

B-210 CLASS LABORATORY (TO 30), TYPE A, 1,400 S.F.

Chemistry, Biology, Zoology. Wheelchair accessible, fixed student stations.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
- Doors and frames, hollow metal.
- Walls and doors, STC 48 minimum.

5.2 INTERNALS, HORIZONTAL:

- Floor: Hard Surface: Vinyl composition tile.
- Ceiling: Suspended, exposed grid, lay-in acoustical tile.

5.3 FINISHES, SPECIAL:

- None.

5.4 INTERIORS:

- Work counter for each station. Provide two wheelchair accessible stations.
 - Clear floor space shall be 30" x 48".
 - Knee clearances 27" high, 30" wide and 19" deep.
 - Height of counters 28" to 34" above the finished floor.
 - Base & Wall Cabinets.
 - Clear floor space 30" x 48" for forward of parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

6.0 SPECIALTIES:

- Chalk/marker board
- Tack board.
- Projection screen.

7.0 EQUIPMENT:

- None.

8.0 SPECIAL CONSTRUCTION:

- None.

10.1 PLUMBING AND FIRE PROTECTION:

- Water, drains, gas, air (all Type A requirements).
- Sprinkler system.

10.2 HVAC:

- Heating and air conditioning.
- Heating and ventilation (no A/C) at NAU Flagstaff.
- Special exhaust hoods.

SERIES 200 LABORATORY FACILITIES
B-210 CLASS LABORATORY (TO 30), TYPE A

11.0 ELECTRICAL:

- Lighting-Fluorescent light fixtures, ceiling, recessed (two zone switching - lighting foot candles can be reduced for note taking and video viewing).
- Power - A.C. power outlets each wall.
- Special Systems - Audio, video, computer jack: 2 dual jacks (data and voice), 2 jacks coaxial broadband. 1 wall telephone jack at exit door.
- Provisions for control of lights and media from one location.
- Class A Fire Alarm System, audible and visible.

B-220 CLASS LABORATORY (TO 30), TYPE B, 1,200 S.F.

Physics, Electronics, Geology etc. Wheelchair accessible, fixed student stations.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
- Doors and frames, hollow metal.
- Walls and doors, STC 48 minimum.

5.2 INTERNALS, HORIZONTAL:

- Floor: Hard Surface: Vinyl composition tile.
- Ceiling: Suspended, exposed grid, lay-in acoustical tile.

5.3 FINISHES, SPECIAL:

- None.

5.4 INTERIORS:

- Work counter for each station. Provide two wheelchair accessible stations.
 - Clear floor space shall be 30" x 48".
 - Knee clearances 27" high, 30 " wide and 19 " deep.
 - Height of counters 28" to 34" above the finished floor.
- Base & Wall Cabinets.
 - Clear floor space 30" x 48" for forward of parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

6.0 SPECIALTIES:

- Chalk/marker board
- Tack board.
- Projection screen.

7.0 EQUIPMENT:

- None.

8.0 SPECIAL CONSTRUCTION:

- None.

10.1 PLUMBING AND FIRE PROTECTION:

- Water, drains, air (all Type B requirements).
- Sprinkler system.

10.2 HVAC:

- Heating and air conditioning.
- Heating and ventilation (no A/C) at NAU Flagstaff.

SERIES 200 LABORATORY FACILITIES
B-220 CLASS LABORATORY (TO 30), TYPE B

11.0 ELECTRICAL:

- Lighting-Fluorescent light fixtures, ceiling, recessed (two zone switching - lighting foot candles can be reduced for note taking and video viewing).
- Power - A.C. & D.C. power outlets each wall. (Variable voltage required).
- Special Systems - Audio, video, computer jack: 2 dual jacks (data and voice), 2 jacks coaxial broadband. 1 wall telephone jack at exit door.
- Provisions for control of lights and media from one location.
- Class A Fire Alarm System, audible and visible.

B-221 CLASS LABORATORY (TO 30), TYPE C, 1,000 S.F.

Computer facilities at each station. Wheelchair accessible, fixed student stations.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board painted.
- Doors and frames, hollow metal.

