LIFE SCIENCES BUILDING RENOVATION & ADDITION

PROGRAMMING DOCUMENT

MONTANA STATE UNIVERSITY - BILLINGS
BILLINGS, MONTANA

MSU BILLINGS

AE #2013-03-02
DSA #13-441

DSArchitects
www.dsa-mt.com 406.457.5470

February 2014

LIFE SCIENCES BUILDING RENOVATION & ADDITION

PROGRAMMING DOCUMENT

Prepared for:

State of Montana Architecture and Engineering Division
Montana State University Billings

FEBRUARY, 2014

Prepared by:

Dowling Studio Architects, PC
55 West 14th Street, Suite 103
Helena, MT 59601

In association with:

Lab Planning: Research Facilities Design, Inc.
MEP Engineering; Associated Construction Engineering
Structural Engineering: Whitten & Borges, Structural Engineers
Civil Engineering: Stahly Engineering, Inc.
Geotechnical Engineering: SK Geotechnical
Building Commissioning Agent: CTA

TABLE OF CONTENTS

SUMMARY

In the Fall of 2013 Dowling Studio Architects (DSA) was selected as Architect for the proposed Life Sciences Building Renovation & Addition and recommend a plan to update and expand the facilities capabilities to house the department of Biological & Physical Sciences, as well as the College of Allied Health Professions. This multi-disciplinary facility includes an approximately 30,000 s.f. addition to house new teaching labs for both the Sciences as well as Health & Human Performance as well as support space.

The existing facility comprises approximately 50,000 s.f. of Classrooms, labs, offices space, an auditorium, greenhouse and support spaces.

In conjunction with the University, DSA was tasked to analyze the current spatial relationships and occupancies of the expanded facility. The purpose of the programming effort would be to not only transform the current building into a multi-disciplinary facility, but also to put “science on display” captivating students and visitors and bring focus to the exciting work happening within.

DSA conducted two workshops at MSU Billings to engage the steering committee, students, faculty, staff and the administration in site planning, floor plan development, programming/lab layout and design and the architecture of the new addition.

The newly named Yellowstone Hall would upgrade the building to remain in service into the foreseeable future, to comply with current codes, be more energy efficient, and to create presence and physical connection from the southern boundary of campus to the heart of the campus.

The analysis of the existing Sciences Building the addition of the College of Allied Health Professions and the goals represented in this programming document, represents the result of many hours of information gathering, ideas and expertise shared between the University stakeholders and the design team during the programming process.

Approved by the 2012 State Legislature the Life Science Building Renovation & Addition was approved at $15M. $10M is to be provided by the State of Montana once private funds in the amount of $5M are raised toward the project.

Initial project programming and concepts were developed by Collaborative Design Architects to assist in obtaining Legislative approval.

MSU-B Life Sciences Building

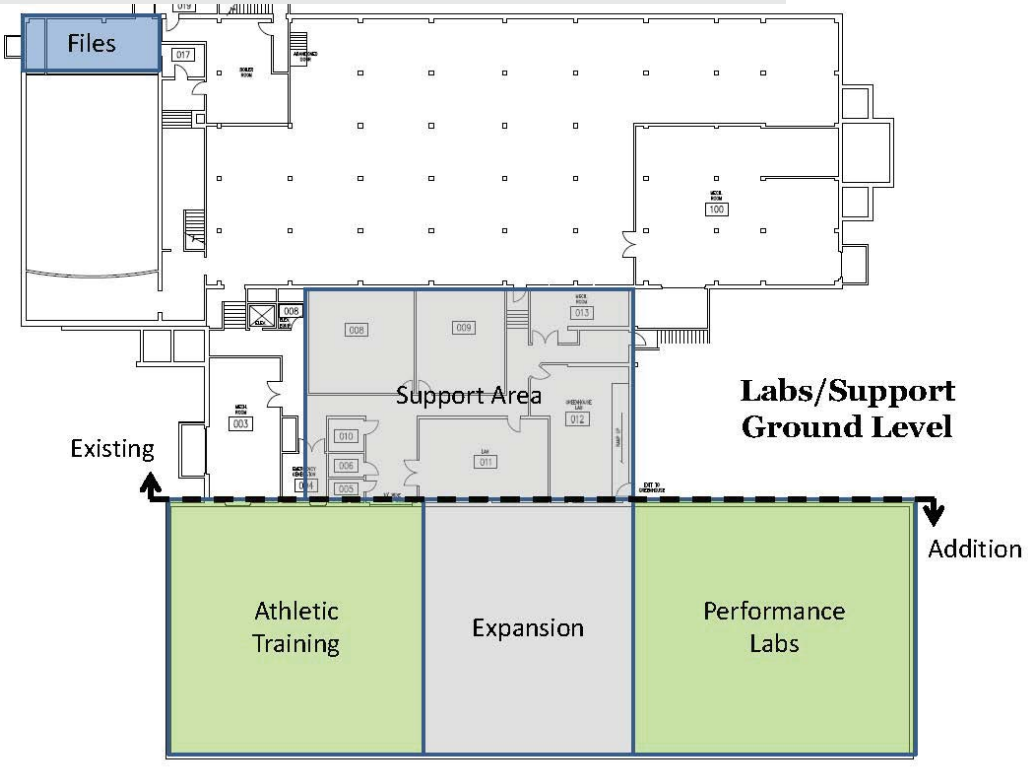
Life Sciences Building.....**$15,000,000**
(Renovation/Addition)

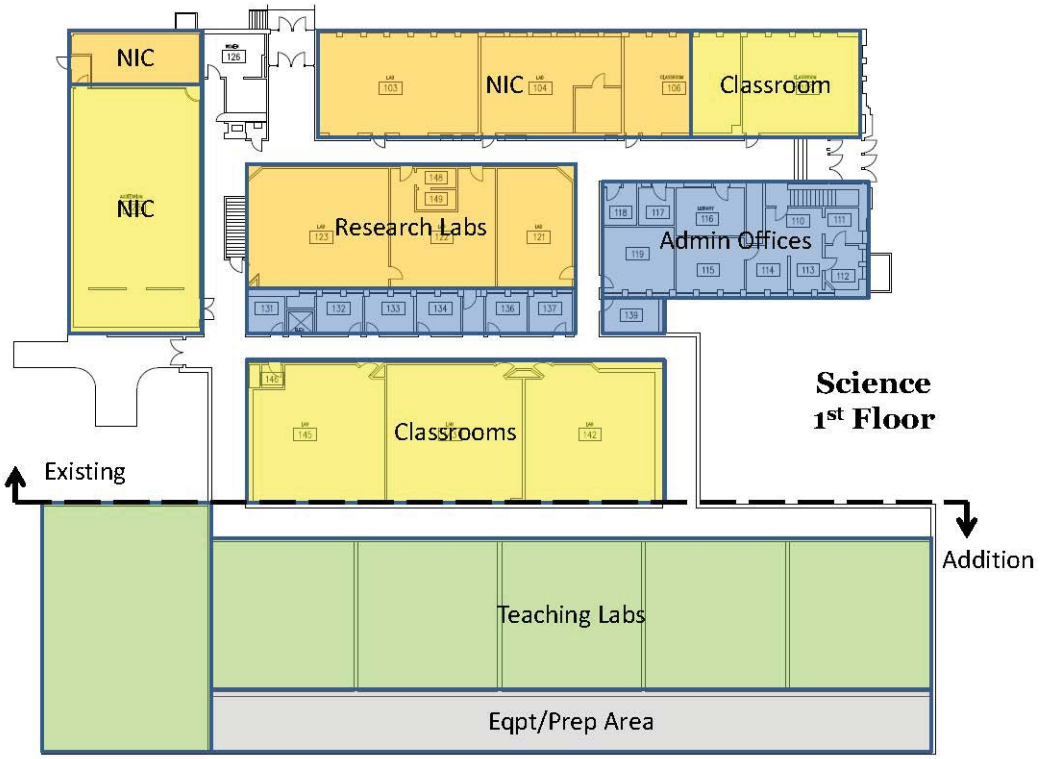
This project will provide a new home for the rapidly expanding Allied Health Professions programs at MSU Billings in a single, centrally located facility, which includes a new ≈30,000 sf addition. Programs in Health Care Administration, Health & Human Performance as well as Rehabilitation & Human Services will be combined with the various MSU Billings Science programs into this completely modernized facility. At the completion of this project, the new facility will see some of the most student use of any academic facility at the university and will facilitate the interdisciplinary coordination imperative to the successful delivery of modern Health and Science curricula.

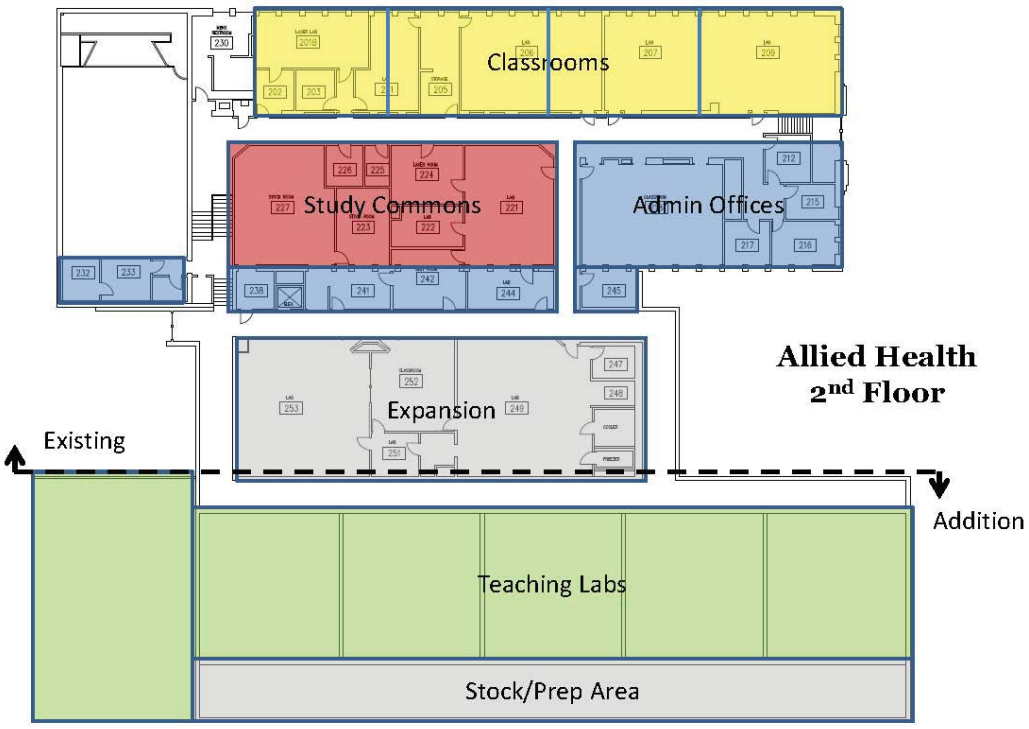
The new addition will encompass three floors of new space to accommodate state-of-the-art teaching labs, a new performance lab and other training spaces, as well as small amount of shelled (unfinished) space for marginal future expansion. Completely renovated spaces will house classrooms, a multi-media student research/study center, wet and dry science laboratories, student support areas and some departmental support office space.

This project will also combine significant newly constructed additional space with adaptive renovation work. That work will eliminate code/life safety deficiencies in the existing building — providing a significant increase in safety for the large numbers of students who will attend classes in the facility on a daily basis. In addition, this project will address the single largest accumulation of deferred maintenance at MSU Billings. This project will take advantage of investments in mechanical system upgrades recently completed in the existing building, which reduce the overall cost of the project as proposed.

With the consolidation of the Allied Health Professions programs noted above, this project has the added advantage of liberating approximately 8,500 sf of residual space in Apsaruke Hall (including two dedicated classrooms) to help meet the needs of the MSU Nursing program.




NIC
NIC
NIC
Classroom
Research Labs
Admin Offices
Classrooms
Science
1st Floor
Existing
Addition
Teaching Labs
Eqpt/Prep Area


Classrooms
Study Commons
Admin Offices
Expansion
Allied Health
2nd Floor
Existing
Addition
Teaching Labs
Stock/Prep Area

LIFE SCIENCES BUILDING

Montana State University - Billings

5/13/2013

Addition				
Description	Size	Nos	Total SF	$K
Teaching Labs				
Gen Biology	1,250	1	1,250	$400
Micro Biology	1,250	1	1,250	$400
A&P	1,250	1	1,250	$400
Ecology/Zoology	1,250	1	1,250	$400
Botany	1,250	1	1,250	$400
Plant Systematics	2,500	1	2,500	$800
Support Area				
Prep Area	1,000	1	1,000	$250
Instrumentation	750	1	750	$131
Eqpt	1,000	1	1,000	$250
1st Floor			***11,500***	***$3,431***
Teaching Labs				
Gen Chemistry	1,250	1	1,250	$400
Physical Chemistry	1,250	1	1,250	$400
Organic Chemistry	1,250	1	1,250	$400
Physics	1,250	1	1,250	$313
Bio Chemistry	1,250	1	1,250	$400
Green House				
Green House	2,500	1	2,500	$800
Support Area				
Prep Area	1,000	1	1,000	$250
Support Office	250	1	250	$44
Storage/Stock Room	1,500	1	1,500	$263
2nd Floor			**11,500**	**$3,269**
Teaching Labs				
Expansion	3,400	1	3,400	$255
Athletic Training	1,400	1	1,400	$245
Support Offices	120	10	1,200	$210
Performance Labs	1,500	2	3,000	$525
Ground Level			***9,000***	***$1,235***

Renovation				
Description	Size	Nos	Total SF	$K
Science				
Classrooms	1,000	2	2,000	$300
Classrooms	500	2	1,000	$150
Support Offices	120	16	1,920	$288
Chair's Office	200	1	200	$30
Research Labs	500	4	2,000	$560
Circulation & Restroom	3,000	1	3,000	$300
1st Floor			***10,120***	***$1,628***
Teaching Labs				
Classrooms	750	4	3,000	$450
Support Offices	120	9	1,080	$162
Dean's Office	200	1	200	$30
Expansion	3,000	1	-	$0
Study Commons	3,000	1	3,000	$300
Circulation & Restroom	3,000	1	3,000	$300
2nd Floor			***10,280***	***$1,242***
Support Area				
Storage	2,750	0	-	$0
File Room	400	1	400	$40
Hazardous Waste	250	1	250	$38
Ground Level			***650***	***$78***
New Addition*			36,800	$9,128
Renovation			21,050	$2,948
Construction Costs			***57,850***	***$12,076***
Professional Fees	8%			$966
Contingency	10%			$1,208
Furnishings & Equipment				$500
Project Costs				***$14,750***

* includes Circulation & Mechanical


SCIENCE HALL

EXISTING BUILDING

Brief Building History

The Science Building was the second permanent structure to be built on the MSU Billings campus. Constructed as, and continuing to serve as, the focal point for the campus's scientific research and education; this building currently houses the department of Biological & Physical Sciences.

Original built in the late 1940's, with an addition completed in the early 1970's, the building consists of a partial day-lit basement to the south with an attached greenhouse and two above ground levels. In 2010 a mechanical upgrade and retrofit was completed for lab spaces, classrooms and support spaces.

Classroom upgrades have occurred in recent years. The existing classrooms and Auditorium are not in the scope of work.

Existing Science Building

Existing Exterior

View from the South

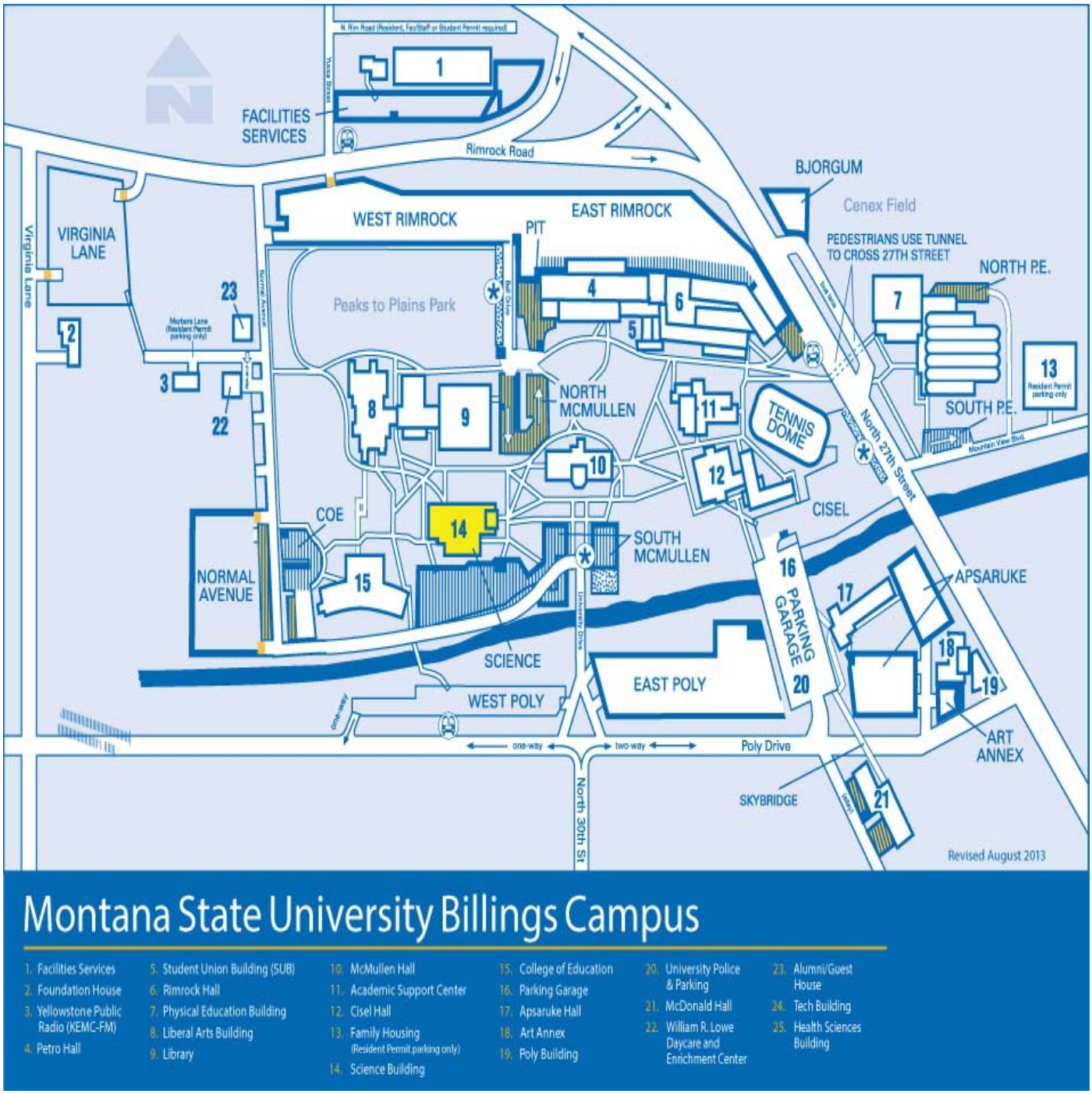
South Facade

View into Chiller courtyard

Existing Greenhouse

North (Original) Facade

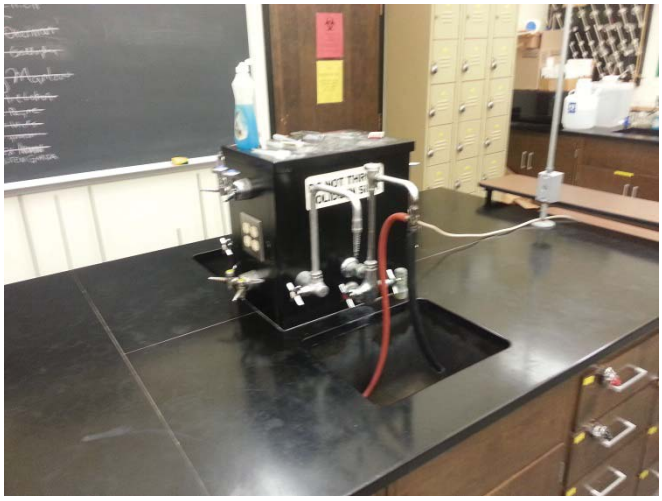
1970’s addition (entry)



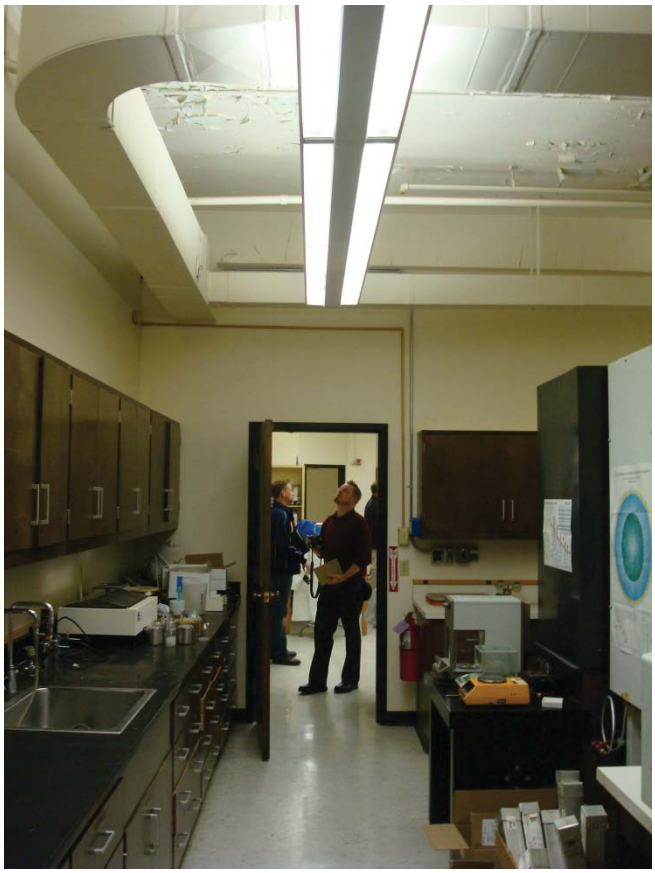
Montana State University Billings Campus

