hspace{1cm} (28 \text{ m}^2)
Offices 2 @ 125 sf               250 sf \hspace{1cm} (23 \text{ m}^2)

Typical Features:

Built-In Furnishings
- Storage cabinets with laminate counter

Finishes
- Floor: vinyl composition tile, carpet or other non-static, locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 45)

Loose Furnishings
- Teacher desk and chair
- File cabinets
- Miscellaneous OT/PT Equipment
- Shelves, cabinets

Equipment
- Marker board (8’ minimum)
- Overhead pull-down screen
- Tack board (8’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds

HVAC
- Fresh air supply
- Independent temperature control

Electrical
- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems
- Bell system
- Phone
- 8 (LAN) connections (therapy area), 2 (LAN) connections (office)
- PA / Intercom system
- Clock
- Cable television with COAX and LAN connection

Plumbing
- Counter sink w bubbler

Other
- Ceiling hook
Education Facilities Specifications

Parking & Service Areas
Conceptual Plan

Circulation and Layout

- Divide parking areas by use: visitor, staff, student/special events, and handicap accessible. Parking plans must comply with Anti-terrorism/Force Protection (AT/FP) requirements.
- Conveniently locate the visitor parking and accessible parking near the front entrance of the school.
- Locate the bus loading areas near the appropriate entrance.
- Place the staff parking so that it does not visually dominate the building and open spaces.
- Local regulations usually determine parking requirements in most jurisdictions (including military). Provide minimum parking requirements for staff and visitors at a ratio of 2 spaces per classroom, plus 15% of gymnasium seats.
- The planning requirements shown utilize a 90 degree parking module. Any other module would increase the square feet needed per space.
- Locate accessible parking as close as possible to the shortest accessible path of travel to buildings. See current codes for quantities.
- Avoid creating irregular shaped parking areas. Good internal circulation is more important than squeezing in a few extra parking spaces.
- Orient the main vehicular circulation perpendicular to the building, however, perpendicular rows less than 130’ are not practical and should be oriented parallel to the building.
- Run pedestrian circulation parallel to the parking bays to decrease pedestrian traffic across vehicle lanes.
- Locate bus loading/unloading zones away from general parking areas and the associated traffic flow.
Service Area

- This is an area used for deliveries, trash removal, and other essential services required to support the operations of the school.
- Locate just outside the support area of the building and visually screen from the predominant areas of the site.
- Provide physical enclosures for trash receptacles. The location should comply with AT/FP requirements.
- If a dock is provided, verify the height of vehicles making deliveries.
- Provide for a local recycling program.

Planting

- All planting requirements should be adapted to local climate. In general, provide native plant materials.
- Provide shade trees, 25’-30’-40’ on center in all parking islands. Avoid low branching trees to maintain clear sight lines.
- Use a mix of evergreen and deciduous plant material to shade parking areas and service areas (i.e. refuse areas, loading docks, HVAC units, etc.) from adjacent uses.
- Provide parking islands as needed. Parking lots containing greater than 50 spaces shall be broken down with parking islands.
- Select non-poisonous, thornless trees, shrubs, plants, and ground covers that can withstand harsher conditions, such as sun, glare, heat, and reduced water supply. Choose trees and shrubs that require minimum maintenance and will not litter the parking area with leaves, fruits, and nuts.
- Provide enough clearance in planting islands to accommodate for vehicle overhang.
- Consider sight distance lines near entrances when choosing and placing plant material. No plants over 3’ high, 25’ to 100’ from entrance of streets.
- Plant heights and distances must comply with AT/FP standards.

Planning Requirements

All school levels | 320 sf per vehicle | (30 m²)
Education Facilities Specifications

Playground
Conceptual Plan

Functional Use
The outdoor play area serves middle school children. The playground must comply with US Consumer Product Safety Commission (CPSC) and Americans with Disabilities Guidelines (ADAG). Site available resources greatly influence a playgrounds’ final form.

Activity Spaces and Elements

- A play equipment area for middle school children.
- An open turfed area for informal active games for middle school children.
- A shaded area for quiet activities such as reading, story-telling, and quiet games.
- A paved multipurpose area large enough for activities such as hopscotch, basketball, volleyball, tennis, and paddle tennis.
- An area for field games including softball, junior baseball, touch or flag football, soccer, and track and field activities.
- Circulation and buffer space.
- Provide a CPSC compliant playground surface. This may include, but is not limited to poured rubber, rubber tiles or engineered wood fiber.
- Provide adequate drainage for playground surfaces.
- Provide 50% of the area in turf, 25% in equipment and 25% in hard surface.
Layout