5.2 INTERNALS, HORIZONTAL:

- Floor: Carpet. Maximum pile thickness 1/2". Edges fastened to floor surface and edge trim beveled with slope no greater than 1:2.
- Ceiling: Suspended, exposed grid, lay-in acoustical tile.

5.3 FINISHES, SPECIAL:

- None.

5.4 INTERIORS:

- Work counter for each station. Provide two wheelchair accessible stations.
 - Clear floor space shall be 30" x 48".
 - Knee clearances 27" high, 30" wide and 19" deep.
 - Height of counters 28" to 34" above the finished floor.
 - Base & Wall Cabinets.
 - Clear floor space 30" x 48" for forward of parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

6.0 SPECIALTIES:

- Chalk/marker board
- Tack board.
- Projection screen.

7.0 EQUIPMENT:

- None.

8.0 SPECIAL CONSTRUCTION:

- None.

10.1 PLUMBING AND FIRE PROTECTION:

- Sprinkler system.

10.2 HVAC:

- Heating and air conditioning.
- Heating and ventilation (no A/C) at NAU Flagstaff.

SERIES 200 LABORATORY FACILITIES
B-221 CLASS LABORATORY (TO 30) TYPE C

11.0 ELECTRICAL:

- Lighting - Fluorescent light fixtures, ceiling, recessed (two zone switching - lights can be lowered for note taking and video viewing).
- Power - A.C. power outlets each wall.
- Special Systems - Audio, video, computer jack: 2 dual jacks (data and voice) and 1 dual jack (data and voice) at each station, 1 jack coaxial broadband at each station. 1 wall telephone jack at exit door.
- Computer jacks at each station with isolated power.
- Provisions for control of lights and media from one location.
- Class A Fire Alarm System, audible and visible.

B-225 HAZARDOUS MATERIAL STORAGE (TYPE A MATERIALS), 150 S.F.

- 5.1 INTERNALS, VERTICAL:
 - Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
 - Doors and frames, hollow metal. Heavy duty fire rated door and frame.
 - Walls and doors, STC 48 minimum.

- 5.2 INTERNALS, HORIZONTAL:
 - Floor: Hard Surface: Vinyl composition tile.
 - Ceiling: Suspended, exposed grid, lay-in acoustical tile.

- 5.3 FINISHES, SPECIAL:
 - None.

- 5.4 INTERIORS:
 - None.

- 6.0 SPECIALTIES:
 - None.

- 7.0 EQUIPMENT:
 - None.

- 8.0 SPECIAL CONSTRUCTION:
 - None.

- 10.1 PLUMBING AND FIRE PROTECTION:
 - Water, drains, gas, air (all Type A requirements).
 - Sprinkler system.

- 10.2 HVAC:
 - Heating and air conditioning.
 - Heating and ventilation (no A/C) at NAU Flagstaff.

- 11.0 ELECTRICAL: ALL SYSTEMS TO MEET CODE REQUIREMENTS FOR HAZARDOUS AREA
 - Lighting - Fluorescent light fixtures, ceiling, recessed.
 - Power - A.C. power outlets each wall.
 - Class A Fire Alarm System, audible and visible.

B-230 INDIVIDUAL STUDY LAB (TO 30), TYPE A, 1,000 S.F.

Chemistry, Biology, Zoology, etc., with individual work counters and lockable base cabinet storage at each station. Wheelchair accessible, fixed student stations.

- 5.1 INTERNALS, VERTICAL:
 - Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
 - Doors and frames, hollow metal.
 - Walls and doors, STC 48 minimum.

- 5.2 INTERNALS, HORIZONTAL:
 - Floor: Hard Surface: Vinyl composition tile.
 - Ceiling: Suspended, exposed grid, lay-in acoustical tile.

- 5.3 FINISHES, SPECIAL:
 - None.

- 5.4 INTERIORS:
 - Work counter for each station. Provide two wheelchair accessible stations.
 - Clear floor space shall be 30" x 48".
 - Knee clearances 27" high, 30 " wide and 19 " deep.
 - Height of counters 28" to 34" above the finished floor.
 - Base & Wall Cabinets.
 - Clear floor space 30" x 48" for forward or parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

- 6.0 SPECIALTIES:
 - Chalk/marker board
 - Tack board.