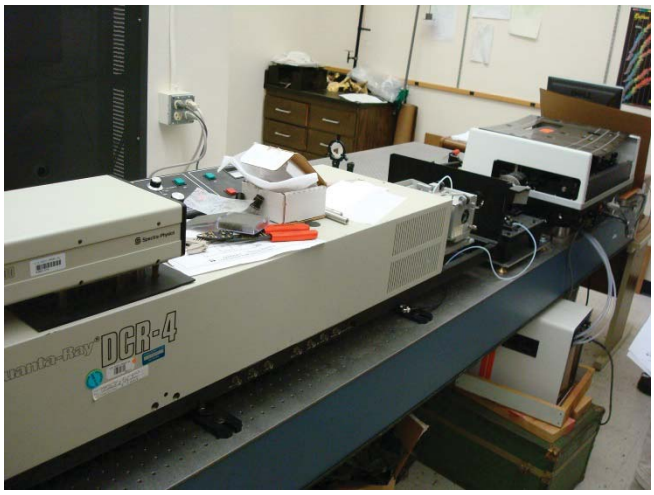
1. Facilities Services
2. Foundation House
3. Yellowstone Public Radio (KEMC-FM)
4. Petro Hall
5. Student Union Building (SUB)
6. Rimrock Hall
7. Physical Education Building
8. Liberal Arts Building
9. Library
10. McMullen Hall
11. Academic Support Center
12. Cisel Hall
13. Family Housing (Resident Permit parking only)
14. Science Building
15. College of Education
16. Parking Garage
17. Apsaruke Hall
18. Art Annex
19. Poly Building
20. University Police & Parking
21. McDonald Hall
22. William R. Lowe Daycare and Enrichment Center
23. Alumni/Guest House
24. Tech Building
25. Health Sciences Building

Existing Interiors

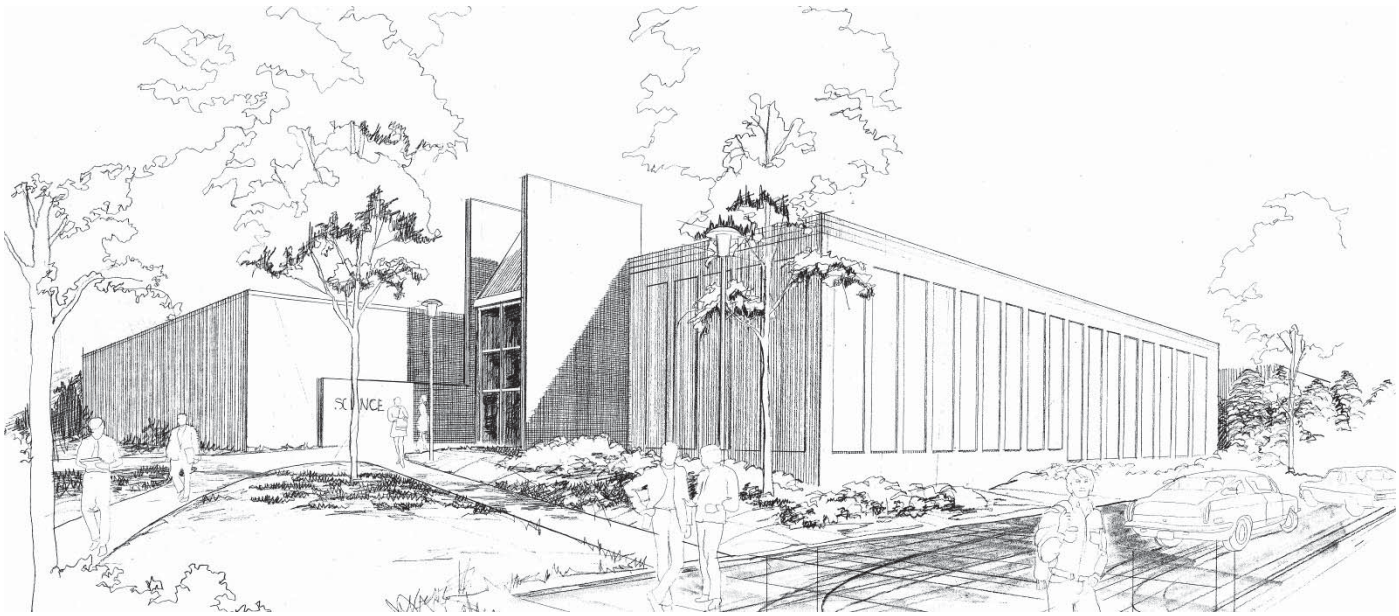


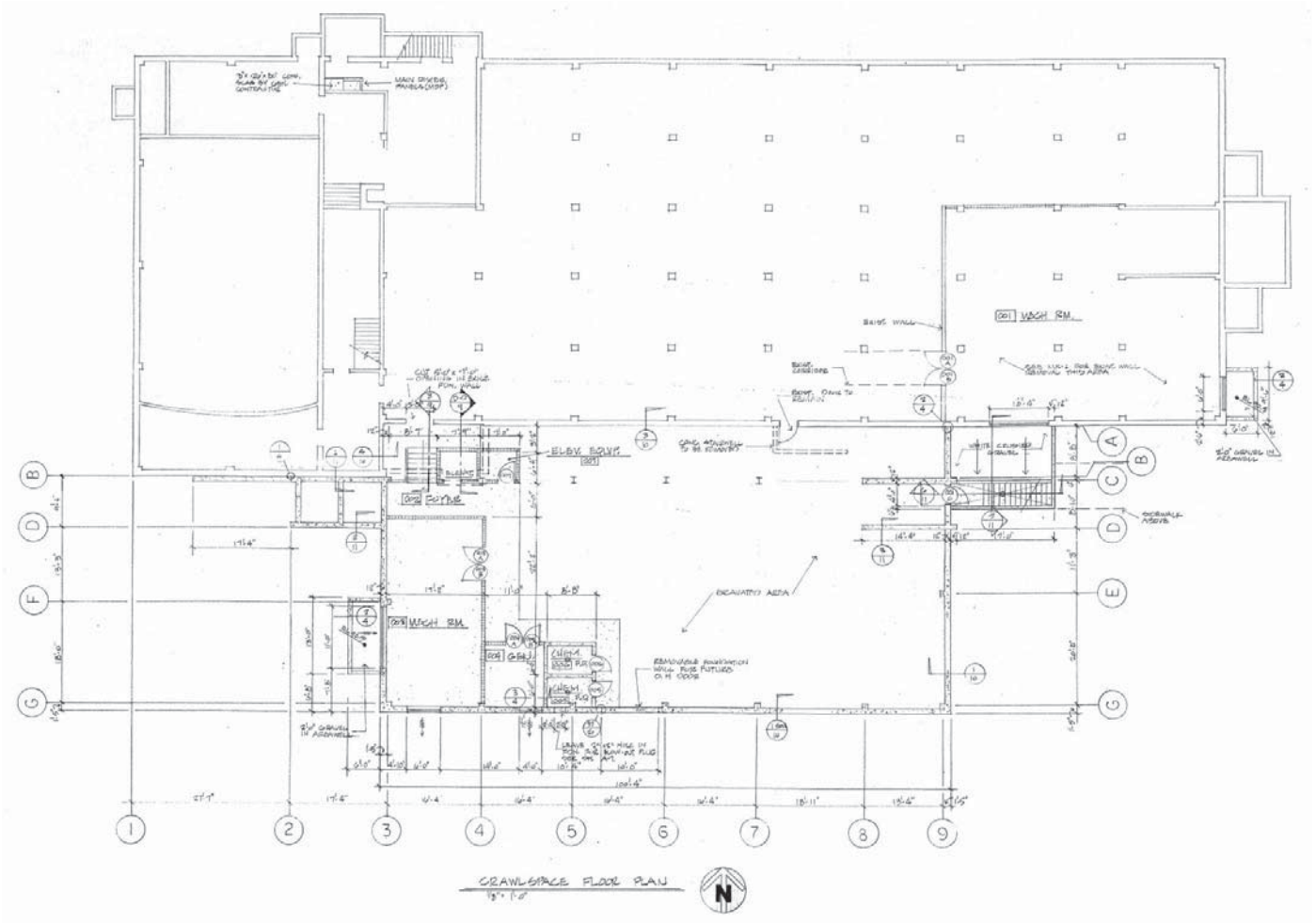
Existing Interiors

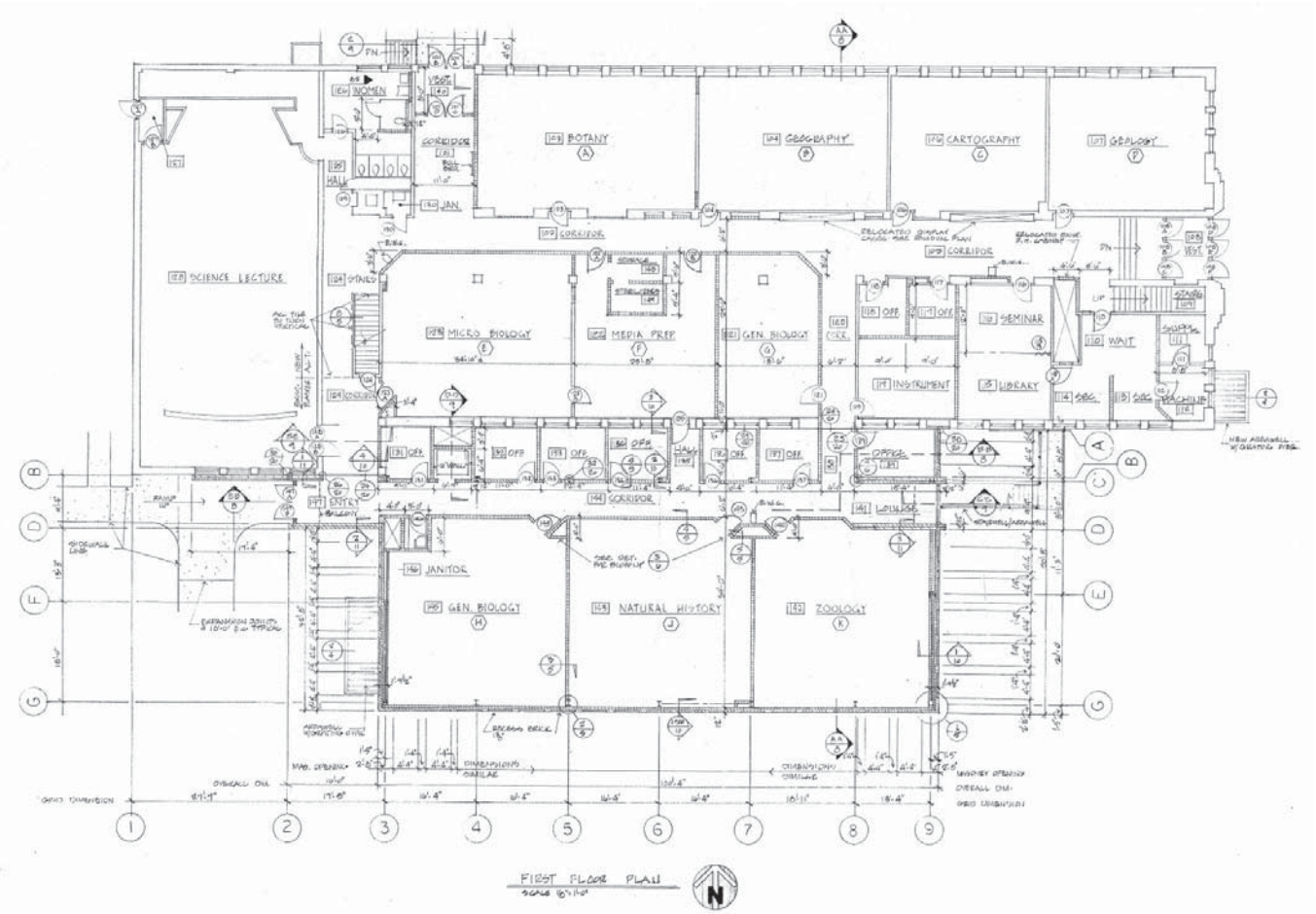



DCR-4

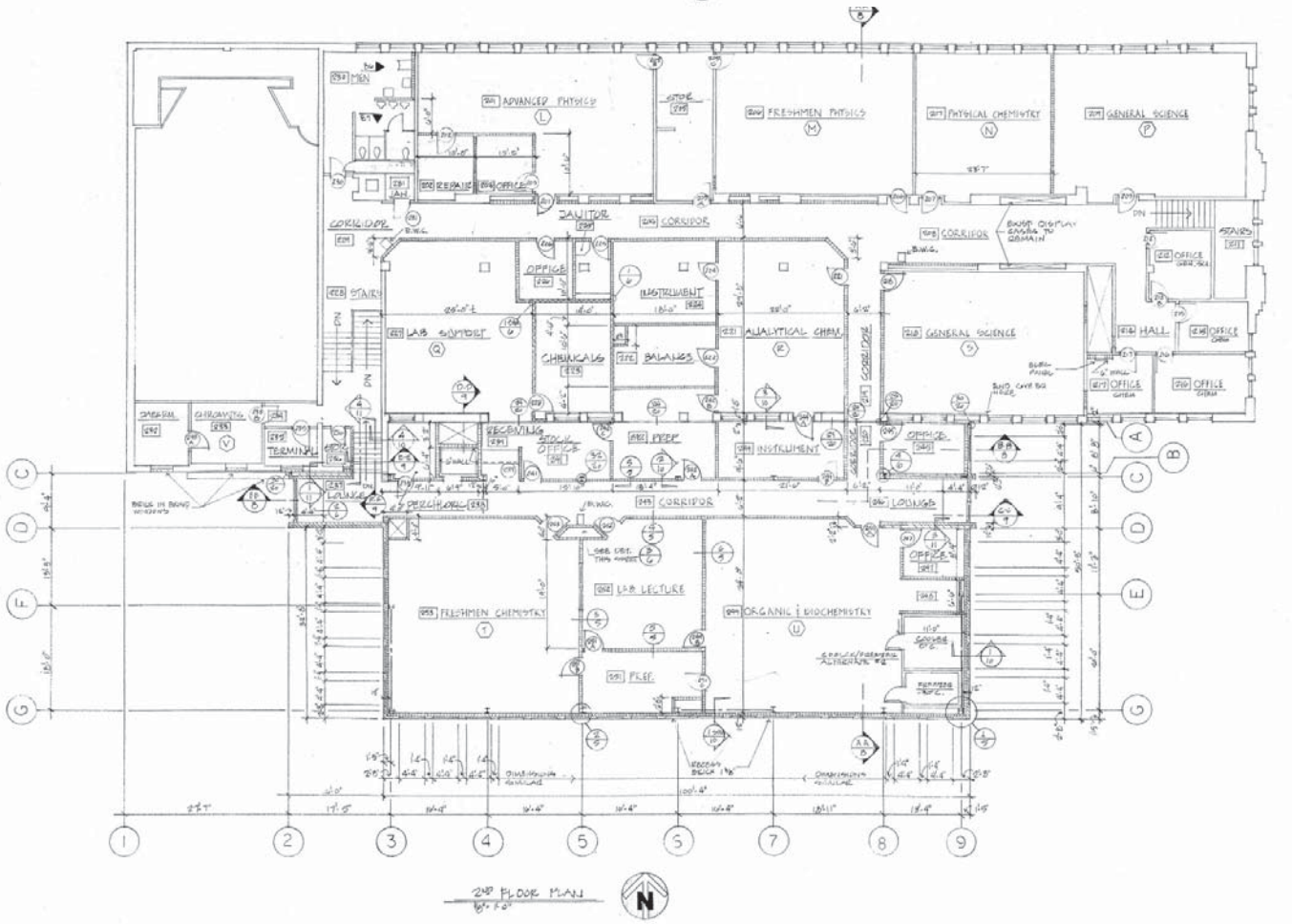
EXISTING PLANS



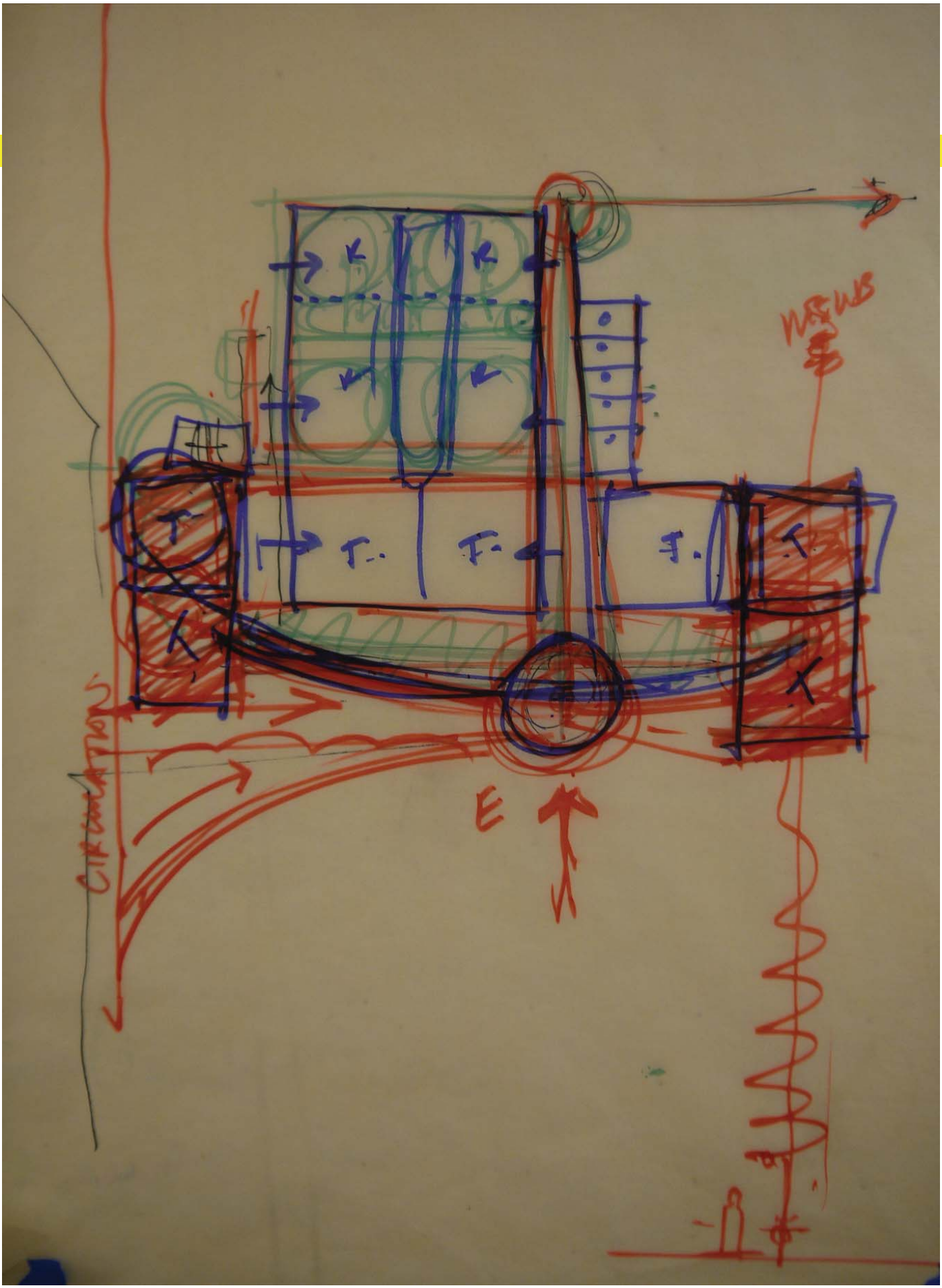




FIRST FLOOR PLAN



2ND FLOOR PLAN


K
K
K
K
T
T
T
T
K
K
E

WORKSHOPS

Workshop Goals.

The first on-site design and programming workshop was held on Sept 30, October 1st & 2nd of 2013 at the SUB.

The workshop was separated into two distinct purposes. RFD met with faculty, staff and lab stakeholders to go through each specific labs programming needs. The first step ultimately leading to the final lab programming space diagrams and detailed space requirements included with this document.

DSA conducted an open door studio workshop designed to solicit input and generate ideas related to site planning, addition location and configuration, preliminary floor plan ideas and building imagery.

Integration with the campus fabric, the addition and inclusion of the Allied Health Professions and presenting “Science on display”, have been a driving forces behind the project from the binging. Toward that end, the design team is working create better entries, plazas and sidewalks to strengthen visual connections to the campus. as well as to invite pedestrians to circulate through the building.

Priorities

As with many projects the “wish-list” of rooms and spaces is greater than what the budget can support. Two things will allow this project to achieve success in these early stages.

First, the steering committee has established a priority for types of spaces to guide the design team. Types of rooms in order of priority:

1. Teaching Labs and spaces
2. Student space
3. Research Labs

By establishing room priorities the design team has guiding principals to assist with preliminary design and recommendations back to the steering committee.

Typically the Programming efforts would be completed prior to starting the design phase. The second element to a success in these early stages: DSA quickly recognized that the programming effort needed to be completed concurrently with the schematic design effort..

The budget can support approximately 30,000 s.f. of new construction, 21,000 s.f. of renovated space, leaving approximately 26,000 s.f. of space in the building that will not be renovated. The resulting Program of Spaces included in this document is a result of continual refinement of those spaces during the process to fit within the constraints of the project. Faculty, staff and the Steering Committee have completely understood the budget limitations and have made many adjustments to their initial requests to balance the final program list and the design layout for the building.