- Locate the playground equipment area adjacent to the school.
- Provide an open turfed area for informal active play close to the play area and play lot for use by all middle school children.
- Provide tree-shaded areas for quiet activities, somewhat removed from the active play areas, i.e. play tables and activity panels. Avoid trees, shrubs, and ground covers with thorns, poisonous parts, or that attract bees. Also avoid trees with fruit or nuts.
- Set off the paved multipurpose area from the other areas by plantings and locate near the school gymnasium. Create a division between active, energetic spaces and quiet, discovery zones.
- Place the field games area on fairly level, well-drained land.
- Fully develop the playground with landscape planting for activity and traffic control and to increase the interest and attractiveness of the playground.
- Avoid rung ladders and climbing components as the sole means of access to play equipment.
- Consider prevailing sun angles. Keep slides out of the heat of the sun by locating the slide surface facing north.
- The Americans with Disabilities Act and the Consumer Product Safety Commission offer strict playground standards regarding accessibility and design of play structures.
- Consider security when developing landscape planting. Keep shrubs under 3’ in height and tree limbs at a minimum of 6’ above ground surface. Disperse popular or heavy use equipment to avoid crowding and locate exit slides in non-congested areas.

Planning Requirements

<table>
<thead>
<tr>
<th>Projected Enrollment</th>
<th>Minimum Area Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-100</td>
<td>½ Acre (2023 m²)</td>
</tr>
<tr>
<td>101-500</td>
<td>1 Acre (4046 m²)</td>
</tr>
<tr>
<td>501+</td>
<td>2 Acre (8094 m²)</td>
</tr>
</tbody>
</table>
Education Facilities Specifications

Read 180
Conceptual Layout

Functional Area Descriptions

Read 180 is a specialized program to assist students to overcome reading challenges. The instructional process includes use of computers (self-study), self-paced reading groups and instructor assisted reading activities. Although not directly staffed by a full-time employee, a separate classroom is required to accommodate students requiring this program and its associated specialized equipment and curriculum. This program is applicable for Grades 3-12, therefore a one (1) Read 180 room is needed for each new separate school site (MS/HS; or one (1) each separate MS and HS facilities). This classroom may be grouped into the General Purpose classroom area of a school facility.

Approximately square plans serve the Read 180 classroom best. Place the room entrance adjacent to the instructional area. Include variable light control and high quality acoustical treatments.

1 STUDENT INSTRUCTION AREA
Design this area to allow lectures and demonstrations by the teacher in groups and individual settings. Furnish with student desks and/or tables. Locate the student instruction area adjacent to the instructional area and the storage area.

2 INSTRUCTIONAL AREA
The instructional area of the classroom is occupied by the teacher and instructional equipment, including a marker board, projection screen, personal storage cabinet, and desk. This area should be located at the front of the classroom with direct access to the intercom and main classroom entrance.

3 WORK/STORAGE AREA
The storage area provides storage space for equipment and instructional material. Include a sink.
Planning Requirements

NSF:
Read 180 Room 900 sf (84 m²)

Typical features

Built-In Furnishings

- Shelves for books and other class materials
- Storage cabinets
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min STC 45)

Loose Furnishings

- Student tables and chairs
- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)

Equipment

- Marker board (24’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control
Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for future video projector
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 8 (LAN) connections for students and 2 at teacher’s desk
- Cable television with COAX and LAN connection
- LAN outlet in ceiling for future video projector

Plumbing

- Sink w/ bubbler
Education Facilities Specifications

Schematic Site Plan
Conceptual Layout

PARKING AREA
- Provide parking for staff and visitors at a recommended ratio of 2 spaces per classroom, plus 15 percent of gymnasium seats.

Conveniently locate the visitor parking and accessible parking near the front entrance of the school. Site the staff parking so that it does not visually dominate the building and open spaces. Locate the bus loading areas near the appropriate entrance.

Local zoning regulations help determine parking requirements in most states. Staff parking at 1 space per staff member is suggested, and should be located so bus zones are not crossed. Military Planning guidelines (e.g. Mil Hdbk 1190) may indicate different standards. Parking allocation standards for Privately Owned Vehicle (POV) parking should be coordinated with Base/Installation planners during program/project development.

Functional Area Description

The exterior area of the school provides parking, access, recreation, and service areas. Plan it in an attractive manner and be barrier free. This discussion provides only a general description of the site. See the individual space requirements for exterior spaces for additional information. Too often this area receives little attention in the planning process; however, careful planning from the beginning can insure a safe, functional, and aesthetically pleasing site. Reference all Anti-Terrorism / Force Protection standards when designing or proving additions to the school.
RECREATION AREAS
Open recreational area include but not limited to: surfaced multipurpose playground, an adventure playground, softball field, and an open grass area for games. A separate baseball field is recommended. Give consideration to the orientation of the sports fields.

SUPPORT AREA
This is an area used for deliveries, trash removal and other essential services required to support the operations of the school. Locate just outside the support area of the building and visually screen from the predominant areas of the site. Provide physical enclosures for trash receptacles.