- 7.0 EQUIPMENT:
 - None.

- 8.0 SPECIAL CONSTRUCTION:
 - None.

- 10.1 PLUMBING AND FIRE PROTECTION:
 - Water, drains, gas, air (all Type A requirements).
 - Sprinkler system.

- 10.2 HVAC:
 - Heating and air conditioning.
 - Heating and ventilation (no A/C) at NAU Flagstaff.
 - Exhaust hood at each station.

SERIES 200 LABORATORY FACILITIES
B-230 INDIVIDUAL STUDY LABORATORY (TO 30), TYPE A

11.0 ELECTRICAL:

- Lighting - Fluorescent light fixtures, ceiling, recessed.
- Power - A.C. power outlets each wall and station.
- Special Systems - Audio, video, computer jack: 1 dual jack (data and voice), and 1 jack coaxial broadband at each station. 1 wall telephone jack at exit door.
- Class A Fire Alarm System, audible and visible.

B-235 INDIVIDUAL STUDY LABORATORY (TO 30), TYPE B, 1,000 S.F.

Physics, Electronics, etc., with individual work counters and lockable base cabinet storage at each station. Wheelchair accessible, fixed student stations.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
- Doors and frames, hollow metal.
- Walls and doors, STC 48 minimum.

5.2 INTERNALS, HORIZONTAL:

- Floor: Hard Surface: Vinyl composition tile.
- Ceiling: Open joists for hanging equipment.

5.3 FINISHES, SPECIAL:

- None.

5.4 INTERIORS:

- Work counter for each station. Provide two wheelchair accessible stations.
 - Clear floor space shall be 30" x 48".
 - Knee clearances 27" high, 30" wide and 19" deep.
 - Height of counters 28" to 34" above the finished floor.
- Base & Wall Cabinets.
 - Clear floor space 30" x 48" for forward or parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

6.0 SPECIALTIES:

- Chalk/marker board
- Tack board.

7.0 EQUIPMENT:

- None.

8.0 SPECIAL CONSTRUCTION:

- None.

10.1 PLUMBING AND FIRE PROTECTION:

- Water, drains, air (all Type B requirements).
- Sprinkler system.

10.2 HVAC:

- Heating and air conditioning.
- Heating and ventilation (no A/C) at NAU Flagstaff.
- Exhaust hoods at each station.

SERIES 200 LABORATORY FACILITIES
B-235 INDIVIDUAL STUDY LABORATORY (TO 30), TYPE B

11.0 ELECTRICAL:

- Lighting-Fluorescent light fixtures, ceiling, recessed.
- Power - A.C. power outlets each wall and station.
- Special Systems - Audio, video, computer jack: 1 dual jack (data and voice) at each station, 1 jack coaxial broadband at each station. 1 wall telephone jack at exit door.
- Class A Fire Alarm System, audible and visible.

B-236 INDIVIDUAL STUDY/RESEARCH LAB, SMALL TYPE A, 200 S.F.

An area, individual room, that can be locked. Study research in chemistry etc. Wheelchair accessible.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
- Doors and frames, hollow metal.

5.2 INTERNALS, HORIZONTAL:

- Floor: Hard Surface: Vinyl composition tile.
- Ceiling: Suspended, exposed grid, lay-in acoustical tile or exposed for hanging equipment.

5.3 FINISHES, SPECIAL:

- None.

5.4 INTERIORS:

- Base & Wall Cabinets.
- Clear floor space 30" x 48" for forward or parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

6.0 SPECIALTIES:

- Chalk/marker board.
- Tack board.

7.0 EQUIPMENT:

- None.

8.0 SPECIAL CONSTRUCTION:

- None.

10.1 PLUMBING AND FIRE PROTECTION:

- Water, drains, gas, air (all Type A requirements).
- Sprinkler system.

10.2 HVAC:

- Heating and air conditioning.
- Heating and ventilation (no A/C) at NAU Flagstaff.
- Special exhaust hoods.