MSU-B Life Sciences Building

Design Workshop
Sept 30 – Oct 1, 2013
Rooms 226 & 228, Rimrock Hall

Monday, Sept 30 (10:00 am – 5:00 pm)

A. 10:00 am – 12:00 noon **Building walkthrough, lab spaces**

B. 12:00 noon – 1:00 pm **Room Set up/lunch**

C. 1:00 pm – 5:00 pm **Open Door Studio/Lab Programming meetings**

Voice your thoughts and ideas. Participate. Everyone is encouraged to brainstorm goals in the following categories for their area:

1. ***Project goals. What is our story?***
2. ***Architectural Image Survey***
   a. *Exterior Design*
   b. *Interiors*
   c. *Entry conditions.*
3. ***Site Planning*** *– Help diagram how pedestrian circulation happens on campus, around the building and discuss how it may affect the planning for the new Life Sciences Building?*
4. ***Commons*** *– Station will be set up to discuss common areas within the building. One large common space or smaller multiple spaces? How should they look and feel*
5. ***Floor plan arrangements*** *– Over the course of the 3 days the design team will be generating alternative floor plan arrangements. Check back to see how things are developing.*

Tuesday, Oct 1 (8:00 am – 5:00 pm)

D. 8:00 am – 12:00 noon **Open Door Studio/Lab Programming meetings**

E. 12:00 noon – 1:00 pm **Lunch break**

F. 1:00 pm – 5:00 pm **Open Door Studio/Lab Programming meetings**

Wednesday, Oct 2 (8:00 am – 4:00 pm)

G. 8:00 am – 11:00 noon **Open Door Studio/Lab Programming meetings**

H. 11:00 am – 12:00 noon **Steering Committee meeting**

I. 12:00 noon – 1:00 pm **Lunch Break**

J. 1:00 pm – 4:00 pm **Wrap up, Missed Lab Programming meetings**

Lab Programming, Room 226

Monday, September 30

1:00 General Biology
2:00 Microbiology
3:00 Anatomy & Physiology
4:00 Ecology/Zoology

Tuesday, October 1

8:00 Botany
9:00 Plant Systematics
10:00 Biology Prep, Instrumentation & Equipment
11:00 General Chemistry
12:00 ******Lunch*****
1:00 Physical Chemistry
2:00 Organic Chemistry
3:00 Physics
4:00 Chemistry Prep, Storage & Stock Room

Wednesday, October 2

8:00 Greenhouse
9:00 Performance Labs & Expansion
10:00 Athletic Training
11:00 Steering Committee Meeting
12:00 ******Lunch*****
1:00 available
2:00 available
3:00 available
4:00 available

IMAGE

MSU BILLINGS

DSArchitects

Whitten & Borges, PC

RFD

Comments

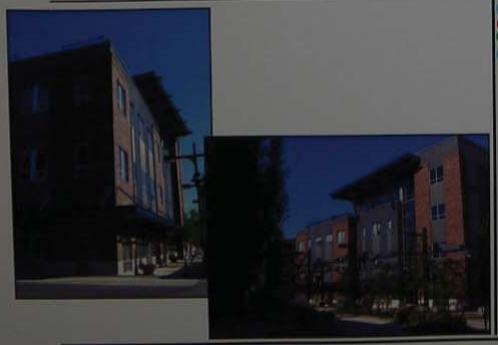
Elements @ top look like fire escapes

Looks like a refinery

Don't like

Ugly

Looks Great



low sunshades are nice-looking

WORKSHOP IMAGES

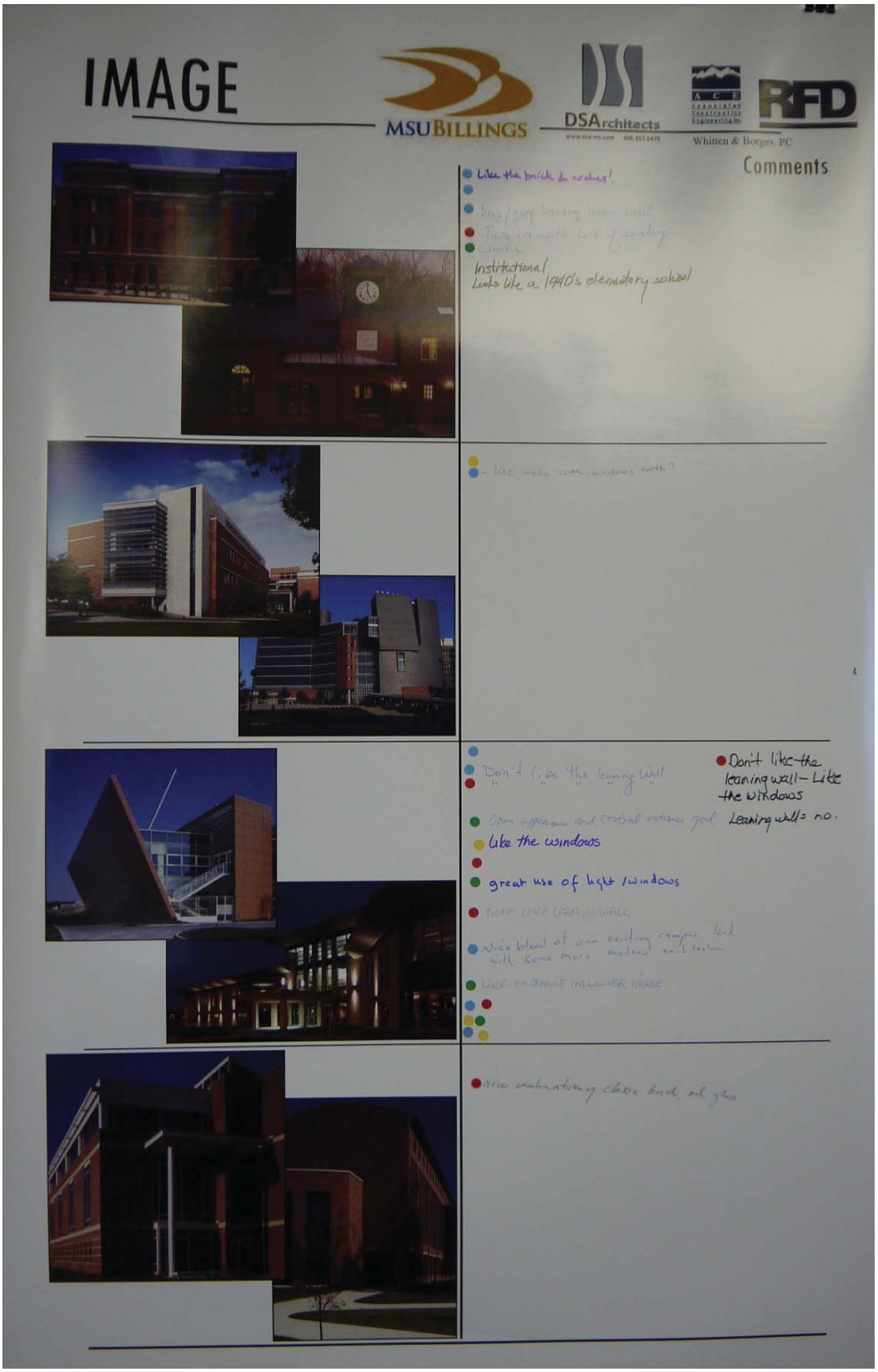
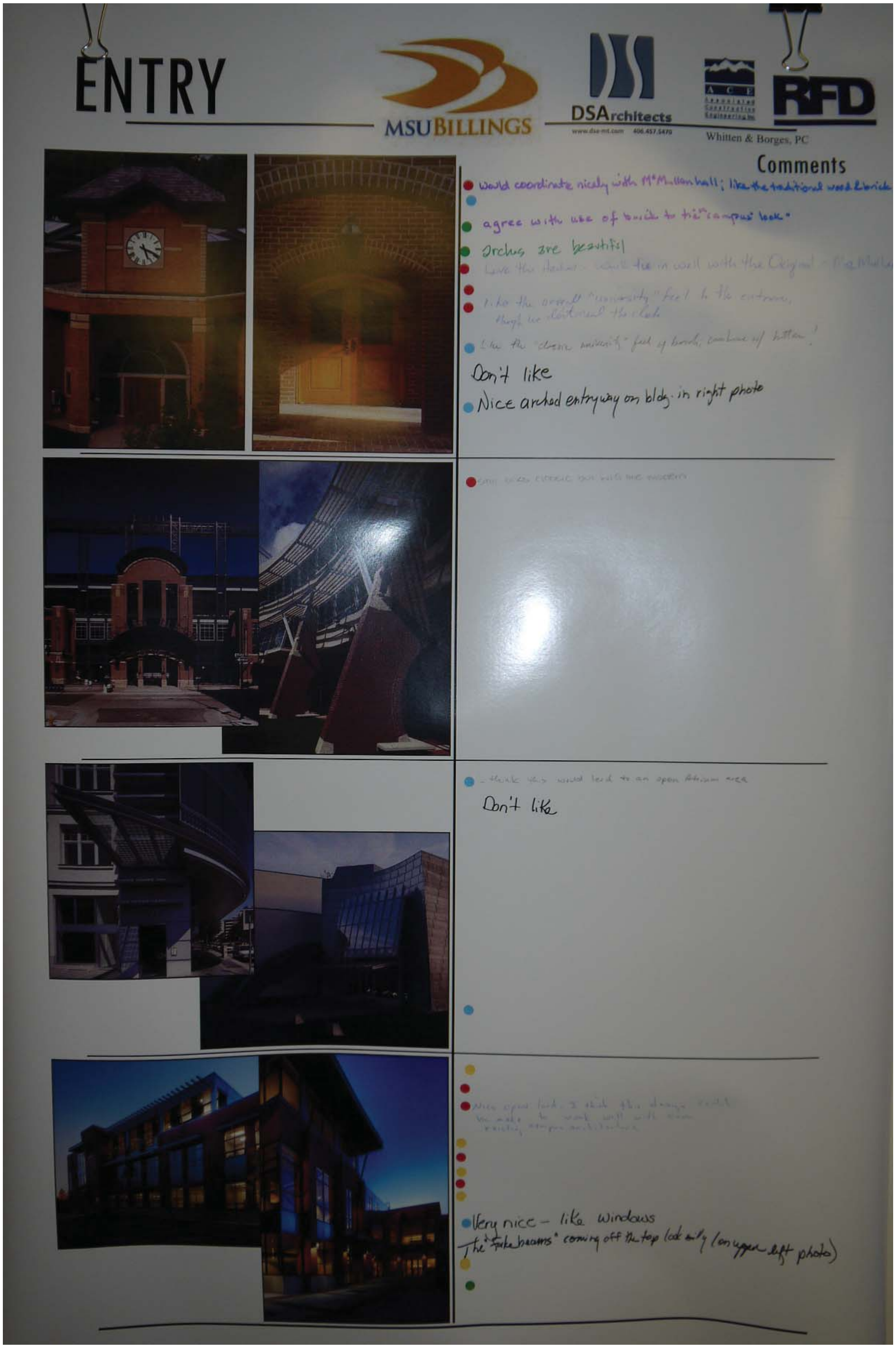



IMAGE
MSU BILLINGS
DSArchitects
Whitten & Borges, PC
RFD
Comments
Don't like
Like use of local natural stone
Don't like
Yuck
Looks like Soviet era housing - awful.
← Too "institutional" (and not a good type of institution...)
Very Nice - Like windows


ENTRY
MSU BILLINGS
DSArchitects
Whitten & Borges, PC
RFD
Comments
agree with use of brick to tie "campus" look
arches are beautiful
Don't like
Nice arched entryway on bldg. in right photo
Don't like
Very nice – like windows

INTERIORS

MSU BILLINGS

DSArchitects

Whitten & Borges, PC

RFD

Comments

- like interior windows (do not like "industrial" look)
-

Don't like

- feeling of space, lots of natural light
- Beautiful!
- Nice wood & windows

- Like these surfaces, but prefer more windows/skylights
- open space, balconies, lots of windows
- like the lighter color scheme

looks "chilly" - not a welcoming space

- break tree in with rest of campus
- great light space
- LOVE!

IMAGE BOARDS

Throughout the first workshop image boards were on display to give participants an opportunity to provide input into architectural design. Image boards focused on three distinct architectural characteristics:

1. Exterior Image
2. Entry conditions
3. Interiors

From the very beginning the Steering Committee emphasized that they were looking for a high level of design and architecture with this addition.

In reviewing stakeholders reactions to the images provided we generally find a predominant theme that we can draw from and use for inspiration in the design process. This proved to be true throughout the course of this workshop. A few identifiable attributes started to emerge.

Windows and glass. Stakeholders reacted positively to images that showed substantial amounts of glass. Natural daylight was identified as a desired amenity which is not surprising. As sketches started to be generated during the workshop an opportunity began to emerge where a glass tower started to emerge which could function as a “beacon” to Billings. The space would need to be a public space with internal lighting going into the evening hours. A student commons would be ideal as it would remain active and illuminated after classes were done for the day.

Exposed Steel detailing. Stakeholders clearly identified with images that included exposed steel beams and columns as detail elements.

Brick. The existing building is brick and brick is a common exterior material on campus. Images with brick veneer were generally identified as favorable.

Other exterior materials. Considerable discussion revolved around the opportunity to utilize other materials

in the design of the building to create a “unique”, even modern look to the building. Metal panels, rain-screen systems such as products by Swiss Pearl were mentioned. In general the stakeholders desire the addition to bring focus to the building and to the programs in Science and the Allied Health Professions. The building should stand-out.

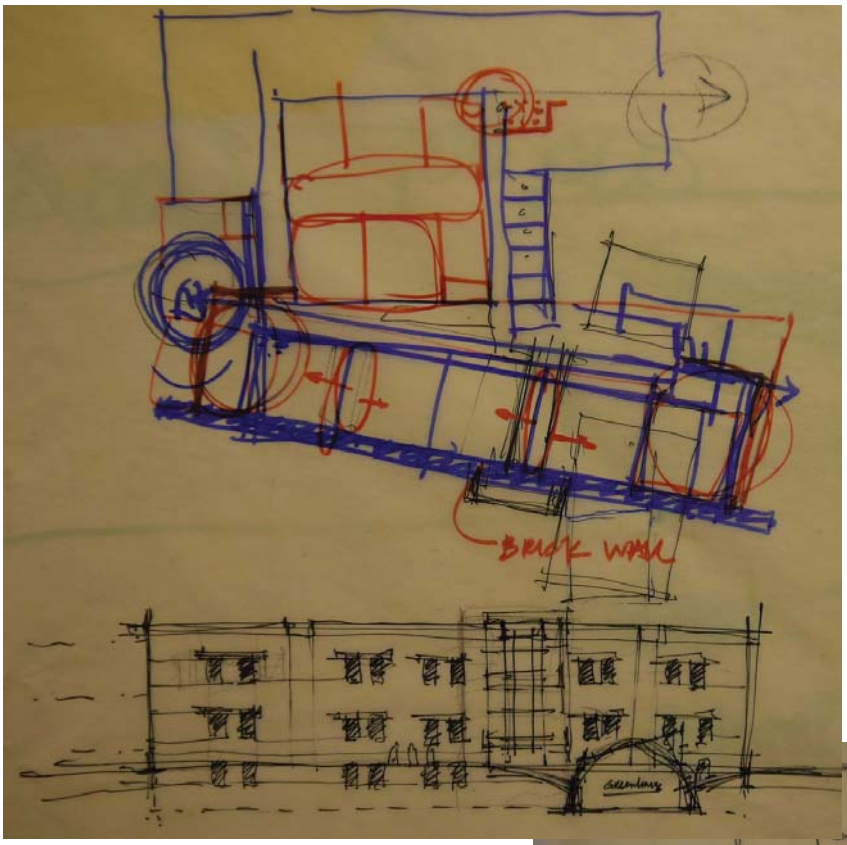
Site influences. The team spent time walking around the campus and in particular the spaces around the building. Pedestrian circulation was diagramed, parking locations discussed as well as which other buildings students would most likely attend classes in. A significant landscaped open area exists immediately to the west of the building. Also, many students approach the building from the west and south parking lots.

From the south the sidewalk will be re-aligned slightly to the east to solve a drainage and ADA issue at the east entrance to the Education building.

From the west, the sidewalk will remain as it curves in front of the Education building. A new, main entry to the Life Sciences building should be located as this walk resolves itself at the building and re-aligned walk from the south parking.

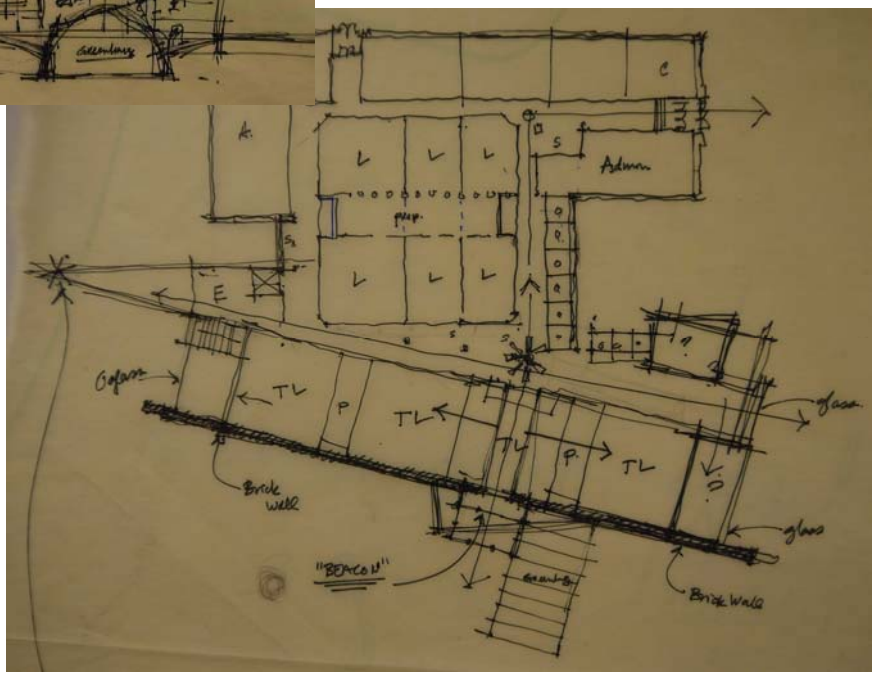
The team began to study the influence of this entry on the layout of the plan. A slight angle in plan would allow the entry and primary interior circulation corridor to be on axis with the sidewalk approach allowing visitors to completely “see-through” the building.

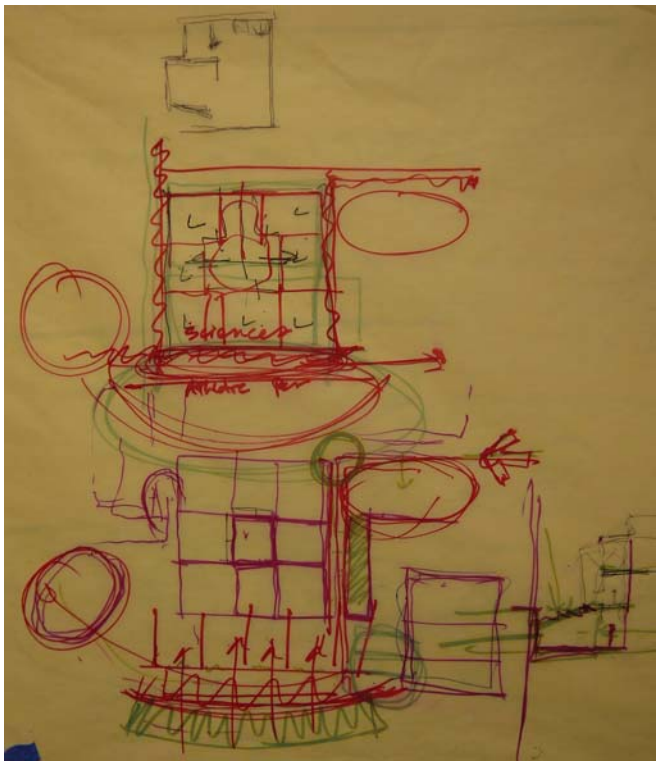
The ideal location for the expansion is directly to the south. This will take up most of the existing parking lot but as the site drops in elevation this will also allow the lower level to be completely above ground with ample windows and daylight. A ground floor, “entry” first floor and second floor will result.

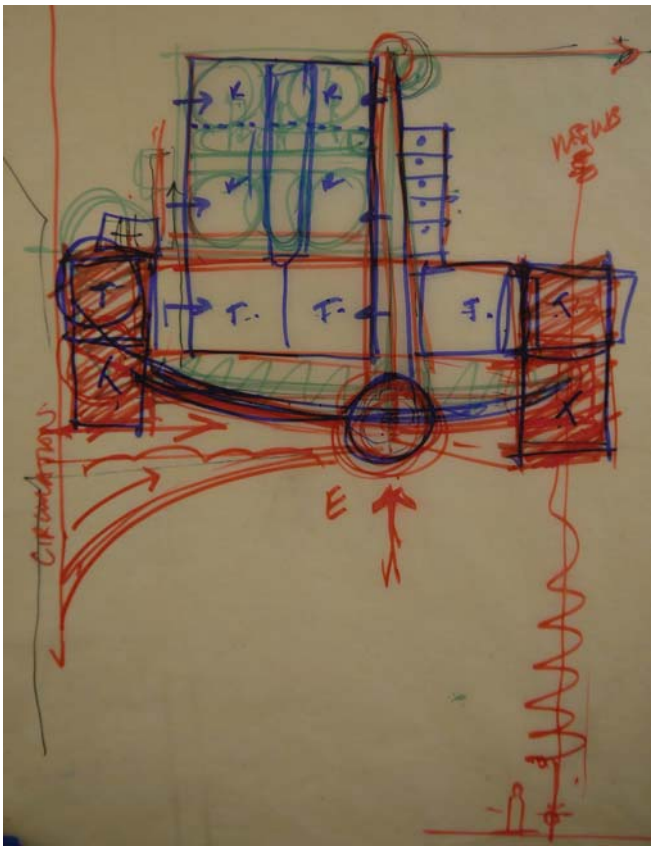


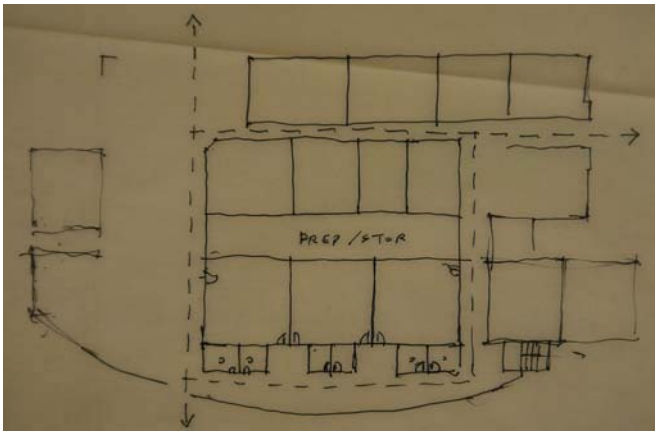
The sketches to the left and below capture the essence of the direction for design that resulted from stakeholder, student, faculty and steering committee input during the 3 day workshop.