SITE LAYOUT
Siting a school complex poses unique safety considerations. Planners and designers should avoid creating numerous blind spots. Multipurpose driveways and walkways should be sited to avoid conflicts between pedestrian and vehicular traffic. The goal of site layouts is to suit rather than impede student and staff walking patterns. ADA accessibility is also a requirement for site access to include parking spaces. If the site is constrained, coordinate with installation officials regarding the joint use of adjacent parking areas for staff members and recreational sites for school activities.

Accommodation of chiller enclosures, transformers, dumpsters, and service entries should be arranged and consolidated where possible, to minimize vehicular traffic on site.

Site Planning Requirements

1. The recommended site sizes are:

   10 Acres plus 1 acre per 150 students

   Combination Schools:
   - K-12 School: 20 Acres plus 1 acre per 150 students
   - K-8 School: 15 Acres plus 1 acre per 150 students
   - 6-12 School: 15 Acres plus 1 acre per 150 students

2. Deviations from the site size may be required because of extenuating circumstances. Engineers and designers need to coordinate with installation planners regarding site requirements and area availability. Anti-Terrorism/Force Protection guidelines also need to be addressed. AT/FP setbacks are not included in these calculations due to variances in installation guidelines.
Education Facilities Specifications

School Bus Office
Conceptual Plan

Functional Area Descriptions

This functional area is for a bus office that serves a smaller complex of schools. It is not intended to be used for planning the space requirements of a large, centralized school bus office. This office plans and directs the bus transportation for the student body. All aspects of traffic flow and safety concerns are handled here. Provide space for an office of up to 5 persons, a small reception/waiting area, and a place for taking photos for identification.

1 RECEPTION/WAITING AREA
The reception area should open onto the main hallway providing easy access for both students and visitors. This area should be located conveniently to the identification photo area.

2 OFFICE AREA
Space for the office area will vary according to the number of people assigned to this function at a particular school. The number of persons can be up to 5. An area with a desk, computer and telephone should be provided for each person. Partitions, rather than hard walls, should divide the office areas. People in at least one office should be able to see the reception/waiting area.

3 PHOTO AREA
This area provides space for taking student identification photos. It includes a seating area that has a plain backdrop and space to set up the camera. A lockable storage cabinet should be provided for the camera equipment and supplies.
Planning Requirements

NSF:
Reception/Waiting Area 50 sf (5 m²)
Office Area 100 sf* (9 m²)
Photo Area 50 sf (5 m²)

* +100 sf (9 m²) for each assigned position >1

Typical Features:

Built-In Furnishings
- Reception counters

Finish:
- Floor: vinyl composition tile, sheet rubber, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m ) AFF, suspended acoustical tile
- Walls: Concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 45)

Loose Furnishings
- Desk and chair
- File cabinet
- Storage cabinet
- Loose chairs

Equipment
- Copier
- Photo backdrop
- Laminator
- 4' Tack board
- 4' Marker board

HVAC
- Fresh air supply
- Independent temperature control

Electrical
- Fluorescent lighting (500 lux min. at desk height)
- Lighting for photographs
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems
- Bell system
- Phone
- Two data connections per computer location
- PA / Intercom system
- Clock
Education Facilities Specifications

School Supply/Storage Area
Conceptual Plan

Functional Area Descriptions

The central supply/storage area serves as the primary storage area for the school. To serve the functionality of the school, include small storage areas for everyday items throughout the school. The requirements for areas used for central supply and storage are very basic. Locate the room on the first floor, with exterior vehicle access and double exterior doors. Provide windows high above ground level to clear the shelving heights and reduce security risks.

1 WORKSPACE
Locate the issue counter and supply technician workspace near the corridor double door. Include several lockable closed front storage closets located near the supply technician’s work area for storage of high-value items.

2 RECEIVING
Allow space for receiving deliveries, unpacking boxes, assembling furniture, etc. near the exterior doors. Include a caged secure area for mail.

3 STORAGE AREA
Equip this area with steel storage shelving throughout.

4 FLAMMABLE STORAGE AREA
A small room for storage of flammable and other hazardous items located adjacent to the supply room. Include an exterior door.
Planning Requirements

NSF
Central Storage  200 sf (19m²) + 35 sf (3.3m²)/teaching station (900 sf
(84 m²) minimum)
Work Area included in 900 sf
Storage Area included in 900 sf
Receiving included in 900 sf
Flammable Storage  100 sf (9m²)

Typical Features:

Built-In Furnishings
- Counter
- Cage partitions
- High density storage (as required)

Finishes
- Floor: vinyl composition tile, sealed concrete or other low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" AFF (minimum) gypsum board, no finish
- Walls: plaster, reinforced concrete or drywall (min. STC 45)

Loose Furnishings
- Desks and chair
- Shelving 7’ minimum stacking height 12’ recommended.
- Closed cabinets