11.0 ELECTRICAL:

- Lighting - Fluorescent light fixtures, ceiling, recessed.
- Power - A.C. power outlets each wall.
- Special Systems - Audio, video, computer jack: 1 dual jack (data and voice), 1 jack coaxial broadband, 1 wall telephone jack at exit door.
- Class A Fire Alarm System, audible and visible.

B-237 INDIVIDUAL STUDY/RESEARCH LABORATORY, SMALL TYPE B, 200 S.F.

An area, individual room, that can be locked. Study research in physics, electronics, etc. Wheelchair accessible.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
- Doors and frames, hollow metal.

5.2 INTERNALS, HORIZONTAL:

- Floor: Hard Surface: Vinyl composition tile.
- Ceiling: Suspended, exposed grid, lay-in acoustical tile or exposed for hanging equipment.

5.3 FINISHES, SPECIAL:

- None.

5.4 INTERIORS:

- Base & Wall Cabinets.
 - Clear floor space 30" x 48" for forward or parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

6.0 SPECIALTIES:

- Chalk/marker board.
- Tack board.

7.0 EQUIPMENT:

- None.

8.0 SPECIAL CONSTRUCTION:

- None.

10.1 PLUMBING AND FIRE PROTECTION:

- Water, drains, air (all Type B requirements).
- Sprinkler system.

10.2 HVAC:

- Heating and air conditioning.
- Heating and ventilation (no A/C) at NAU Flagstaff.
- Special exhaust hoods.

11.0 ELECTRICAL:

- Lighting - Fluorescent light fixtures, ceiling, recessed.
- Power - A.C. & D.C. power outlets each wall (variable voltage required).
- Special Systems - Audio, video, computer jack: 1 dual jack (data and voice), 1 jack coaxial broadband, 1 wall telephone jack at exit door.
- Class A Fire Alarm System, audible and visible.

B-238 RESEARCH, LARGE AREA, TYPE A, 2,500 S.F.

A large area with the floor unencumbered with benches and furnishings, research equipment can be located anywhere. Services (Gas, Water, Air, etc.) are provided from the ceiling and run the length of the room with stub-outs, enabling service connections where needed. Chemistry Research etc. Wheelchair accessible.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
- Doors and frames, hollow metal.

5.2 INTERNALS, HORIZONTAL:

- Floor: Hard Surface: Vinyl composition tile.
- Ceiling: Suspended, exposed grid, lay-in acoustical tile or exposed for hanging equipment.

5.3 FINISHES, SPECIAL:

- None.

5.4 INTERIORS:

- Minimal Base & Wall cabinets.
 - Clear floor space 30" x 48" for forward or parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

6.0 SPECIALTIES:

- Chalk/marker board.
- Tack board.

7.0 EQUIPMENT:

- None.

8.0 SPECIAL CONSTRUCTION:

- None.

10.1 PLUMBING AND FIRE PROTECTION:

- Water, drains, gas, air (all Type A requirements).
- Sprinkler system.

10.2 HVAC:

- Heating and air conditioning.
- Heating and ventilation (no A/C) at NAU Flagstaff.
- Special exhaust hoods.

SERIES 200 LABORATORY FACILITIES
B-238 RESEARCH LARGE AREA, TYPE A

11.0 ELECTRICAL:

- Lighting-Fluorescent light fixtures, ceiling, recessed.
- Power - A.C. power outlets each wall.
- Special Systems - Audio, video, computer jack: 2 dual jacks (data and voice) 2 jacks coaxial broadband. 1 wall telephone jack at exit door.
- Class A Fire Alarm System, audible and visible.

B-239 RESEARCH, LARGE AREA, TYPE B, 2,500 S.F.

A large area with the floor unencumbered with benches and furnishings, research equipment can be located anywhere. Services (Gas, Water, Air, Power, etc.) are provided from the ceiling and run the length of the room with stub-outs, enabling service connections where needed. Physics, Electronic, Research, etc. Wheelchair accessible.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
- Doors and frames, hollow metal.

5.2 INTERNALS, HORIZONTAL:

- Floor: Hard Surface: Vinyl composition tile.
- Ceiling: Suspended, exposed grid, lay-in acoustical tile or exposed for hanging equipment.