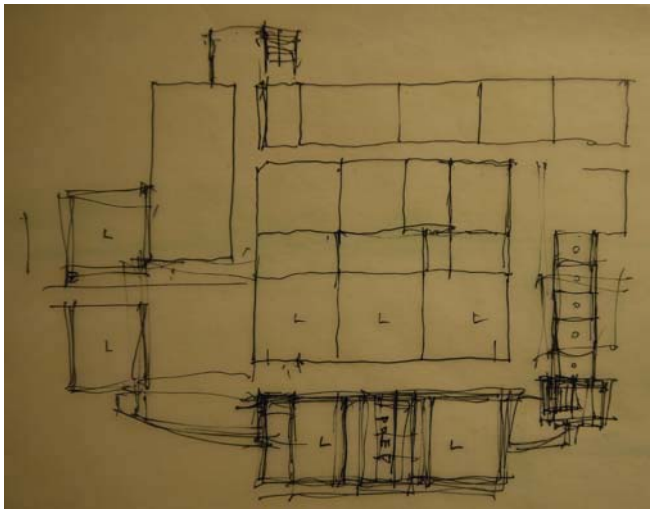
The next couple pages include many sketches representing thought processes and ideas explored which helped the group realize that the design direction proposed was solid.

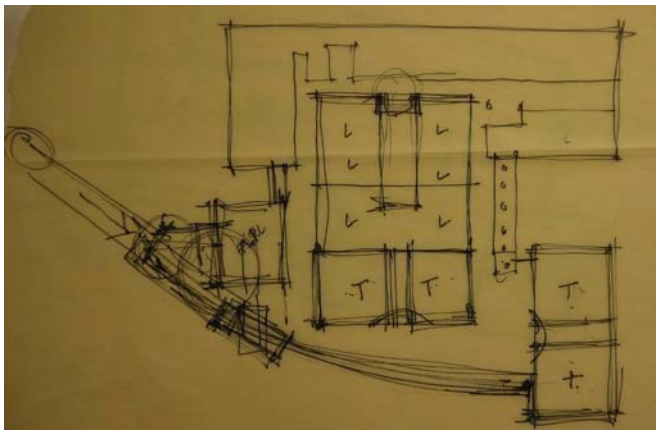


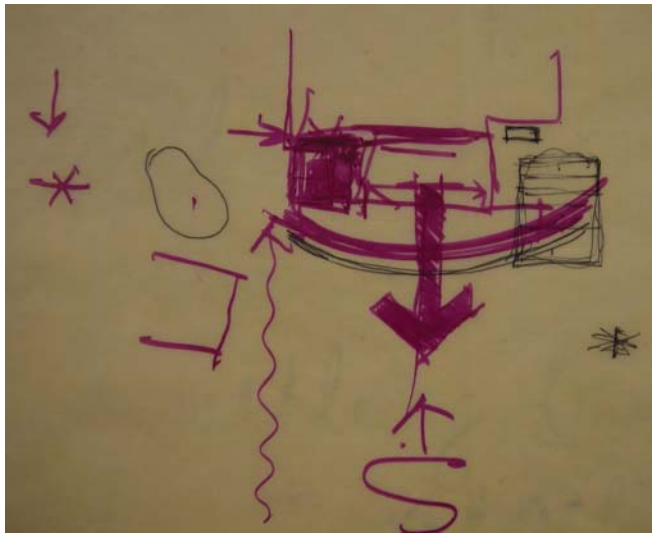


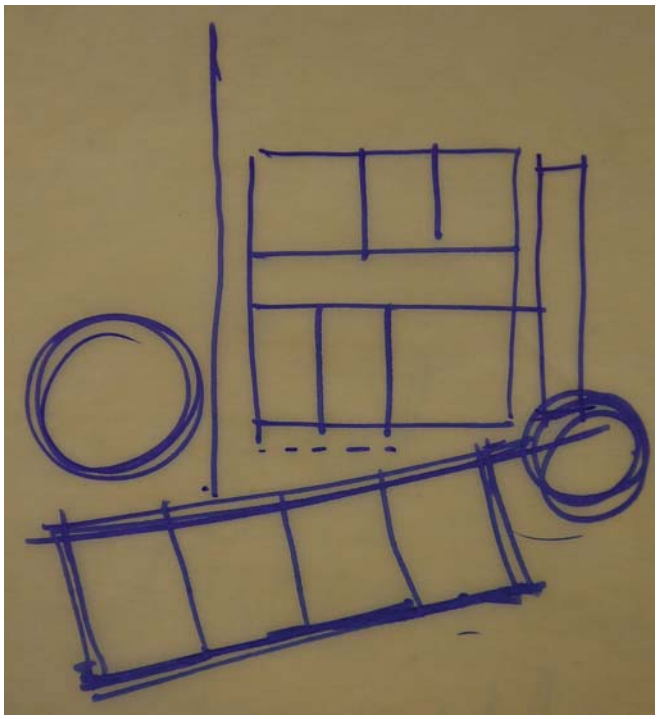


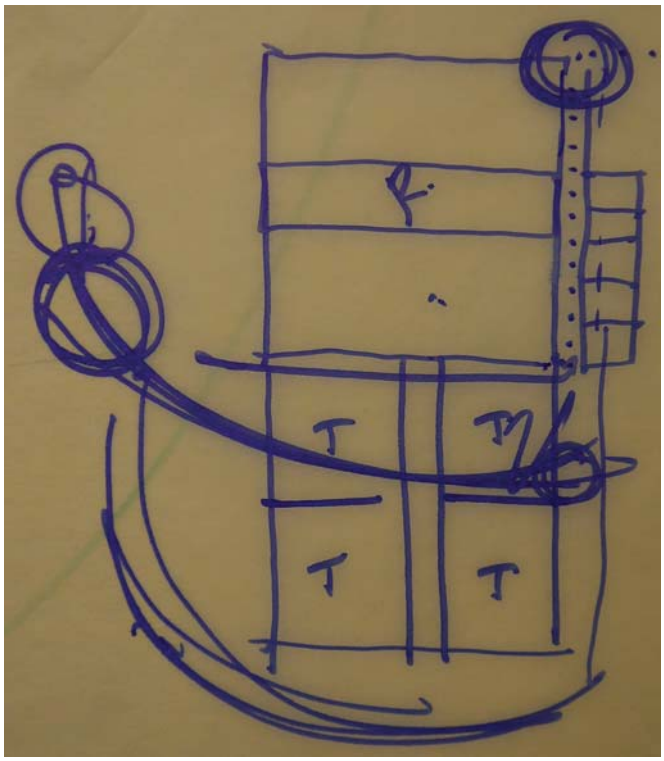

PREP / STOR











ARCHITECTURAL PROGRAM

Sciences

Room #	A - SCI SPACES	General Notes	New Addition	Struct upgrade required	Heavy Renov	Medium Renov	Existing Unrenovated	Total
	TEACHING LABS							
61	HUMAN ANATOMY & PHYSIOLOGY	LAB				1316		
03	PHYSICS LAB	LAB				820		
161	MIROBIOLOGY / BIOCHEMISTRY	LAB			1355			
124	EARTH SCIENCE / GEOLOGY	LAB					694	
122	ECOLOGY / HUMAN ANATOMY & PHYSIOLOGY	LAB					432	
120	GENETICS/CELL & MOLECULAR BIOLOGY	LAB					707	
266	PHYSICAL ANALYTICAL CHEMISTRY	LAB	874					
60	GENERAL BIOLOGY LAB	LAB	1192					
64	BOTANY / ECOLOGY / ZOOLOGY LAB	LAB	1192					
66	PLANT SYSTEMATICS LAB	LAB	904					
260	GENERAL CHEMISTRY	LAB	1197					
264	ORGANIC CHEMISTRY	LAB	1198					
	REASEARCH LABS							
115	RESEARCH LAB 1 (shelled out space)	RESEARCH				483		
117	RESEARCH LAB 2 (shelled out space)	RESEARCH				494		
119	RESEARCH LAB 3 (shelled out space)	RESEARCH				494		
121	RESEARCH LAB 4 (shelled out space)	RESEARCH				493		
218	PHYSICS RESEARCH / LASER	RESEARCH				632		
215	RESEARCH LAB 5 (shelled out space)	RESEARCH				482		
217	RESEARCH LAB 6 (shelled out space)	RESEARCH				496		
219	RESEARCH LAB 7 (shelled out space)	RESEARCH				496		
221	RESEARCH LAB 8 (shelled out space)	RESEARCH				497		
118	CELL & MOLECULAR BIOLOGY RESEARCH	RESEARCH					980	
68	PLANT SYS RESEARCH	RESEARCH	437					
	LAB SUPORT SPACES							
61B	CADAVER	LAB SUP				271		
207	SHARED PREP	LAB SUP			1070			
116	INV CON MICROSCOPY	LAB SUP			174			
123	FREEZERS	LAB SUP				172		
261*	STS STOCK ROOM	LAB SUP			1637			
209	NMR	LAB SUP				143		
203	PRE - LAB DISCUSS	LAB SUP				321		
116A	IMAGING	LAB SUP			102			
61A	STOR	LAB SUP				67		
45	CHEM BULK STOR	LAB SUP				85		
03A	PHYSICS STOR	LAB SUP				308		
123A	AUTO CLAVE / GLASSWASH	LAB SUP				99		
107, 108	SHARED PREP	LAB SUP			1061			
220A	PREP	LAB SUP				293		
124A	EARTH SCIENCE / GEOLOGY PREP	LAB SUP					237	
120A	MIROSCOPY	LAB SUP					103	
112	ANIMAL	LAB SUP					349	
62	BIOLOGY / BOT, ECOL, ZOO SHARED PREP	LAB SUP	271					
70	PLANT GROWTH CHAMBER	LAB SUP	185					
70A	GREEN HOUSE PREP	LAB SUP	260					
65	RADIOACTIVE USE & STOR	LAB SUP	90					
67	ELECTRON MICROSCOPY	LAB SUP	183					
67A	STOR		183					
262, 264A	BALANCE ROOM / IR / CHEM SHOR	LAB SUP	269					
52	CHEM BULK STOR	LAB SUP	62					
	SCI GENERAL							
VARIES	Support Offices	20	1051			1265	131	
	A SCI SUBTOTAL		9548	0	5399	9727	3633	28307

Health & Human Performance
Common Area & Totals

	B - AHP SPACES	General Notes	New Addition	Struct upgrade required	Heavy Renov	Medium Renov	Existing Unrenovated	Total
	TEACHING LABS							
160	ATHLETIC TRAINING	LAB	1213					
164	HUMAN PERFORMANCE	LAB	905					
166, 139r	MOVEMENT LAB + STOR	LAB	1675					
162	OCCUPATIONAL THERAPY LAB	LAB	616					
224	CLASSROOM / EMERGENCY FIRST RESPONDER	LAB					805	
	AHP GENERAL							
varies	Support Offices	17	1047			1017		
	B - AHP SUBTOTAL		5456	0	0	1017	805	7278

	C - GENERAL SPACES	General Notes	New Addition	Struct upgrade required	Heavy Renov	Medium Renov	Existing Unrenovated	Total
110	AUDITORIUM	ADMIN					1734	
103	FRONT OFFICES	ADMIN			759			
127	AHP DEAN'S OFFICE	ADMIN				253		
135	AHP ADMIN	COMMON				505		
235, 235A	SCIENCE ADMIN	COMMON				489		
125, 225	CONFERENCE	ADMIN				478		
54, 154, 254	IT	ADMIN	260					
220, 222	CLASSROOMS	SHARED					1396	
40	MECHANICAL	COMMON				733	9669	
113, 213	EXIST RESTROOMS	COMMON					525	
40 & 47	NEW RESTROOMS GROUND FLOOR	COMMON			238			
147, 149	NEW RESTROOMS FIRST FLOOR	COMMON			312			
247, 249	NEW RESTROOMS SECOND FLOOR	COMMON			310			
83, 163, 283	ELEVATOR (all floors)	COMMON	276					
	ELEVATOR MACHINE ROOM	COMMON	67					
?? TOO BIG	JANITORIAL / STORAGE	COMMON	525			131	406	
42	LOADING	COMMON				363		
	CIRCULATION INCLUDES STAIRS	COMMON	11551			350	5218	
69, 70	STUDENT COMMONS GROUND FLOOR	COMMON	358					
168, 170	STUDENT COMMONS FIRST FLOOR	COMMON	375			121		
201, 205, 268, 270	STUDENT COMMONS SECOND FLOOR	COMMON	977			114		
	WALL FOOTPRINT AREAS	COMMON	1968				2865	
	C - GENERAL SUBTOTAL		16357	0	1619	3537	21813	43326

	D - TOTAL		New Addition	Struct upgrade required	Heavy Renov	Medium Renov	Existing Unrenovated	Total
	TOTAL SQUARE FOOTAGES		31361	0	7018	14281	26251	78911

LABORATORY PROGRAMMING

LABORATORY PROGRAMMING

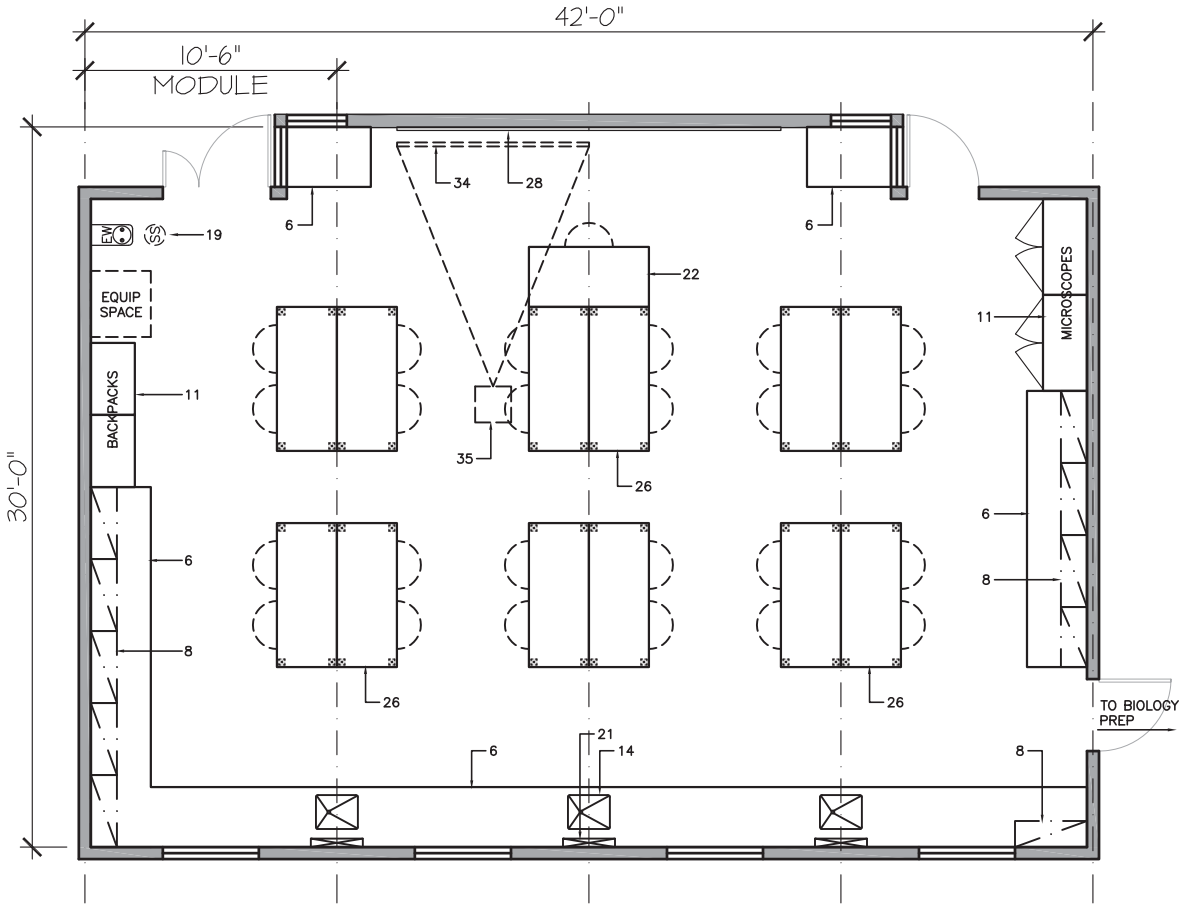
Laboratory space and the resultant indoor environmental quality of these spaces was considered a top priority to success. The laboratory consulting firm of Research Facilities Design, Inc (RFD) in conjunction with the project design team met with laboratory users, faculty and staff to develop lab layouts that fit within the confines of the existing building floor plates and new construction. The team visited the existing laboratory spaces with facility and staff. Equipment requirements were evaluated. In the floor plan layouts, equipment was located appropriately to reduce the impact on the renovation mechanically, reduce redundancy in equipment, and encourage multi-departmental use of equipment where deemed appropriate.

As with the overall building layout design process described in the Architectural Programming narrative, the same process was followed for each laboratory space scheduled. Design meetings were held throughout the process with the lab consultant and the design team to verity requirements (Fig 2).

Room Data sheets following this section are a compilation of the information collected throughout the lab design development process and finalized at a preliminary laboratory and floor plan layout design meeting with faculty and staff. The associated floor plans of each data sheet reflect the resultant lab layout of the space allocated.

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.01**
SPACE NAME: GENERAL BIOLOGY **AREA NSF: 1260 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.01
SPACE NAME: GENERAL BIOLOGY **OCCUPANTS:** 25

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 1
Zoned Lighting	Note 1
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

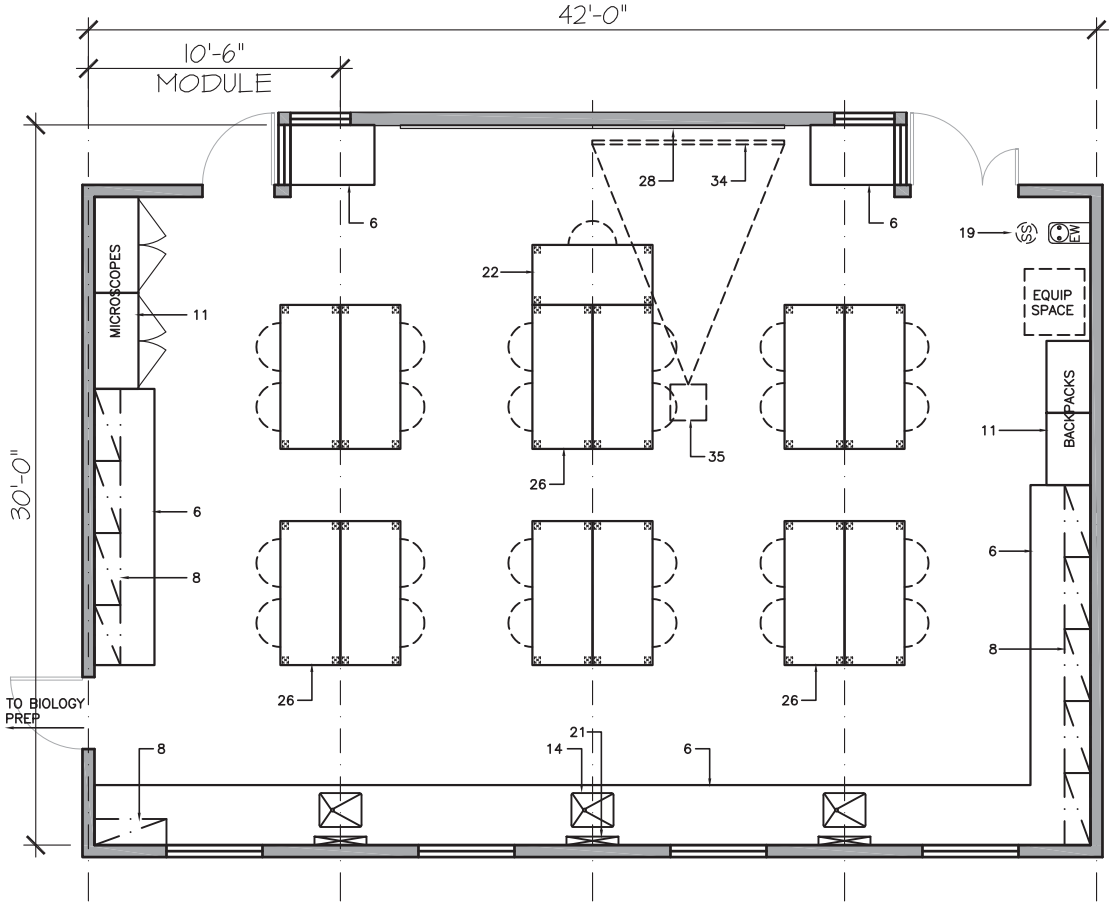
Microscopes
Refrigerator
Water baths
Balances
Portable vacuum pump

REMARKS:

1. Suitable for A/V presentations
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.02**
SPACE NAME: BOTANY / ECOLOGY / ZOOLOGY **AREA NSF: 1260 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTE:
- PROVIDE DISSECTION SPECIMEN STORAGE IN LAB AND/OR PREP

10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.02
SPACE NAME: BOTANY / ECOLOGY / ZOOLOGY **OCCUPANTS:** 25

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 1
Zoned Lighting	Note 1
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