Equipment
- N/A

HVAC
- Fresh air supply
- Independent temperature control

Electrical
- Fluorescent lighting (500 lux min.)
- PA/Intercom system
- Clock system
- 2 (LAN) connections
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems
- Bell system
- Phone
- 2 (LAN) connections
- PA / Intercom system
- Clock
Education Facilities Specifications

Schools Officer
Conceptual Plan

Functional Area Descriptions

Typically not provided at the school, the Schools Officer Room provides space for this position, which is a community function. The Schools Officer functions as a liaison between the school and community and works for the Base Commander. He/she deals with school discipline from a Base policy standpoint and is not responsible for controlling access and emergencies for the school. Place this room near the administration area.

1 OFFICE AREA
The space should include a desk, chair, bookcase, and file storage.

Planning Requirements

<table>
<thead>
<tr>
<th>NSF</th>
<th>Office Area</th>
<th>100 sf</th>
<th>(9 m²)</th>
</tr>
</thead>
</table>
Typical Features:

Built-In Furnishings

- None

Finishes

- Floor: vinyl composition tile, carpet, ceramic tile or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 50)

Loose Furnishings

- Desk and chair
- File cabinet
- Storage cabinets

Equipment

- 4' Tack board
- 4' Marker board
- Window shades or blinds

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- One duplex outlet per computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- Two data connections to local area network for each computer location
- PA / Intercom system
- Clock
Education Facilities Specifications

Science Classroom

(General Purpose Lab)
Conceptual Plan

Functional Area Descriptions

The science classroom provides for individual and group instruction in a laboratory setting for the complete science curriculum for middle school: general, physics, and biology. Students learn by group instruction, demonstrations, audiovisual presentations, independent work, and group work at laboratory workstations. The space should be open and flexible, have access to utilities, good ventilation, and durable stain and chemical resisting floor and countertop work surfaces.

1 LECTURE / LABORATORY AREA

The primary area provides space for lecture, small and large group instruction, laboratory work, and independent study. The space contains height adjustable movable tables and chairs. The success of the room rests with the use of a coordinated system of workstations and perimeter service modules. The movable workstations and built-in perimeter casework/sinks with water faucets, and electrical/data outlets allow the conversion of the space from lecture to lab. Tables should accommodate ADA requirements. Computers and printers are an integral part of the science curriculum and must be considered in the design of the lab station equipment.
2 INSTRUCTIONAL AREA

The ‘instructional area’ should be a wall of the room incorporating a teacher’s desk, demonstration table, white boards, and emergency shut-off controls for the entire room. Windows should be equipped with window blinds.

3 PREPARATION ROOM

The preparation room includes a teachers' preparation area including built-in casework with access to sinks, gas, and electrical outlets. The preparation room is directly accessible from the classroom and the storage room.

4 STORAGE ROOM

The storage room includes space for the storage of general supplies as well as the storage of flammable and chemical supplies. A lockable, fire resistant, ventilated chemical storage cabinet should be provided. The storage room is directly accessible from the preparation room and the corridor.

Planning Requirements

<table>
<thead>
<tr>
<th>NSF</th>
<th>Primary Area Total</th>
<th>1200 sf</th>
<th>(111 m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Area</td>
<td>included in total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Area</td>
<td>included in total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Area</td>
<td>included in total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Workstations</td>
<td>included in total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADA-Compliant Workstation</td>
<td>included in total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation Room</td>
<td>240 sf</td>
<td></td>
<td>(22 m²)</td>
</tr>
<tr>
<td>Storage Room</td>
<td>included in prep room sf</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Typical Features:

**Built-In Furnishings**
- Shelves for books and other class materials
- Work counters w/ chemically resistant tops
- Lockable cabinets for teacher’s personal belongings
- Service sink modules with appropriate utilities
- Fume hood
- Sink in prep room
- Demonstration table (mobile optional)
- Teaching wall (features to include marker board, tack strip, and storage)

**Finishes**
- Floor: vinyl composition tile or other locally available, low maintenance surface
- Base: As appropriate for flooring material
- Ceiling: 10’-0” AFF (3.05 m), suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 45)

**Loose Furnishings**
- Height adjustable student tables with power and LAN connections
- File cabinet
- Stools or chairs
- Storage shelving

**Equipment**
- Marker board (8’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended 27” television monitor (as required)
- Ceiling mounted projector
- Window blinds
- Refrigerator
- Smartboard (as required)

**HVAC**
- Fresh air supply
- Independent temperature control

**Electrical**
- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets as required
- Emergency and exit lighting as required by code
- Emergency power shut off
- Outlet in ceiling for future video projector

**Systems**
- Bell system
- Phone
- PA / Intercom system
- Two data connections to local area network for each computer location
- Clock
- Cable television with COAX and LAN connection

**Plumbing**
- Prep room
- Floor drain at emergency shower
- Emergency gas shutoff
Education Facilities Specifications

Special Education Office Suite
Conceptual Plan

LARGE SUITE

SMALL SUITE

Functional Area Descriptions

Incorporate a large Special Education Office Suite with any school that includes a Learning Impaired – Severe program or Category 3 and 4 Special Education program. Adapt conceptual plan to actual staffing.