5.3 FINISHES, SPECIAL:

- None.

5.4 INTERIORS:

- Minimal Base & Wall cabinets.
 - Clear floor space 30" x 48" for forward or parallel approach.
 - Forward approach maximum high reach = 48", minimum low = 15".
 - Parallel approach maximum high = 54", minimum low = 9".

6.0 SPECIALTIES:

- Chalk/marker board.
- Tack board.

7.0 EQUIPMENT:

- None.

8.0 SPECIAL CONSTRUCTION:

- None.

10.1 PLUMBING AND FIRE PROTECTION:

- Water, drains, air (all Type B requirements).
- Sprinkler system.

10.2 HVAC:

- Heating and air conditioning.
- Heating and ventilation (no A/C) at NAU Flagstaff.
- Special exhaust hoods.

SERIES 200 LABORATORY FACILITIES
B-239 RESEARCH LARGE AREA, TYPE B

11.0 ELECTRICAL:

- Lighting-Fluorescent light fixtures, ceiling, recessed.
- Power - A.C. power outlets each wall.
- Special Systems - Audio, video, computer jack: 2 dual jacks (data and voice), 2 jacks coaxial broadband. 1 wall telephone jack at exit door.
- Power AC, DC power outlets walls and ceiling variable voltage required.
- Class A Fire Alarm System, audible and visible.

SERIES 200 LABORATORY FACILITIES

B-240 RESEARCH, MEDICAL (924 sf. Per 6 PERSONNEL LAB)

DESCRIPTION:

A single facility consisting of several individual laboratories with each individual lab consisting of work space for four (4) to six (6) research personnel along with an area for animal housing and observation, there may also be an area/room for bacteria cultures. There should be a minimum of one exhaust hood for two (2) researchers along with work counter-top base cabinets and work top tables. Animal area and bacteria culture rooms should have temperature, humidity and light level that can be readily adapted to whatever is the particular research being done at the time. Odor control is also a factor, particularly in the animal area.

Any areas researching infectious diseases must have exhausted air pass through gas flames or electric grids before being released into the atmosphere.

The support areas, such as animal housing and observation and bacteria culture rooms are comparable in cost and are included in the laboratory cost.

All areas should be wheelchair accessible.

5.1 INTERNALS, VERTICAL:

- Perimeter walls, floor to structure, of metal studs with gypsum board, epoxy paint.
- Doors and Frames - Hollow Metal, gasketed.

5.2 INTERNALS, HORIZONTAL:

- Floor: Hard Surface - Welded seam sheet vinyl with integral cove base
- Ceiling: Suspended, exposed grid, lay-in vinyl faced acoustical tile.

5.3 FINISHES, SPECIAL:

- None

5.4 INTERIORS:

- Base and Wall Cabinets:
Base Cabinet - 144 LF
Wall Cabinet - 102 LF

6.0 SPECIALTIES:

- Chalk/Marker Board
- Tack Board

10B - 45A

Added April 29, 2002

SERIES 200 LABORATORY FACILITIES
B-240 RESEARCH MEDICAL

7.0 EQUIPMENT:

- None

8.0 SPECIAL CONSTRUCTION:

- None

10.1 PLUMBING AND FIRE PROTECTION:

- Water, drains, gas, air (All Type A requirements).
- Six (6) Stainless Steel Sinks.
- Sprinkler System
- Steam to water exchanger
- Acid Waste

10.2 HVAC:

- Heating and Air Conditioning.
- Special Exhaust Hoods, 3 per 6 person Lab.
- Odor Control.
- Animal rooms at 78 degrees F and 50% RH.
- Air Purification.
- Direct Digital Control
- Electric Grid Incinerator

11.0 ELECTRICAL:

- Lighting: - Fluorescent light fixtures, ceiling, recessed, dimmable.
- Power: - A.C. power outlets each wall, plug-mold at base cabinet counter top.
- Special Systems: - Audio, video, computer jack: 2 dual jacks (data & voice), 2 jacks coaxial broadband, 1 wall telephone jack per 2 personnel stations.
- Class A Fire Alarm System, audible and visible.
- Intrusion System; closed circuit TV, Card key access