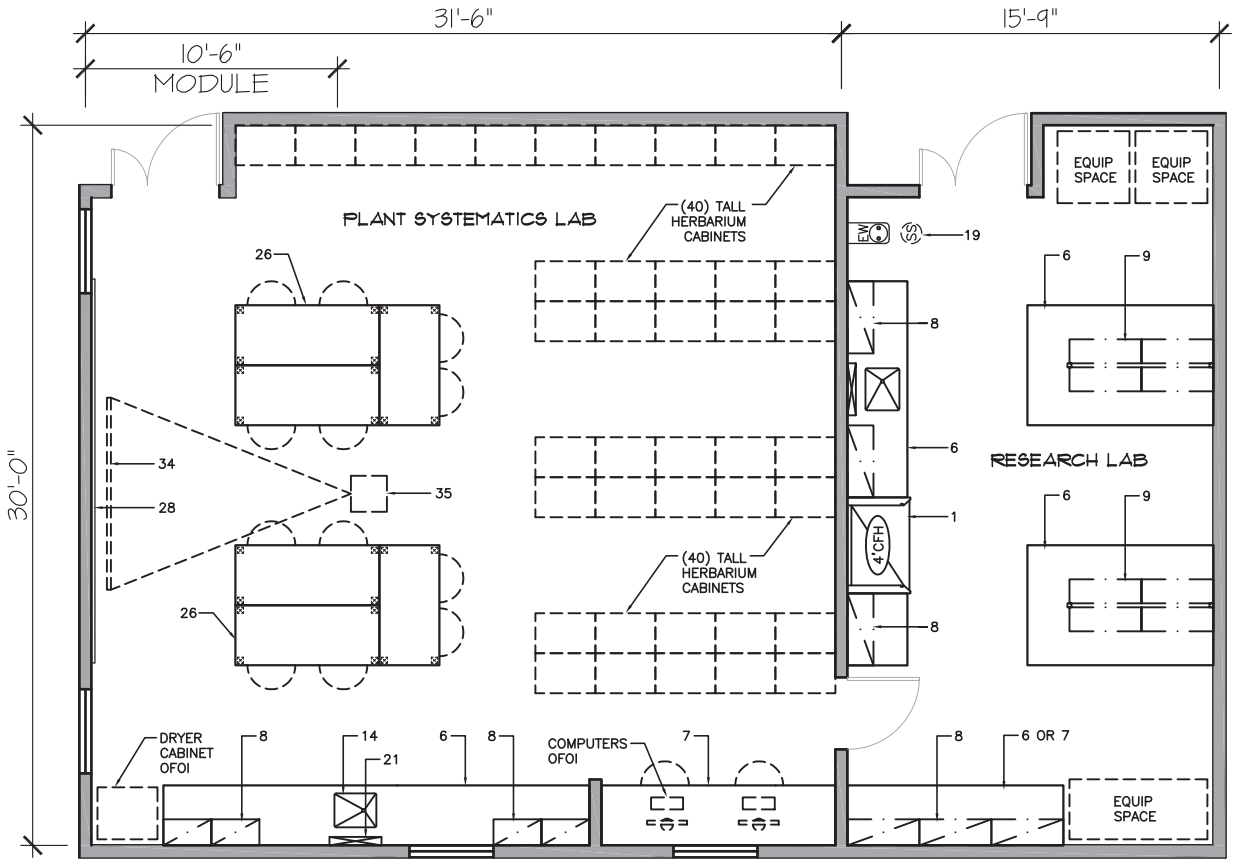
Microscopes
Refrigerator
Specimen Cabinets
Water baths
Electrophoresis apparatus

REMARKS:

1. Suitable for A/V presentations
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.03**
SPACE NAME: PLANT SYSTEMATICS LAB / RESEARCH LAB **AREA NSF: 945 NSF, 473 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:
- APPROX. 28LF OF PERIMETER BENCH AND CASEWORK
- (12) STUDENT SEATS

10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.03
SPACE NAME: PLANT SYSTEMATICS LAB **OCCUPANTS:** 13

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	
Other	Note 2
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 3
Zoned Lighting	Note 3
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 4
Acoustic Tile	Note 4
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

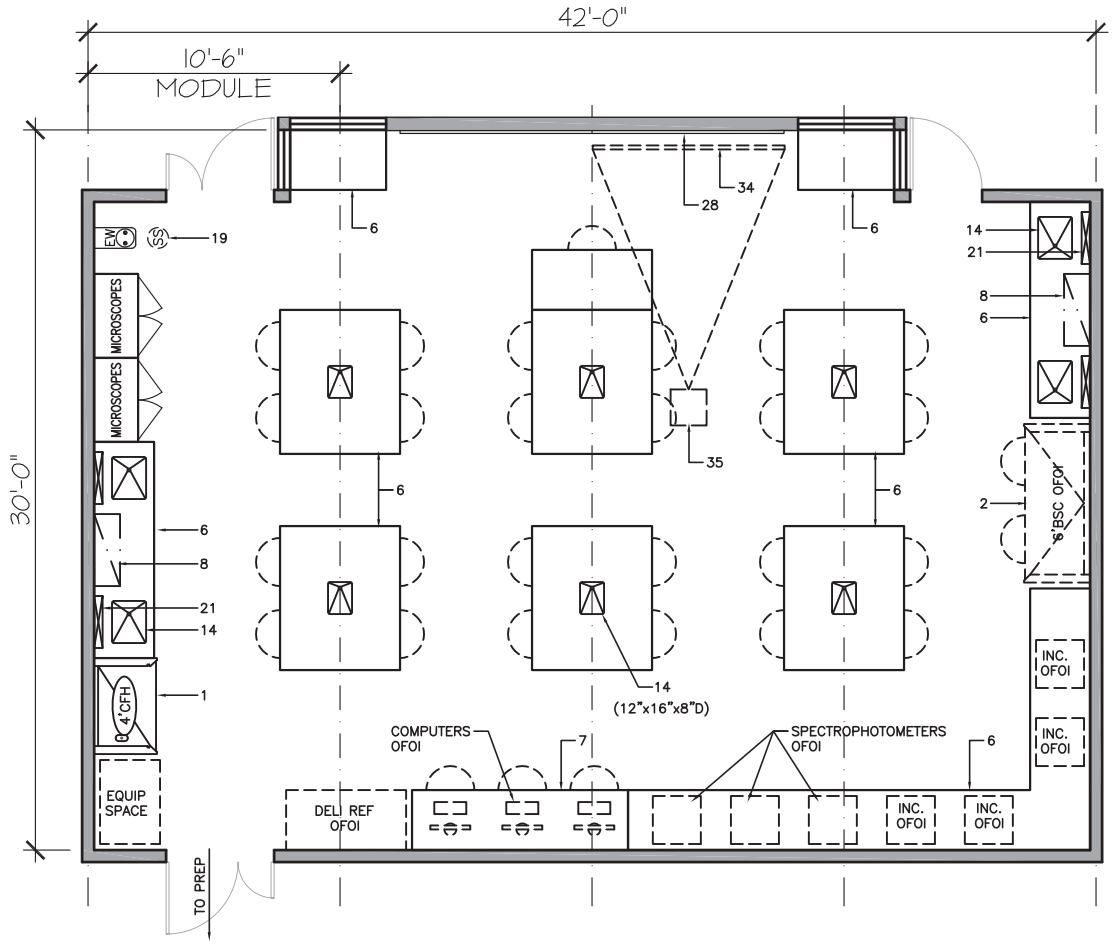
EQUIPMENT BY OWNER:
Microscopes
Dryer Cabinet
Specimen Cabinets
Computer Cart

REMARKS:

1. 68°-73° ± 2°F
2. 40-60% RH
3. Suitable for A/V presentations
4. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.04**
SPACE NAME: MICROBIOLOGY / BIOCHEMISTRY LABORATORY **AREA NSF: 1,260 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.04
SPACE NAME: MICROBIOLOGY / BIOCHEMISTRY LABORATORY **OCCUPANTS:** 25

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 1
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 2
Zoned Lighting	Note 2
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 3
Acoustic Tile	Note 3
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

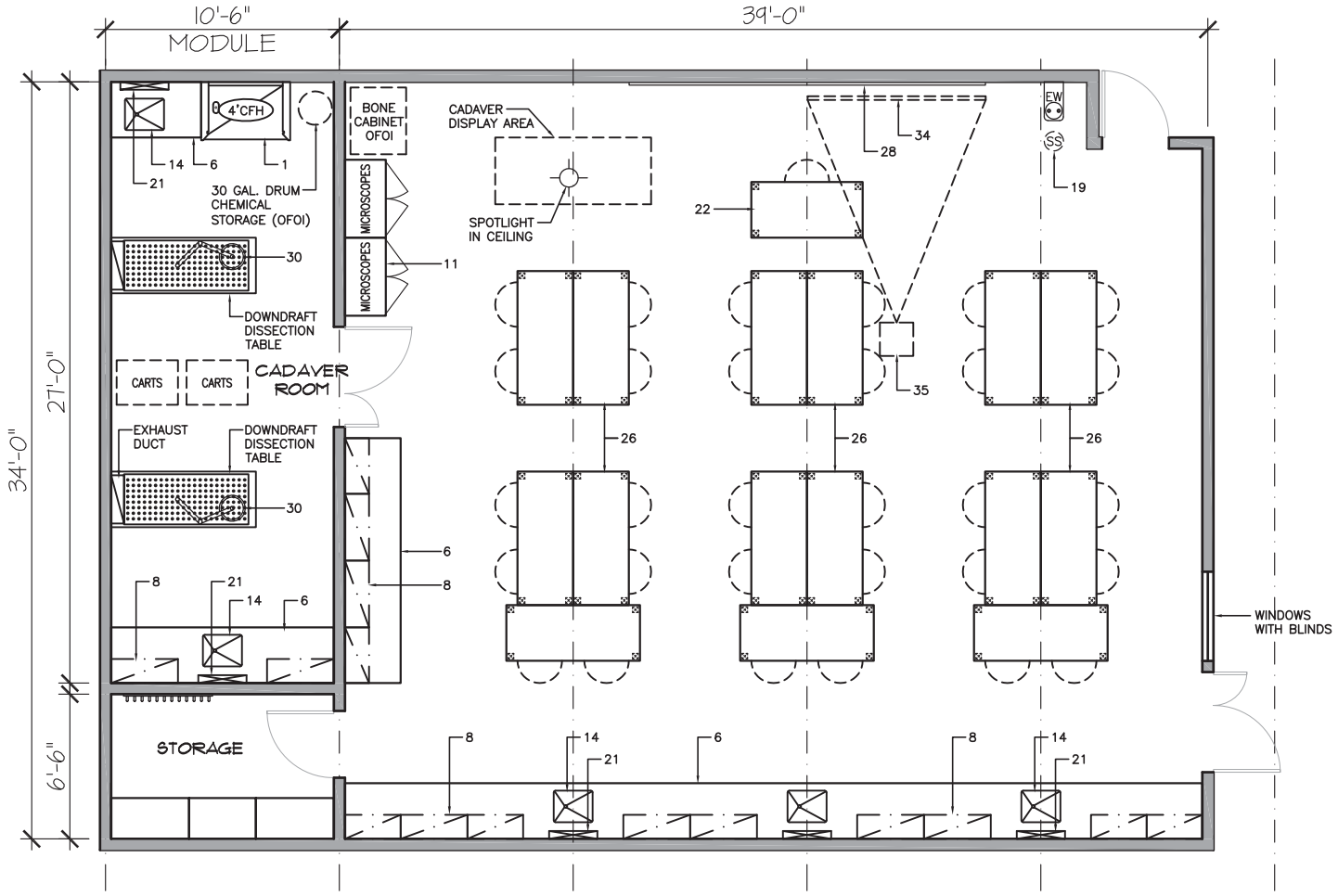
Microscopes
Deli Refrigerator
Biological Safety Cabinet (recirculating)
Incubators
Spectrophotometers
Computors

REMARKS:

1. (1) 4' CFH
2. Suitable for A/V presentations
3. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.05, A2.05, A2.06**
SPACE NAME: HUMAN ANATOMY & PHYSIOLOGY, CADAVER ROOM, STORAGE **AREA NSF: 1,326 NSF, 284 NSF, 68 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:

- (30) STUDENTS
- PROVIDE HIGH & LOW EXHAUST GRILLES

10'-6" Module

0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.05
SPACE NAME: HUMAN ANATOMY & PHYSIOLOGY **OCCUPANTS:** 31

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	Note 2
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	Note 3
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	Note 4
Darkenable	Note 5
Zoned Lighting	Note 5
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 6
Acoustic Tile	Note 6
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	Note 7
Natural Daylight	

EQUIPMENT BY OWNER:
Microscopes
Bone Cabinet
Anatomical models

REMARKS:

1. 68°-70° ± 2°F
2. Normally 8 ACH with user controllable timer switch for 15 ACH
3. High and low exhaust grilles
4. Spotlight or floodlight for cadaver display area
5. Suitable for A/V presentations
6. To be determined in future phases
7. With blinds

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.05
SPACE NAME: CADAVER ROOM **OCCUPANTS:** 6-12

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	15
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	Note 1
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 2
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	Note 3

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	●

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	Note 4
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	●
Biological Storage	●
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	●
Epoxy	
Sealed Concrete	
Other	
Base	
4" Vinyl	
Integral w/floor	●
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	
Acoustic Tile	
Gyp Board, Epoxy Paint	●
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	Note 5
Natural Daylight	

EQUIPMENT BY OWNER:
Carts

REMARKS:

1. High and low exhaust grilles
2. (1) 4' CFH
3. Possible downdraft dissection tables
4. Exam lights
5. With blinds

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.06
SPACE NAME: ANATOMY & PHYSIOLOGY STORAGE **OCCUPANTS:** NA

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	●
Radioisotope Storage	
Chemical Storage	

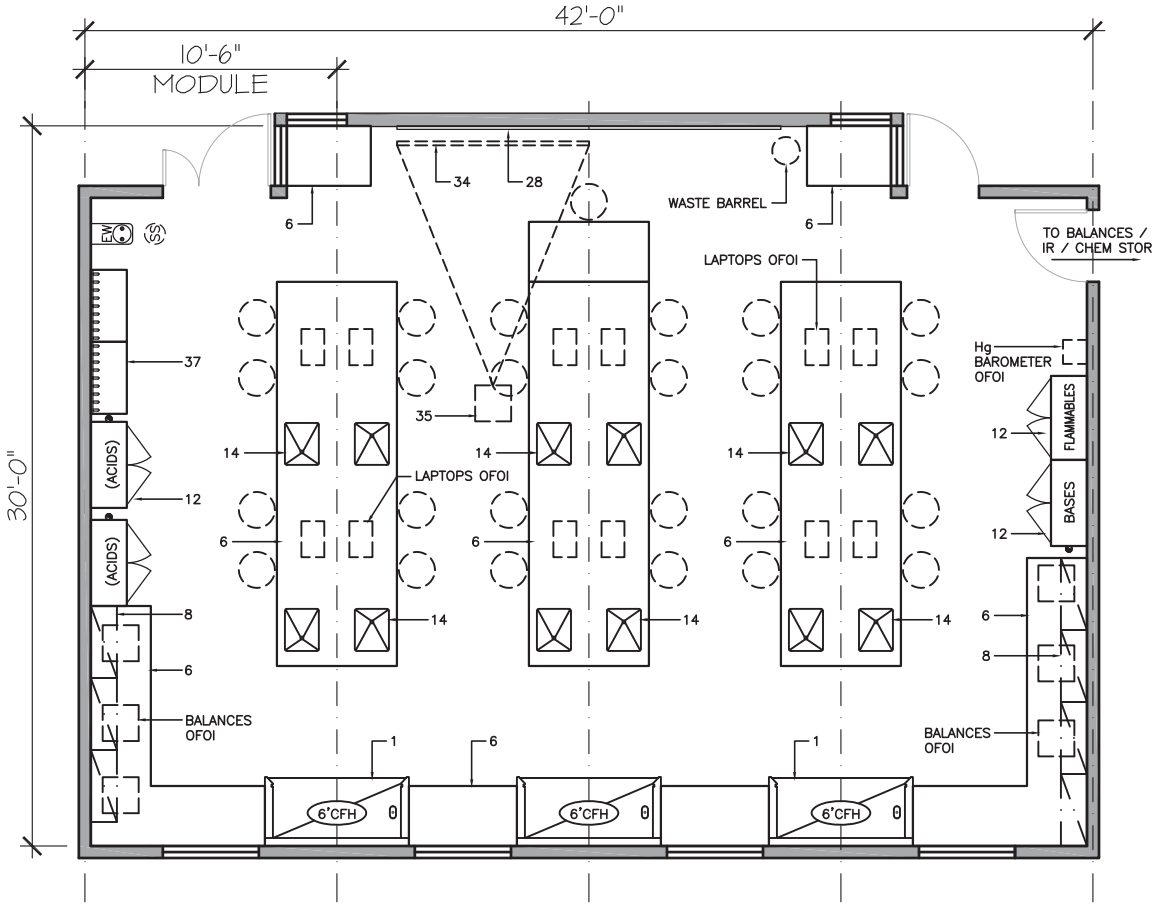
ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 1
Acoustic Tile	Note 1
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	
Natural Daylight	

EQUIPMENT BY OWNER:

REMARKS:
1. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.06**
SPACE NAME: GENERAL CHEMISTRY **AREA NSF: 1260 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:

- APPROX. (176) 15"W x 6"T STUDENT DRAWERS IN ISLANDS & APPROX. (44) STUDENT DRAWERS IN PERIMETER BASE CABINETS. (220 TOTAL)

10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.06
SPACE NAME: GENERAL CHEMISTRY **OCCUPANTS:** 25

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 2
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 3
Zoned Lighting	Note 3
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	●
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 4
Acoustic Tile	Note 4
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

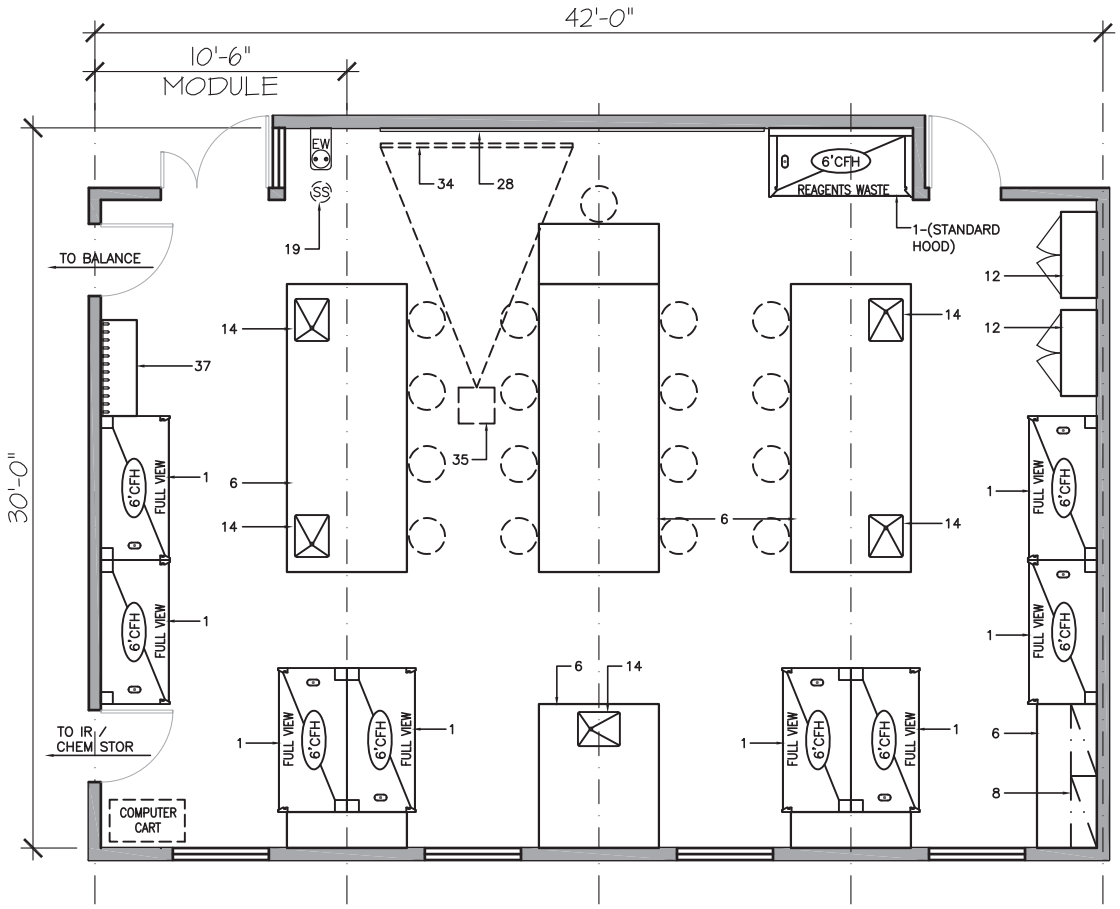
Balances
Laptop computers

REMARKS:

1. 68°-70° ± 2°F
2. (3) 6' CFH
3. Suitable for A/V presentations
4. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.07**
SPACE NAME: ORGANIC CHEMISTRY **AREA NSF: 1260 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:

- NEAR PRE-LAB DISCUSSION ROOM
- (55) 24"W x 9"T STUDENT DRAWERS BELOW OR ADJACENT TO HOODS
- PROVIDE UNDER COUNTER SOLVENT AND CORROSIVE CABINETS
- FULL-VIEW STUDENT HOODS

10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.07
SPACE NAME: ORGANIC CHEMISTRY **OCCUPANTS:** 17

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 2
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 3
Zoned Lighting	Note 3
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	●
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 4
Acoustic Tile	Note 4
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