1 ASSESSMENT AREAS
All assessment areas should open toward the assessor technician area while providing privacy and quiet. One-on-one testing is conducted between an assessor and a student in this room.

2 ASSESSOR TECHNICIAN AREA
The assessor technician area should open onto a corridor to provide easy access for both students and visitors. This area provides space for an assessor technician and a visitor waiting area.

3 CSC OFFICE
The Case Study Committee (CSC) office program provides critical screening services for students to determine if special needs programs are appropriate. This office provides a room for a specialist to work with students to determine the need for special attention. Design the space to permit one-on-one conferences between the specialist and student. Locate for accessibility to both the assessor technician area and the CSC conference room. The specialist may have a part time clerk; space for this person can be accommodated within the recommended room size.

4 CSC CONFERENCE AREA
The conference room should offer access to both the reception/waiting area and the main corridor.
### Planning Requirements

**LARGE SUITE NSF**
- Assessment Area: 125 sf (per assigned position) ($12 \text{ m}^2$)
- Assessor Technician Area: 100 sf ($9 \text{ m}^2$)
- CSC Office: 125 sf ($12 \text{ m}^2$)
- CSC Conference Area: 200 sf ($19 \text{ m}^2$)

**SMALL SUITE TOTAL NSF**
- CSC Office: 125 sf ($12 \text{ m}^2$)
- Assessment Area: 125 sf ($12 \text{ m}^2$)
- CSC Conference Area: 175 sf ($16 \text{ m}^2$)

### Typical Features:

#### Built-In Furnishings
- None

#### Finishes
- Floor: vinyl composition tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 50)

#### Loose Furnishings
- Desks and chairs
- File cabinets
- Shelving
- Guest chairs
- Small and large conference tables

#### Equipment
- Tack boards (4’ minimum each room)
- Marker boards (4’ minimum each room)
- Window shades and blinds

#### HVAC
- Fresh air supply
- Independent temperature control

#### Electrical
- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- General purpose outlets
- Outlet in ceiling for future video projector
- Emergency and exit lighting as required by code

#### Systems
- Bell system
- Phone
- Two data connections to local area network for each computer location
- PA system
- Clock
- Cable television with COAX and LAN connection (optional)
- LAN connection in ceiling for future video projector
Education Facilities Specifications

Speech/Language Therapy
Conceptual Plan

Functional Area Descriptions

Speech/Language Therapy provides specialized instruction and testing to improve verbal skills. This program requires a quiet environment for individual and small group instruction. The specialist may work closely with one or two students while others are doing independent work. The following program requirements are based on an enrollment of up to eight students per instructional session.

1 FLEXIBLE INSTRUCTION AREA
A flexible space that can be used for a variety of activities, the room should include a space for students to work in small groups, as well as one-on-one with a teacher.

Planning Requirements

NSF
Flexible Instruction Area 450sf (42m²)
Typical Features:

Built-In Furnishings

- Shelves for books and other class materials
- Lockable cabinets for teacher’s personal belongings
- Counters for display and projects (as required)
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10’-0” AFF, suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material (min. STC 55)

Loose Furnishings

- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)
- Assistive technology devices – sound field system (as required)

Equipment

- Marker board (16’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for future video projector
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- PA / Intercom system
- Clock
- 8 (LAN) connections for students and 2 at teacher’s desk
- LAN connection in ceiling for future video projector
- Cable television with COAX and LAN connection

Plumbing

- Sink with bubbler (as required)

Other

- Sound proofing
Education Facilities Specifications

Teacher Workroom
Conceptual Plan

![Teacher Workroom Diagram]

1 STAFF AREA
The staff area provides space for lesson development, general staff work, staff meetings, staff socialization, light food preparation, and eating.

2 STAFF WORKROOM
The workroom contains space for reproduction equipment, computer terminals, and a printer. Place adjacent to staff area.

3 STAFF TOILETS
Locate single occupant ADA-compliant toilet rooms adjacent to the workroom space and staff area. Place entries to allow privacy from the teacher workroom and main corridor.

4 STAFF MAIL ROOM (OPTIONAL NOT SHOWN IN DIAGRAM)
Add a teacher’s mail room for distribution of mail to staff in lieu of in the administration area. This is not a space for reception, screening, and sorting of bulk mail.