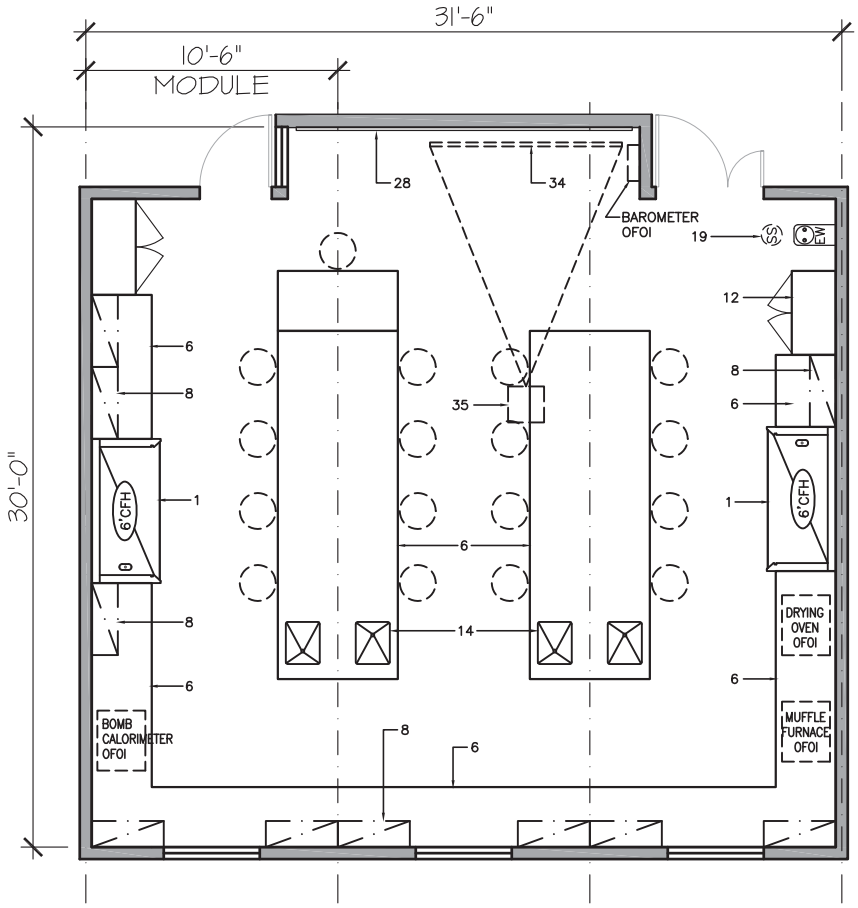
EQUIPMENT BY OWNER:
Balances
Laptop computers

REMARKS:

1. 65°-68° ± 2°F
2. (9) 6' CFH
3. Suitable for A/V presentations
4. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.08**
SPACE NAME: PHYSICAL / ANALYTICAL CHEMISTRY **AREA NSF: 945 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:
- SOME 208V ELECTRICAL RECEPTACLES

10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.08
SPACE NAME: PHYSICAL / ANALYTICAL CHEMISTRY **OCCUPANTS:** 17

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 2
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	●
Nitrogen Gas (N_2)	●
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	●
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 3
Zoned Lighting	Note 3
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	●
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 4
Acoustic Tile	Note 4
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

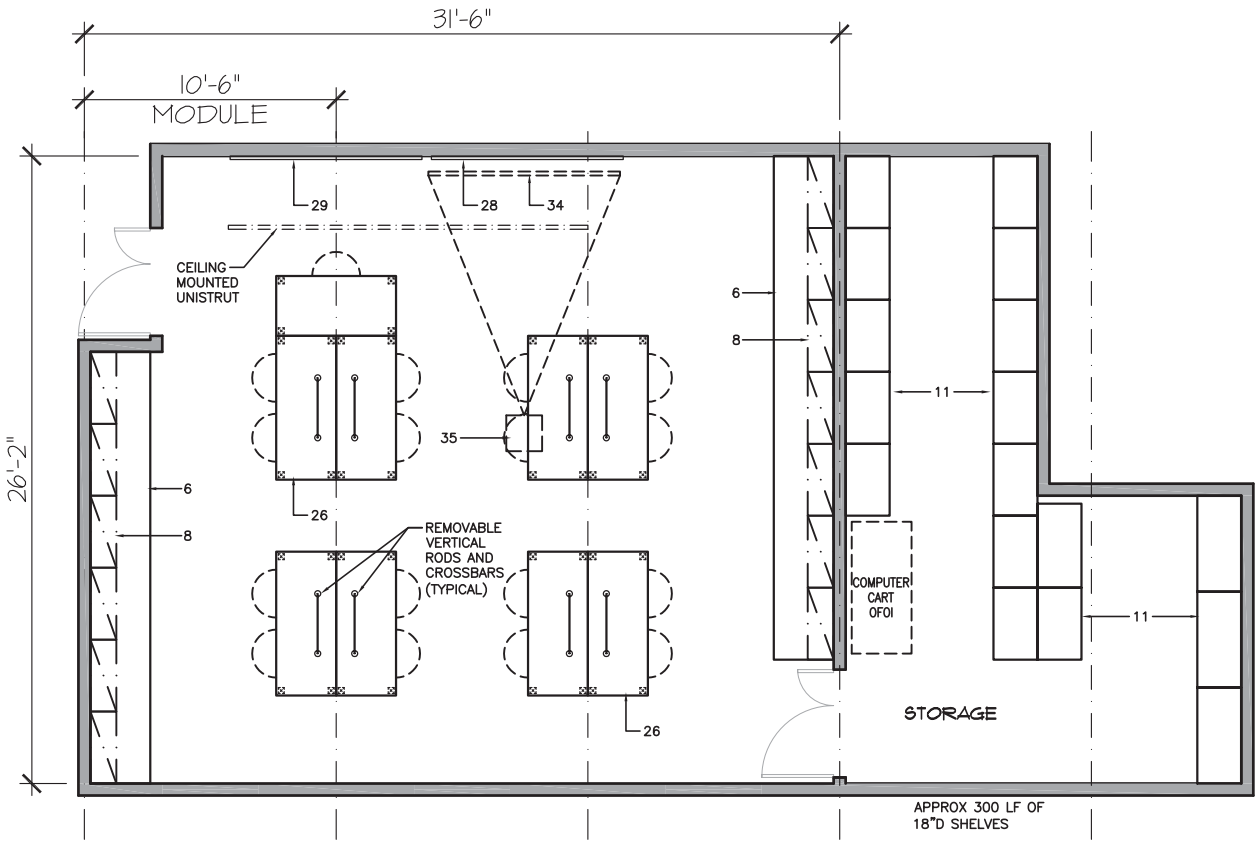
Balances
Computers
Bomb calorimeter
Drying oven
Muffle furnace
Hg Barometer

REMARKS:

1. 68°-70° ± 2°F
2. (2) 6' CFH
3. Suitable for A/V presentations
4. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.09**
SPACE NAME: PHYSICS, PHYSICS STORAGE **AREA NSF: 824 NSF, 300 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module

0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.09
SPACE NAME: PHYSICS LABORATORY **OCCUPANTS:** 17

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	●
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	●
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 1
Zoned Lighting	Note 2
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 3
Acoustic Tile	Note 3
Gyp Board, Epoxy Paint	
Height	Note 4
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	Note 1
Natural Daylight	

EQUIPMENT BY OWNER:

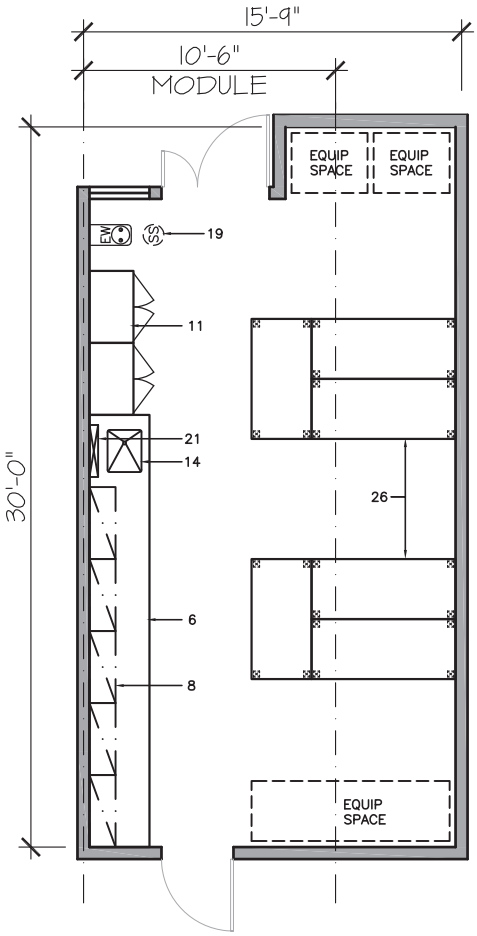
Computer cart

REMARKS:

1. Must have complete blackout capability
2. Suitable for A/V presentations
3. To be determined in future phases
4. High ceiling is preferred. 10' would be ideal.

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.20**
SPACE NAME: FACULTY / STUDENT REASEARCH LABORATORY **AREA NSF: 473 NSF**
CONCEPT "A" - NO HOOD USAGE / MOVABLE TABLES

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.20
SPACE NAME: FACULTY / STUDENT RESEARCH LABORATORY - CONCEPT "A" **OCCUPANTS:** 6-8

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

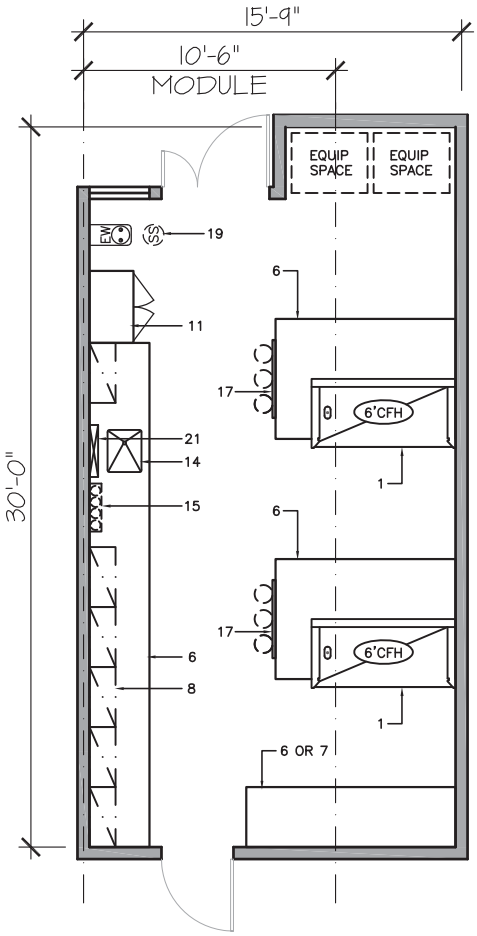
ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 1
Acoustic Tile	Note 1
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:
Refrigerator
Freezer
Microscopes

REMARKS:
1. To be dertermined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.22**
SPACE NAME: FACULTY / STUDENT REASEARCH LABORATORY **AREA NSF: 473 NSF**
CONCEPT "C" - MAJOR HOOD USAGE

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.22
SPACE NAME: FACULTY / STUDENT RESEARCH LABORATORY - CONCEPT "C" **OCCUPANTS:** 3-4

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 1
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	●
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	●
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	●
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

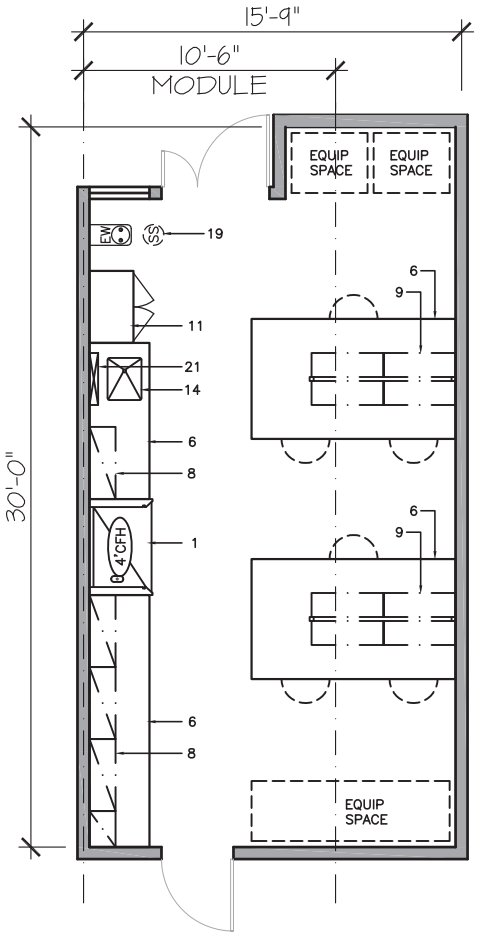
Explosion proof refrigerator
Ultra-pure water polisher

REMARKS:

1. (2) 6' CFH
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.23**
SPACE NAME: FACULTY / STUDENT REASEARCH LABORATORY **AREA NSF: 473 NSF**
CONCEPT "B" - MINOR HOOD USAGE

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.23
SPACE NAME: FACULTY / STUDENT RESEARCH LABORATORY - CONCEPT "B" **OCCUPANTS:** 6-8

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 1
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

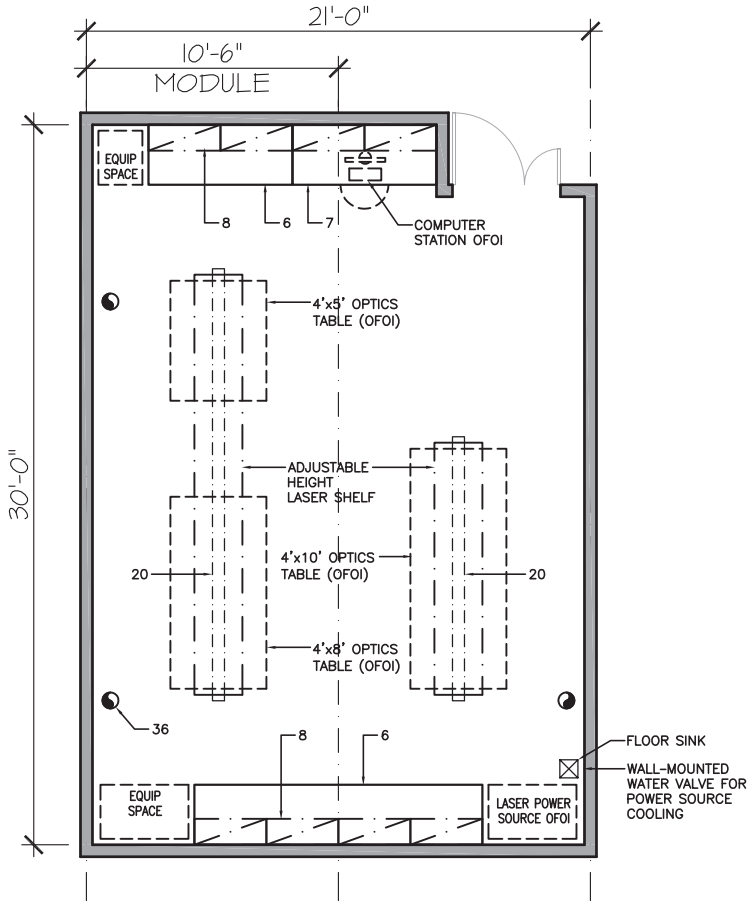
ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:
Refrigerator
Freezer
Microscopes

REMARKS:
1. (1) 4' CFH
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A1.24**
SPACE NAME: PHYSICS RESEARCH LAB / LASER LAB **AREA NSF: 630 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:

- CLASS 4 LASERS
- LOCATE FUME HOOD NEARBY
- PROVIDE GAS, COMPRESSED AIR, N2(DRY) AT OVERHEAD SERVICE CARRIERS.
- 110V & 208V POWER. PROVIDE ROUGH IN CONDUIT FOR FUTURE 480V POWER.

10'-6" Module

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A1.24
SPACE NAME: PHYSICS RESEARCH LAB / LASER LAB **OCCUPANTS:** 3-4

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	●
Air Pressure Negative	
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	●
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	●
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	●
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	Dry
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	●
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	●
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	Note 2
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 3
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 4
Acoustic Tile	Note 4
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

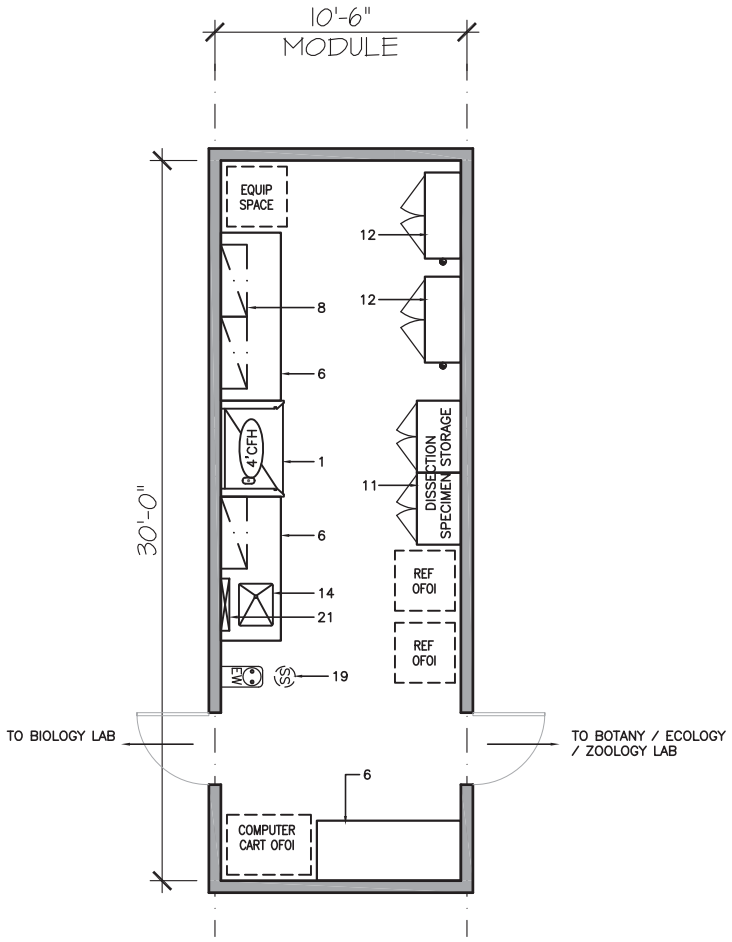
Optics tables
Class 4 lasers

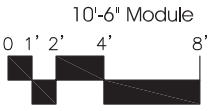
REMARKS:

1. Relatively stable at about 70° F. Exact tolerance to be confirmed.
2. Rough-in conduit for future 480V power
3. Must have complete blackout capability
4. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.01**
SPACE NAME: BIOLOGY / BOTANY / ECOLOGY / ZOOLOGY PREP **AREA NSF: 315 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.





FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.01
SPACE NAME: BIOLOGY / BOTANY / ECOLOGY / ZOOLOGY PREP **OCCUPANTS:** 2-4

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 1
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	●
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

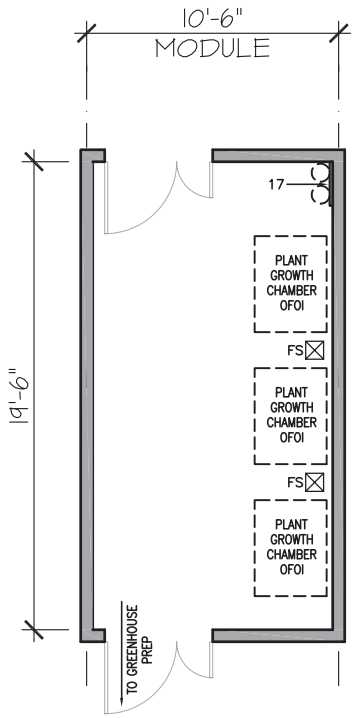
Computer cart
Refrigerator
Specimen cabinets

REMARKS:

1. (1) 4' CFH
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.02**
SPACE NAME: GROWTH CHAMBER ROOM **AREA NSF: 205 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module

0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.02
SPACE NAME: GROWTH CHAMBER ROOM **OCCUPANTS:** NA

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	
24 hours/day	●

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	●
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	Note 1
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	●
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	●
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	Note 2
208V, 30A, 1 Phase	Note 3
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	
Data	Note 4
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

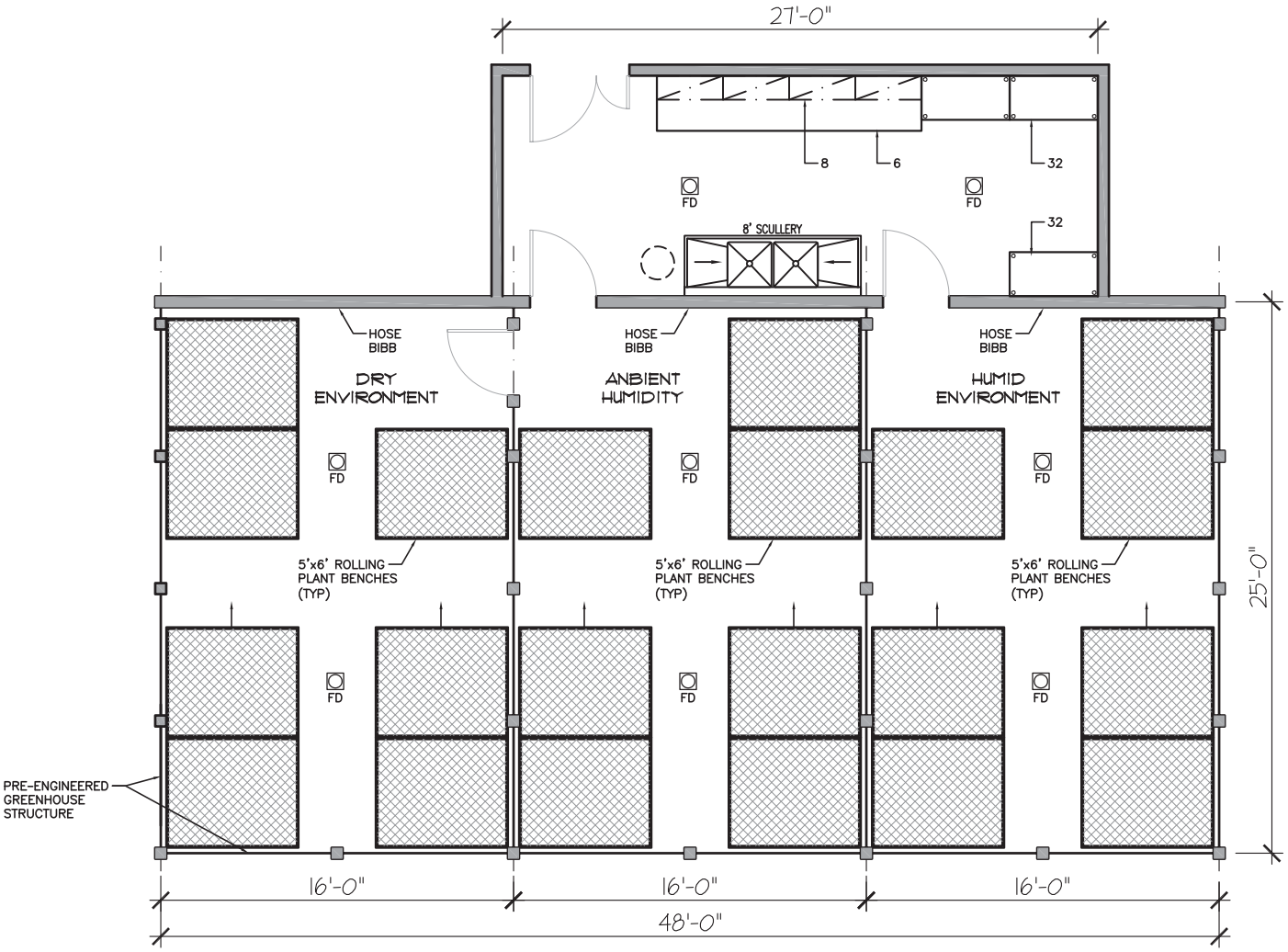
ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 5
Acoustic Tile	Note 5
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:
Reach-in growth chambers