Functional Area Descriptions

Teachers use the teachers’ workroom for general staff functions. Provide space for lesson planning, informal meetings, snacking, and general staff relaxation. If there is only one teachers’ workroom in a school, it is recommended that it be located near the administration area. In schools with large teaching staffs, provide multiple teachers’ workrooms distributed throughout the building. If desired, install lockable staff distribution boxes for mail in lieu of the administration area.
Planning Requirements

NSF
Staff Area 300 sf min  (28m²) (+30 SF (3m²) for every person >10)
800 sf max  (74m²) (20 people per Teacher Workroom)
Staff Workroom 125 sf  (12m²)
Staff Toilets 100 sf   (9m²) (50 SF (4.6 m²) for each - male and female)
Mail Room 120 sf   (11m²) (optional - 1 per building)

Typical Features:

Built-In Furnishings
- Counter for fax machine, laminators, etc. in workroom
- Counter with sink in staff room
- Storage cabinets in work room

Finishes
- Floor: vinyl composition tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, suspended acoustical tile
- Walls: plaster or drywall (min. STC 55)

Loose Furnishings
- Computer desks and chairs
- Lounge furniture
- Small table and chairs
- File cabinets
- Shelving
- Conference table and chairs
- Teachers mail boxes

Equipment
- Tack board
- Marker board
- Wall or ceiling suspended television monitor (staff area)
- Refrigerator
- Microwave
- Copier
- Vending machines (as required)
- Window shades or blinds

HVAC
- Fresh air supply
- Independent temperature control

Electrical
- Fluorescent lighting (500 lux min.)
- One duplex outlet at each computer location
- General purpose outlets
- Emergency and exit lighting as required by code

Systems
- PA / Intercom system
- Clock system
- Bell system
- Phone
- 8 (LAN) connections (staff area)
- 2 (LAN) connections (staff workroom)
- Cable television with COAX and LAN connection (optional)
Education Facilities Specifications

Technology Service Center
Conceptual Plan

Functional Area Descriptions

The technology service center consists of a network of rooms. The primary room is the server room, and the secondary rooms, placed throughout the school, contain concentrators. The server room provides space for the educational technologist and the administrative technologist, as well as space for the servers they maintain, a concentrator, a repair area, and an equipment storage area. Cable length from any workstation to a concentrator cannot exceed 295 ft (90 meters). This limitation will dictate the number and location of concentrator rooms provided within a school.

1 OFFICE AREA
The office area provides a desk and file storage areas for the technologists. These offices do not need to be located within the server room, but having them collocated will improve the technologists’ ability to maintain the servers.

2 ACTIVE COMPONENT AREA
The active component area provides space for the schools’ servers and a concentrator, if needed. The area should include server racks to keep the equipment safe and organized. The area should allow adequate open space around the components and easy access from both the office area and the room’s main entry.

3 REPAIR AREA
The repair area provides space for maintenance and repair of equipment. The area should contain a work surface, stools, shelves, and an area for tool storage. Place adjacent to the storage area.

4 STORAGE AREA
The storage area provides space for storage and distribution of supplies and equipment. The area should contain shelves and lie adjacent to the repair area.
Planning Requirements

NSF
Office Area 200 sf (19 m²)
Active Component Area 100 sf (9 m²)
Repair Area 75 sf (7 m²)
Storage Area 100 sf (9 m²)

Typical Features:

Built-In Furnishings
- Work counters and shelves
- Lockable cabinets
- LAN equipment racks (as required-based on chosen model)

Finishes
- Floor: vinyl composition tile or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: suspended acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available, durable material

Loose Furnishings
- Office desks and chairs
- File cabinet
- Storage shelving

Equipment
- LAN equipment (as required)
- LAN component racks
- Punch boards (as required)
- Rack mounted servers (as required)

HVAC
- Fresh air supply
- Dedicated HVAC System

Electrical
- Fluorescent lighting (500 lux min. at desk height)
- One duplex outlet per computer location
- General purpose outlets (office area)
- Emergency and exit lighting as required by code
- Rack mounted servers
- Concentrator
- Uninterrupted Power Supply (UPS)

Systems
- Bell system
- Phone
- Two data connections to local area network for each computer location (office area)
- PA / Intercom system
- Clock
Education Facilities Specifications

Television Production and Editing
Conceptual Plan

Functional Area Descriptions

The television production and editing rooms provide an area which encourages students to explore their ideas using modern audiovisual equipment and techniques. This area provides space for students and instructors to record TV and audiovisual material and conduct small group projects and instruction. The space should accommodate up to 12 students.

1 STUDIO/CLASSROOM
Students produce TV and audiovisual material in this multi-use room. They can broadcast material prepared in the studio throughout the school. The studio can also serve as a lecture/classroom space. The room incorporates specialized lighting, various backdrops, and whiteboard space for brainstorming, flow charts, storyboards, etc.