REMARKS:
1. DI/RO to connect to growth chambers
2. Minimum of (6) separate 20 amp circuits, (2) per growth chamber
3. For future new or replacement growth chambers
4. For remote monitoring of growth chambers
5. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.03, A2.04**
SPACE NAME: GREENHOUSE PREP, GREENHOUSE **AREA NSF: 280 NSF, 1,200 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:

- APPROX. 210SF PLANT BENCH AREA PER ENVIRONMENT
- SHADING SYSTEM
- WATERING SYSTEM
- VENTILATION SYSTEM

10'-6" Module

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.03
SPACE NAME: GREENHOUSE PREP **OCCUPANTS:** 2-4

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	●
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 1
Acoustic Tile	Note 1
Gyp Board, Epoxy Paint	●
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

REMARKS:

1. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.04
SPACE NAME: GREENHOUSE **OCCUPANTS:** NA

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	
24 hours/day	●

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	
Other	Note 1
Minimum Air Changes/Hour	NA
Air Recirculation	Yes
Air Pressure Positive	
Air Pressure Negative	
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	●
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	Note 2
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	●
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	Note 1
100 fc at bench/desk	
75 fc at bench/desk	
Safe light	
Special Lighting	Note 1
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	Note 3
Ceiling	
Open	Note 3
Acoustic Tile	
Gyp Board, Epoxy Paint	
Height	Note 3
Doors	
3'-6" x 7'	
3' x 7'	Note 3
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	Note 3
Natural Daylight	●

EQUIPMENT BY OWNER:

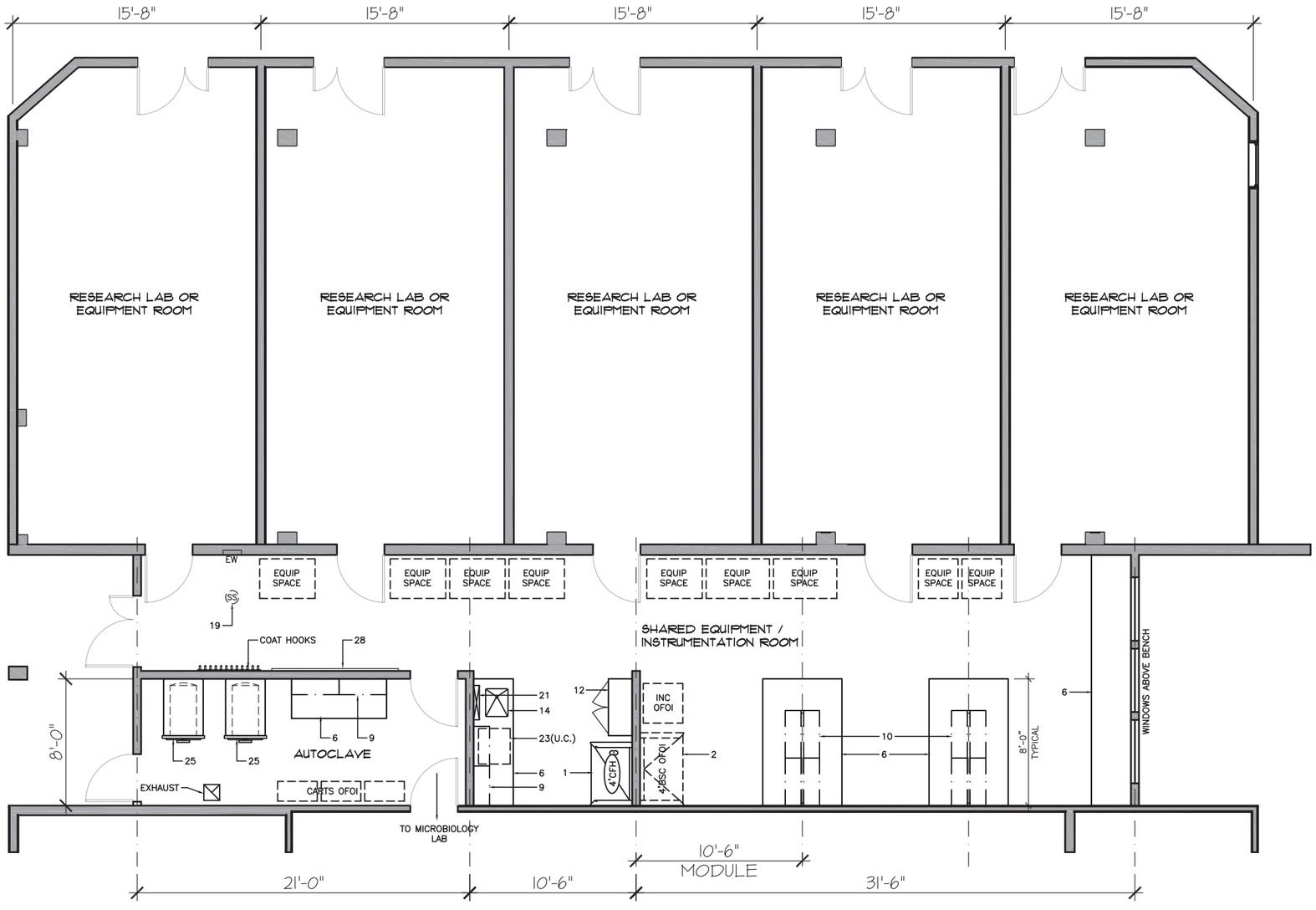
REMARKS:

1. Based on plant species housed
2. Hose bibbs, watering systems, misting systems
3. Pre-engineered greenhouse components

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES
SPACE NAME: SHARED EQUIPMENT / INSTRUMENT ROOM, AUTOCLAVE (FIRST FLOOR) - CONCEPT "A"

SPACE ID NO.: A2.07, A2.08
AREA NSF: 992 NSF TOTAL

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



FURNISHINGS

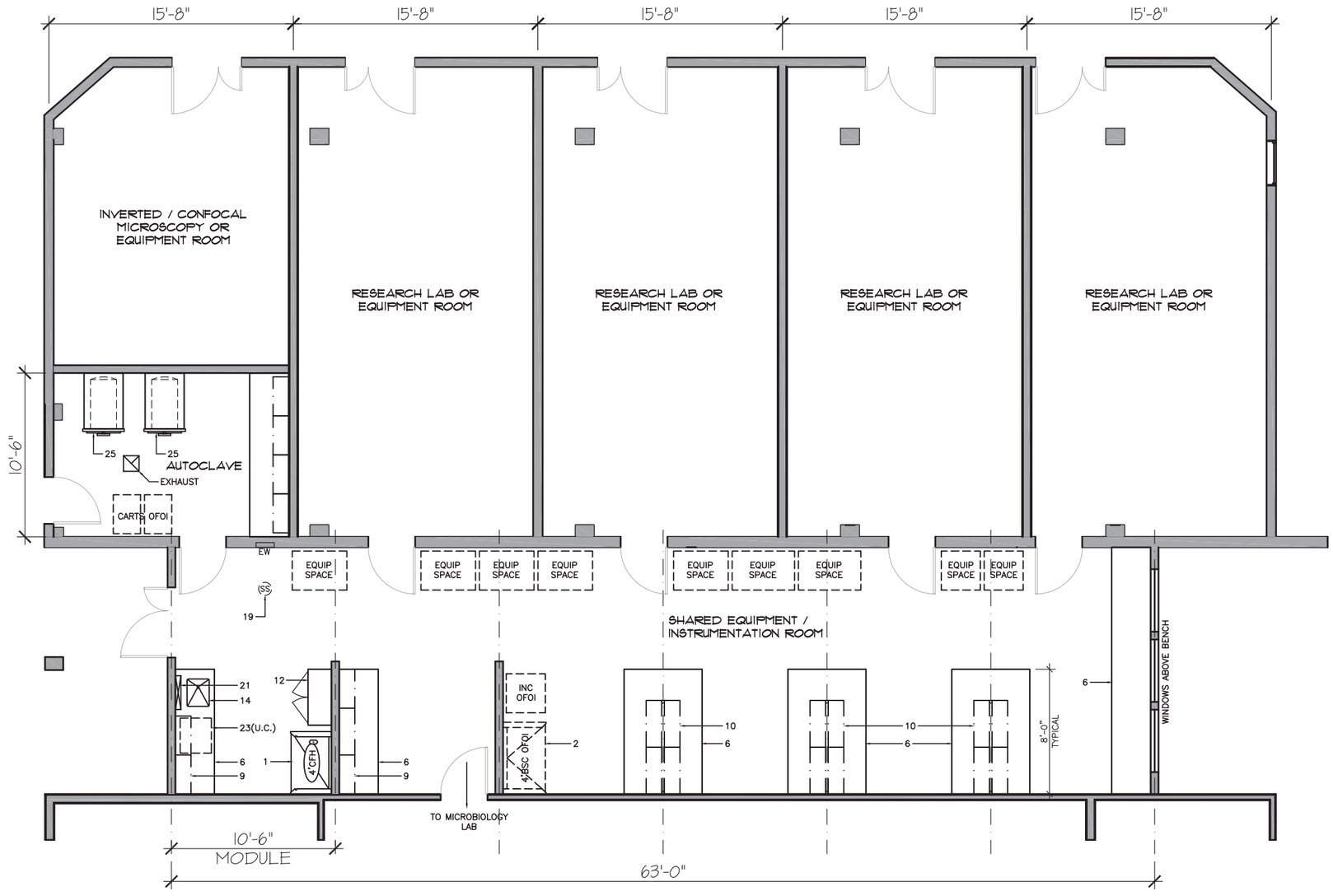
1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radiolsotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

10'-6" Module
0 1' 2' 4' 8'

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES
SPACE NAME: SHARED EQUIPMENT / INSTRUMENT ROOM, AUTOCLAVE (FIRST FLOOR) - CONCEPT "B"

SPACE ID NO.: A2.07, A2.08
AREA NSF: 992 NSF TOTAL

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



FURNISHINGS

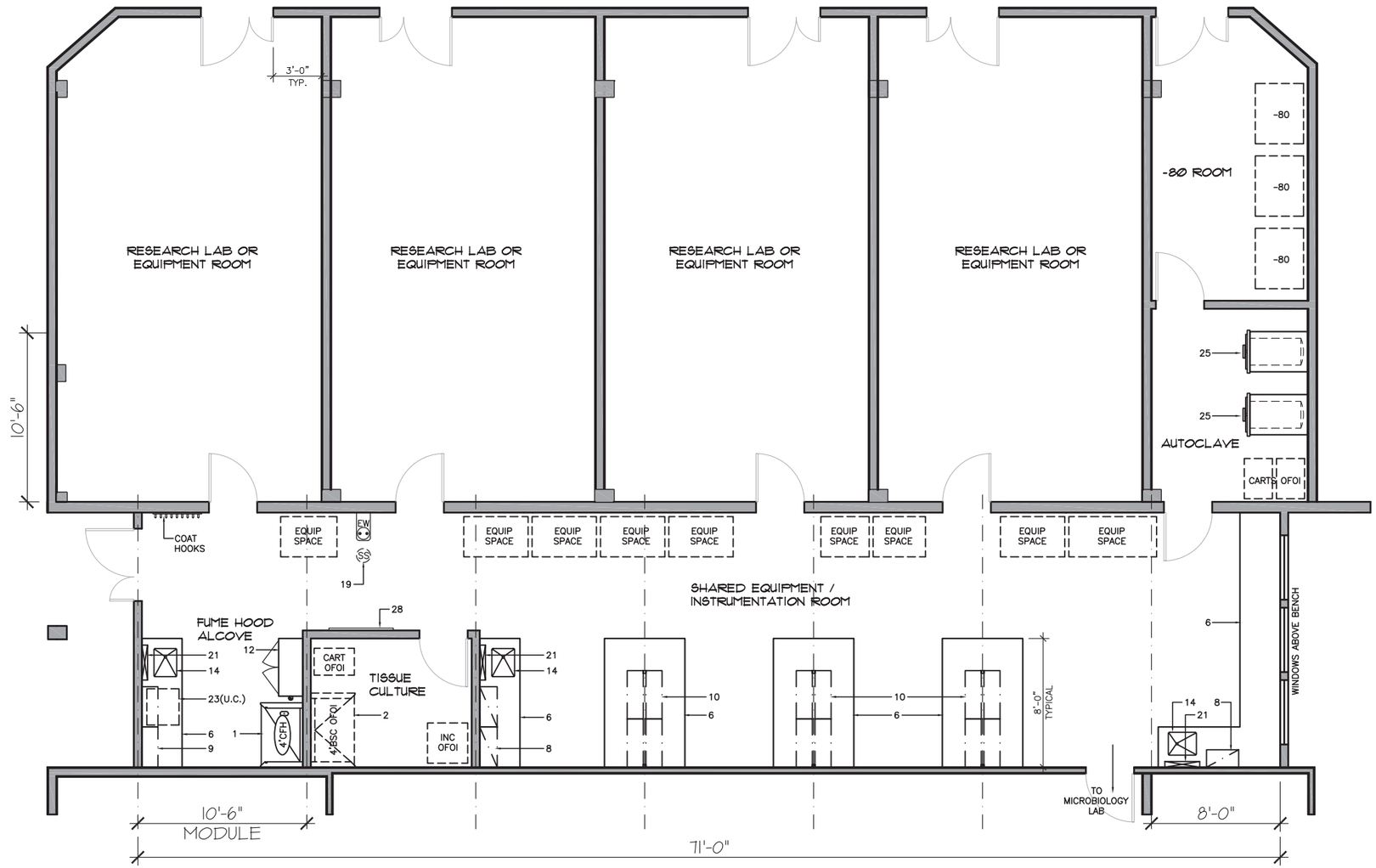
1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radiolsotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

10'-6" Module
0 1' 2' 4' 8'

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES
SPACE NAME: AUTOCLAVE, SHARED EQUIPMENT / INSTRUMENT ROOM, FUME HOOD ALCOVE, TISSUE CULTURE, -80° ROOM (FIRST FLOOR) - CONCEPT "C"

SPACE ID NO.: A2.07, A2.08, A2.08A-C
AREA NSF: 123, 944, 87, 87, 170 NSF

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

10'-6" Module
0 1' 2' 4' 8'

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.07
SPACE NAME: AUTOCLAVE **OCCUPANTS:** 1-3

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	Note 1

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	●
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	●
Industrial Hot Water (IHW)	Note 2
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	●
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	Note 3
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	
Integral w/floor	●
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	
Acoustic Tile	
Gyp Board, Epoxy Paint	●
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:
Carts

REMARKS:

1. Architectural soffit with majority of room exhaust in front of and over autoclaves.
2. Softened industrial hot water supply for integral electric steam generator
3. For integral electric steam generator

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.08
SPACE NAME: SHARED EQUIPMENT / INSTRUMENT ROOM (FIRST FLOOR) **OCCUPANTS:** 4-6

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 1
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	●
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	●
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	●
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

REMARKS:

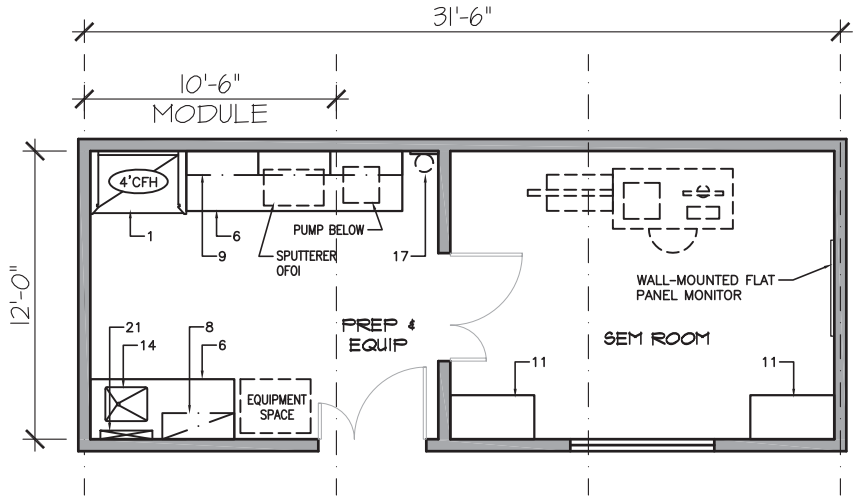
1. (1) 4' CFH
2. To be determined in future phases

EQUIPMENT BY OWNER:

Refrigerators
Freezers
-80 freezers
Incubators
(2) Biosafety cabinet (recirculating)
Centrifuges
Shaker
Water polisher

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.09**
SPACE NAME: ELECTRON MICROSCOPY **AREA NSF: 378 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:

- SEM WEIGHT = APPROX. 1,250 LBS
- AVOID LOCATIONS NEAR ELEVATORS, TRANSFORMERS, LARGE POWER CONSUMING EQUIPMENT, VIBRATION SOURCES, RADIO SOURCES, STRAY MAGNETIC FIELDS, AND NOISE.
- HIGHLY VIBRATION SENSATIVE
- DIMMABLE LIGHTING IN SEM ROOM

10'-6" Module

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.09
SPACE NAME: ELECTRON MICROSCOPY **OCCUPANTS:** 2-8

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	
Other	<=70%
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 1
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	
Vibration Producing	
Heat Producing	Note 2
Noise Producing	Note 2

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	●
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	Note 3
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	Note 4
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	●
Standby Power	●
UPS (OFOI)	Note 5
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 6
Zoned Lighting	Note 6
Other	

CHEMICALS	
Bases	
Acids	
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	
Acoustic Tile	●
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

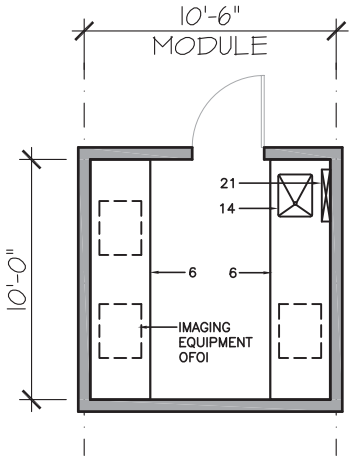
Electron microscope
Vacuum pumps
Sputterer
Wall mounted flat panel computer monitor

REMARKS:

1. (1) 4' CFH in prep area
2. From vacuum pumps
3. Provide in prep area if corrosive used
4. Line voltage fluctuation ± 10% max. Refer to manufacturer for additional requirements.
5. If required (OFOI)
6. Dimmable lighting in SEM area

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.10**
SPACE NAME: IMAGING **AREA NSF: 105 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:
- MOLECULAR IMAGER
- MICROPLATE READER
- PROTEOMICS
- DARKENABLE ROOM

10'-6" Module

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.10
SPACE NAME: IMAGING **OCCUPANTS:** 1-2

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	●
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	●
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

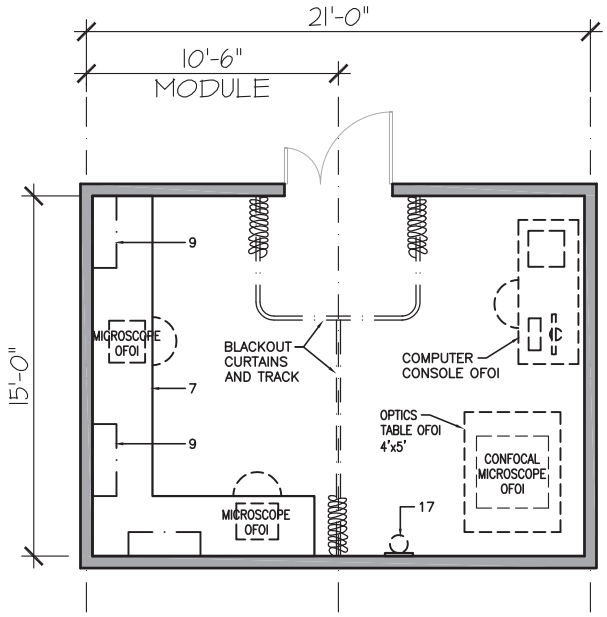
ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 1
Acoustic Tile	Note 1
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	
Natural Daylight	

EQUIPMENT BY OWNER:
Molecular imager
Microplate reader
Proteomics equipment

REMARKS:
1. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.11**
SPACE NAME: INVERTED / CONFOCAL MICROSCOPY **AREA NSF: 315 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module

0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.11
SPACE NAME: INVERTED / CONFOCAL MICROSCOPY **OCCUPANTS:** 2-6

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	●
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	●
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	Note 1
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	Note 1
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	●
Zoned Lighting	●
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

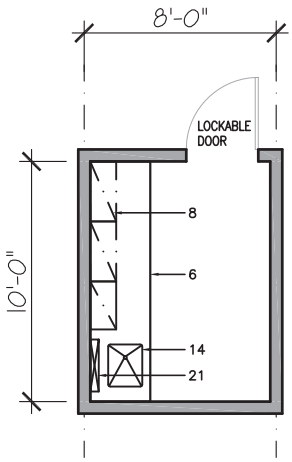
Microscopes

REMARKS:

1. If required for instruments
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.12**
SPACE NAME: RADIOACTIVE USE & STORAGE **AREA NSF: 80 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.12
SPACE NAME: RADIOACTIVE USE & STORAGE **OCCUPANTS:** 1-2

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	Note 1
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	Note 1
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	Note 3
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

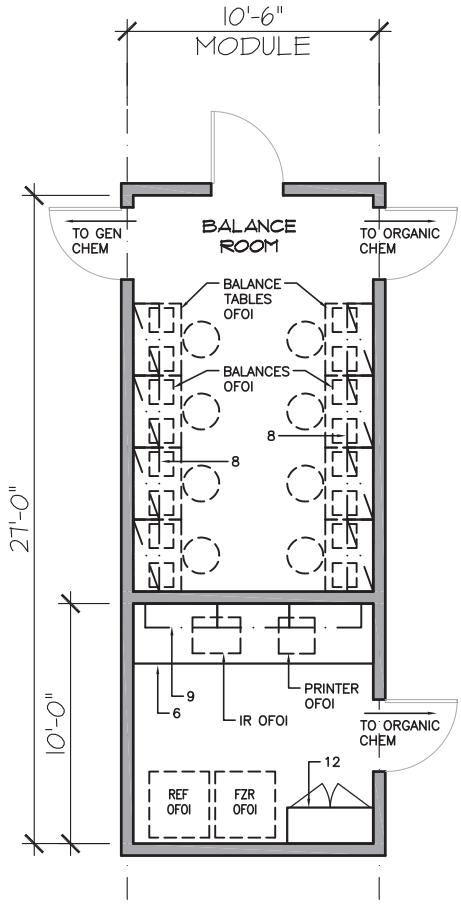
EQUIPMENT BY OWNER:

REMARKS:

1. Built in shielding integral with casework not required.
2. To be determined in future phases.
3. Lockable door with limited access.