2 CONTROL/EDIT ROOM
The edit room provides space for recording and dubbing equipment. The room is set up to work like an actual control room in a recording studio with space for up to 7 people. The edit room must have views of the studio.

3 SOUND VESTIBULE
Design the sound vestibule to allow people to enter the control/edit room and/or storage room without interfering with the studio. Provide a pair of double doors in the vestibule and into the studio to accommodate large equipment.
Planning Requirements

NSF:
- Studio/Classroom: 600 sf (56 m²)
- Control/ Edit Room: 200 sf (19 m²)

Typical Features:

Built-In Furnishings
- Counter at sitting height for sound board computers (control room)
- Shelving (optional in control room)

Finishes
- Floor: sheet rubber
- Base: as appropriate for flooring material
- Ceiling: acoustic or gypsum board ceiling finish only above control/edit rooms
- Walls: plaster or drywall (min. STC 55)

Loose Furnishings
- Stackable chairs (studio)
- Chairs (control room)

Equipment
- Marker board (8' minimum)
- Roll-down backgrounds
- Pipe grid above
- Perimeter curtain
- Smartboard (as required)

HVAC
- Fresh air supply
- Air conditioning
- Independent temperature control

Electrical
- Special lighting (studio)
- Fluorescent lighting (500 lux min.)
- One duplex outlet at each computer location
- General purpose outlets (coordinate with final equipment layout)
- Emergency and exit lighting as required by code

Systems
- Bell System
- PA / Intercom system
- Clock system
- Phone
- Two data connections to local area network for each computer location
- Additional data connections in studio
- Cable television broadcast location

Other
- Sound absorbent wall materials
- Acoustic seals at doors
- Sound proofing within walls
Education Facilities Specifications

Visually Impaired
Conceptual Plan

Functional Area Descriptions

The Visually Impaired program assesses vision, evaluates orientation and mobility skills, and provides instruction and training in those areas. The program also consults with school personnel on program and classroom modifications. The following program requirements assume an enrollment of up to eight students.

The Individuals with Disabilities Education Act Amendments of 1997 provides for “assistive technology devices,” meaning any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability. For example, the Hearing Impaired program requires a sound-field system to support the needs of students with hearing impairments. DoDEA shall determine any such assistive technology devices in the planning and design phase of each project.

1 FLEXIBLE INSTRUCTION AREA

Provide a flexible space that can accommodate a variety of activities, including space for students to work in small groups and one-on-one. Incorporate storage areas within the room.

Planning Requirements

NSF:
Flexible Instruction Area 450 sf (42m²)
TYPICAL FEATURES:

Built-In Furnishings

- Shelves for books and other class materials
- Counters for display and projects
- Lockable cabinets for teacher’s personal belongings
- Teaching wall (features to include marker board, tack strip, and storage)

Finishes

- Floor: vinyl composition tile, sheet rubber flooring, ceramic tile, carpet or other locally available, low maintenance surface
- Base: as appropriate for flooring material
- Ceiling: 10'-0" (3.05 m) AFF, acoustical tile
- Walls: concrete block, reinforced concrete, plaster, drywall or other locally available durable material (min. STC 55)

Loose Furnishings

- Student work tables
- Student computer tables
- Teacher desk and chair
- File cabinet (optional)

Equipment

- Marker board (16’ minimum)
- Overhead pull-down screen
- Tack board (16’ minimum)
- Wall or ceiling suspended television monitor
- Window shades or blinds
- Smartboard (as required)

HVAC

- Fresh air supply
- Independent temperature control

Electrical

- Fluorescent lighting (500 lux min. at desk height)
- Switching to allow multiple light levels
- One duplex outlet per computer location
- Outlet in ceiling for future video projector
- General purpose outlets
- Emergency and exit lighting as required by code

Systems

- Bell system
- Phone
- 8 (LAN) connections for students and 2 at teacher’s desk
- LAN connection in ceiling for future video projector
- PA / Intercom system
- Clock
- Cable television with COAX and LAN connection

Plumbing

- Sink with bubbler (as required)

Other

- Sound proofing
- Tinted windows (as required)
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<thead>
<tr>
<th>Kindergarten</th>
<th>Grades 1-3</th>
<th>Grades 4-6</th>
<th>Middle School</th>
<th>Senior High</th>
<th>Barrier Free</th>
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<td>Water closet (center line flush)</td>
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</table>

1. If listed heights conflict with ADA mandated heights, the ADA height governs.
2. Reception counters should have multiple heights to accommodate adults, students and handicapped.
3. Utilize barrier free for ADA accessible adult requirements.
<table>
<thead>
<tr>
<th>Space</th>
<th>m²</th>
<th>S.F.</th>
<th>Support Functional Areas</th>
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<tbody>
<tr>
<td><strong>Core Areas</strong></td>
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* 300 sf of space shared with similar adjacent space
**See individual specifications for formulas for adjustments to area and capacity

All area totals represent total of net figures only
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<thead>
<tr>
<th>Space</th>
<th>Wall</th>
<th>Floor</th>
<th>Ceiling</th>
<th>Remarks</th>
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<td>General Purpose Classroom</td>
<td>CP, GWB</td>
<td>CPT, CT, SRF, VCT</td>
<td>ACT</td>
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<td>CP, GWB</td>
<td>CPT, CT, SRF, VCT</td>
<td>ACT</td>
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**LEGEND:**

- **ACT** - Acoustical tile
- **BPAC** - Ballproof acoustical treatment
- **CMT** - Ceramic mosaic tile
- **CP** - Concrete, painted
- **CPT** - Carpet
- **CRAF** - Composition rubber athletic flooring
- **CT** - Ceramic Tile
- **GWB** - Gypsum board, painted
- **GWT** - Glazed wall tile
- **HC** - Hardened concrete, non-slip surface
- **NF** - No Finish
- **PF** - Poured Flooring
- **PGWB** - Perforated gypsum wall board
- **QT** - Quarry tile
- **SACT** - Scrubbable Acoustic Tile
- **SRF** - Sheet rubber flooring
- **VCT** - Vinyl composition tile
- **WD** - Wood
## Core Areas

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<th>Ventilation</th>
<th>Lighting</th>
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Middle School Specifications  Ver 2.1  Oct 07
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| Other                     |         |         |             |                |       |    |          |      |       |   |             |             |              |       |
| Corridors                 | x       | x       | x           | 200            | x     | x | x       | x    | x     | x |             |             |              |       |
| Exterior Patios           | x       | x       | x           | 150            | x     |   |          |      |       |   |             |             |              |       |
| Toilet Rooms              | x       | x       |             | 300            |       |   |          |      |       |   |             |             |              |       |
| Stairways                 | x       | x       |             | 300            |       |   |          |      |       |   |             |             |              |       |
| Janitor Closets           | x       |         |             | 150            |       |   |          |      |       |   |             |             |              |       |

### Notes

1. Stand Alone Sound System
2. LAN number shown a minimum, provide one duplex outlet per computer called for in specification
3. If AV broadcasting in this area provide appropriate head end equipment
4. Provide LAN connections at cashiers station
5. Originate Cable Television
6. Specialized Rooms
7. Server Racks
8. LAN Video includes both connections for a ceiling mounted projector and connections to a standard wall or ceiling hung monitor
Cooling as indicated on the following table is only authorized for the following schools in DoDDS Europe:

- Aviano Elementary School
- Aviano High School
- Gaeta Elementary School
- La Maddalena
- Livorno Elementary / High School
- Naples Elementary School
- Naples High School
- Sigonella Elementary / High School
- Vincenza Elementary School
- Vincenza Middle / High School
- Bahrain Elementary / High School
- Lajes Elementary School
- Lajes High School
- Ankara Elementary / High School
- Incirlik Elementary School
- Incirlik High School
- Rota Elementary School
- Rota High School
- Sevilla Elementary School

In all other schools of DoDDS-Europe, air conditioning will be provided only in the following spaces:

- Multi-Purpose Computer Laboratory
- Business Education
- Television Production and Editing
- Modular Technology Laboratory
- Technology Service and Concentrator Rooms
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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<td>National Energy Code</td>
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<tr>
<td>NFPA</td>
<td>National Fire Protection Association</td>
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GLOSSARY

ADA  American with Disabilities Act

AFF  Above finished floor - Term refers to the vertical distance above the floor, often used in referencing ceiling heights

Assistive Technology Devices – Sound Field System  An audio-enhancement system, where the teacher wears and/or uses a microphone (usually wireless) coupled with a speaker system (e.g. portable speakers) that distributes the teacher’s voice evenly throughout the classroom

Building Gross Area  Represents the total area of the building taken to the exterior perimeter of the enclosing walls, including bathrooms mechanical chases and stairs. Two story spaces should be counted only on one floor; covered paved exterior areas should count as half their total area.

COAX  Coaxial Cable

ft  Feet

Gross area  When referring to the gross area of a space within a building the term applies to all the space within the bounding walls including wall construction chases and toilet rooms

LAN  Local Area Network

m  Meters

m²  Square meters

NRC  Noise reduction Coefficient – Defines the sound absorbency of a wall measured as an average of a number of frequencies. The value is between 0 and 1, where 0 would be completely reflective and 1 completely absorbent.

NFPA  National Fire Protection Association

nsf  Net square footage is the area of a space taken within the walls of the space.

sf  Square feet of an area

STC  Sound Transmission Class – Defines how well a wall, ceiling or floor assembly transmits sound. A whole number greater than 0, the higher the number the better sound is isolated

Middle School Specifications  Ver. 2.1  Oct 07