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.20**
SPACE NAME: BALANCE ROOM, IR / CHEM STORAGE **AREA NSF: 179, 105 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.20
SPACE NAME: BALANCE ROOM **OCCUPANTS:** 10-15

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 1
Acoustic Tile	Note 1
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:
Balances

REMARKS:
1. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.20A
SPACE NAME: IR / CHEMICAL STORAGE **OCCUPANTS:** 2 - 3

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 1
Acoustic Tile	Note 1
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

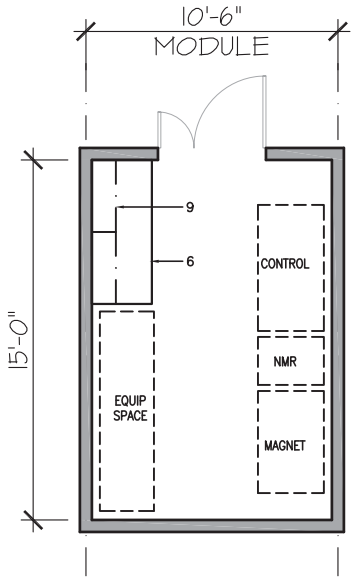
IR
Computer
Explosion proof refrigerator
Freezer

REMARKS:

1. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.21**
SPACE NAME: NMR **AREA NSF: 158 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



NOTES:

- MINIMUM FLOOR CAPACITY = 195 LBS/SF
- INSTRUMENTS ARE VIBRATION SENSITIVE
- AVOID LOCATIONS NEAR LARGE ELECTROMAGNETIC SOURCES SUCH AS MECHANICAL EQUIPMENT WITH LARGE MOTORS
- TURNING RADIUS FOR PALLET JACK TO CARRY MAGNET REQUIRED

10'-6" Module

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.21
SPACE NAME: NMR **OCCUPANTS:** 2-3

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	
Other	<=50%
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	Note 2
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 3
Acoustic Tile	Note 3
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:
NMR magnet
NMR spectrometer
NMR computer workstation

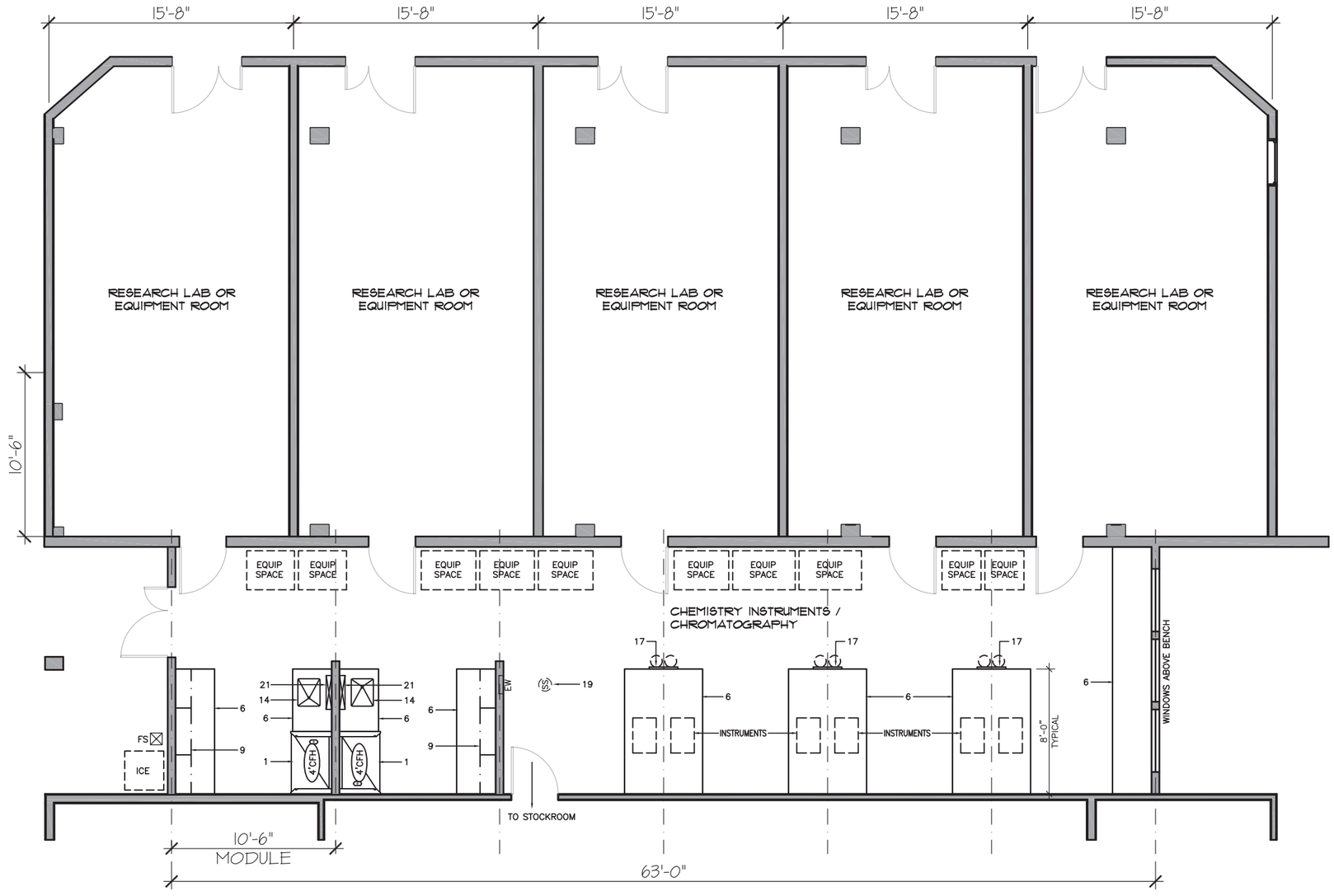
REMARKS:

1. No more than 68° F.
2. Minimum floor capacity = 195 lbs/SF
3. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES
SPACE NAME: CHEMISTRY INSTRUMENTS, CHROMATOGRAPHY (SECOND FLOOR) - CONCEPT "A"

SPACE ID NO.: A2.22
AREA NSF: 992 NSF TOTAL

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



FURNISHINGS

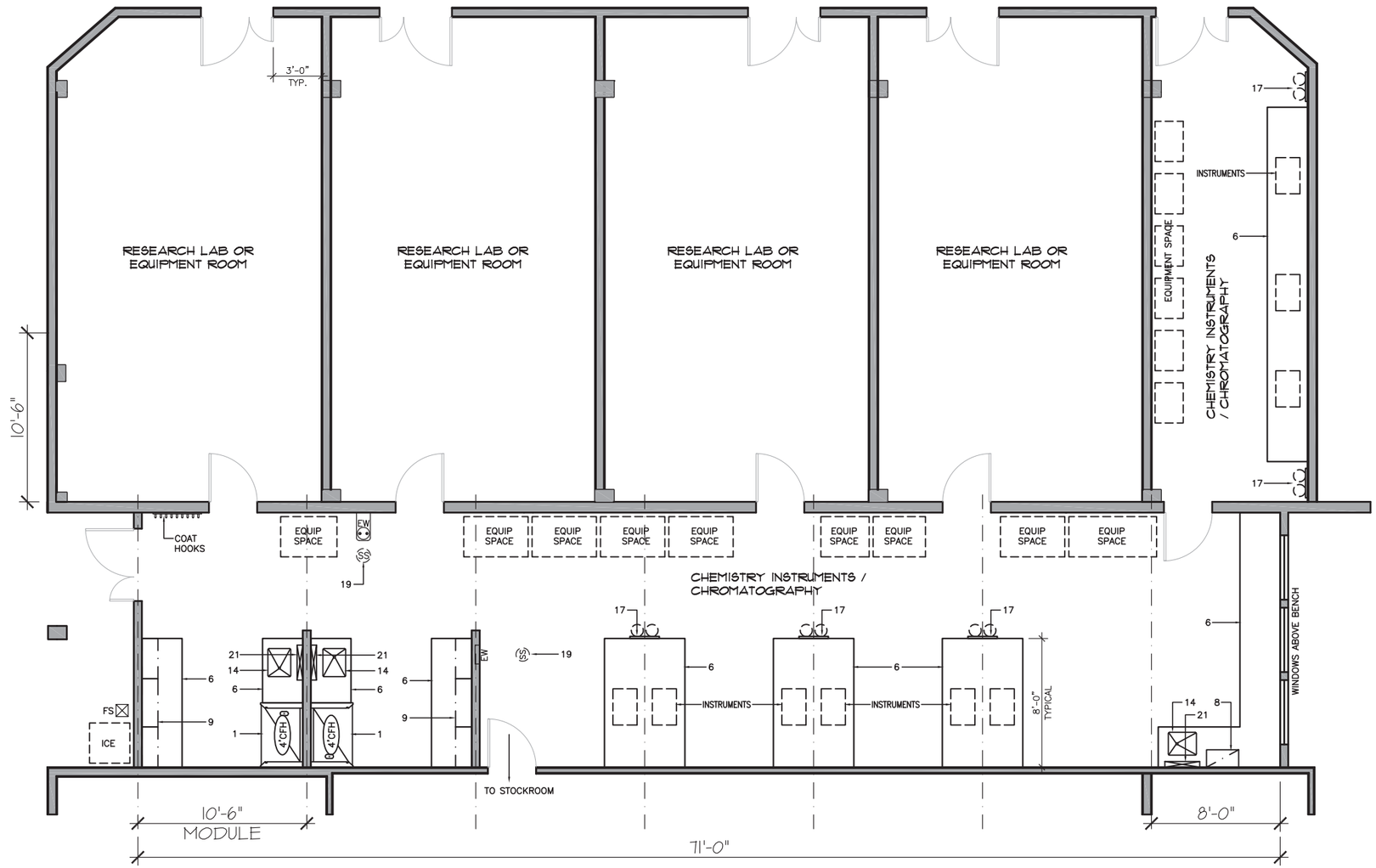
1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radiolsotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

10'-6" Module
0 1' 2' 4' 8'

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES
SPACE NAME: CHEMISTRY INSTRUMENTS, CHROMATOGRAPHY (SECOND FLOOR) - CONCEPT "B"

SPACE ID NO.: A2.22, A2.22A
AREA NSF: 1118, 293 NSFL

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

10'-6" Module
0 1' 2' 4' 8'

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.22
SPACE NAME: CHEMISTRY INSTRUMENTS / CHROMATOGRAPHY (SECOND FLOOR) **OCCUPANTS:** 5-10

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 1
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	●
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	●
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	●
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	●
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	●
Nitrogen Gas (N_2)	●
Cylinder Gases	
Inert	●
Flammable	●
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	●
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	●
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

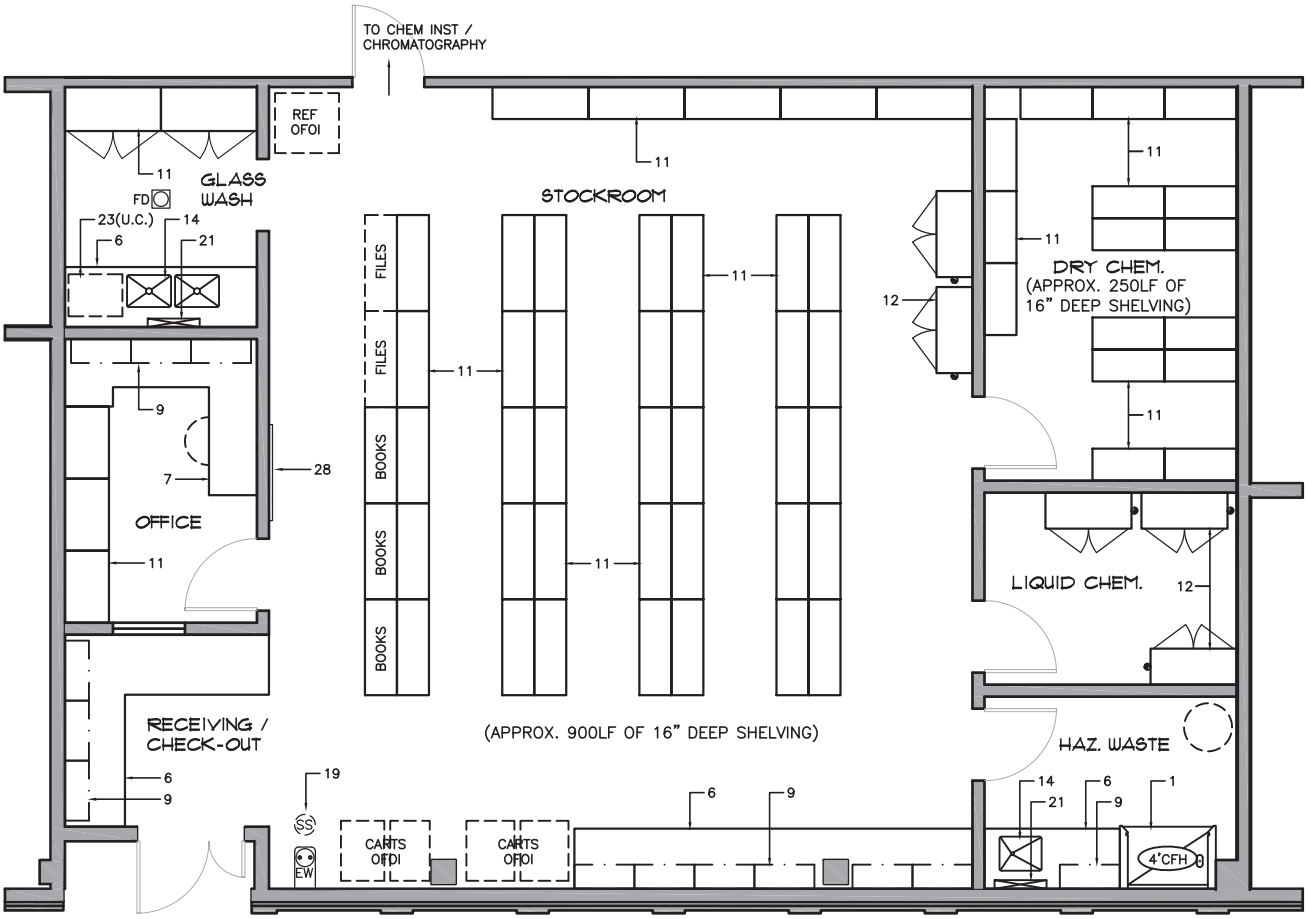
HPLC
GC/MS
LC/MS
UV Spec
Computers

REMARKS:

1. (2) 4' CFH
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO.: A2.23 - A2.28**
SPACE NAME: STOCKROOM, GLASSWASH, TECH OFFICE, DRY CHEM., LIQUID CHEM., HAZARDOUS WASTE **AREA NSF: 1,630 NSF (TOTAL)**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module

0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.23
SPACE NAME: CHEMISTRY STOCKROOM **OCCUPANTS:** 2-4

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	●
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	Note 2
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 3
Acoustic Tile	Note 3
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

Explosion proof refigerator
Carts
File cabinets

REMARKS:

1. Maximum 70° F.
2. For explosion proof refigerator
3. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.24
SPACE NAME: HAZARDOUS WASTE **OCCUPANTS:** NA

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 2
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	●
Laboratory Vacuum (LV)	●
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	●
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	●
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	●
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 3
Acoustic Tile	Note 3
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:
Waste barrels

REMARKS:
1. Maximum 70° F.
2. (1) 4' CFH
3. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.25
SPACE NAME: LIQUID CHEMICAL STORAGE **OCCUPANTS:** NA

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	●
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

REMARKS:

1. Maximum 70° F.
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.26
SPACE NAME: DRY CHEMICAL STORAGE **OCCUPANTS:** NA

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	●
Acids	●
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	●

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:

REMARKS:

1. Maximum 70° F.
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.27
SPACE NAME: GLASSWASH **OCCUPANTS:** NA

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	●
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	●
Industrial Cold Water (ICW)	●
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	Note 2
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	●
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	●
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 3
Acoustic Tile	Note 3
Gyp Board, Epoxy Paint	●
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	
Natural Daylight	

EQUIPMENT BY OWNER:

REMARKS:

1. Maximum 70° F.
2. For glassware washer final rinse.
3. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.28
SPACE NAME: LAB TECHNICIAN OFFICE **OCCUPANTS:** 1

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	
Other	Note 1
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	10
Air Recirculation	NO
Air Pressure Positive	●
Air Pressure Negative	
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 2
Acoustic Tile	Note 2
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	

EQUIPMENT BY OWNER:
Office furniture
Computer
Printer
Shelving

REMARKS:
1. Maximum 70° F.
2. To be determined in future phases

DEPARTMENT: BIOLOGICAL & PHYSICAL SCIENCES **SPACE ID NO:** A2.29
SPACE NAME: PHYSICS STORAGE **OCCUPANTS:** NA

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	6
Air Recirculation	No
Air Pressure Positive	
Air Pressure Negative	●
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	
Data	
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

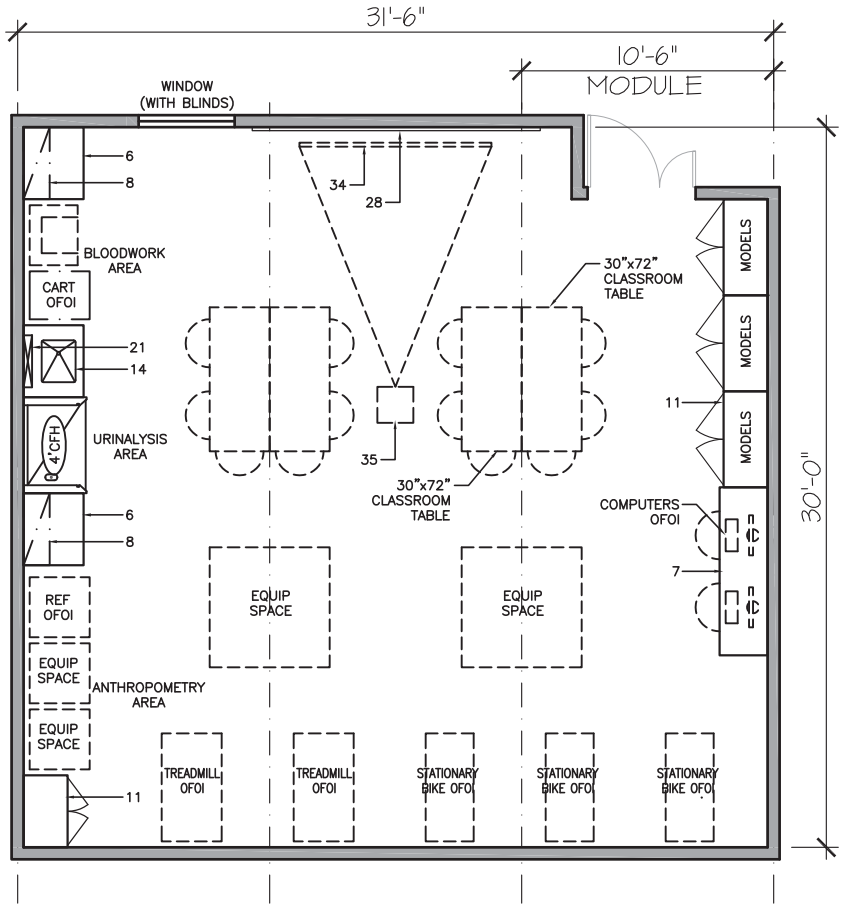
ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 1
Acoustic Tile	Note 1
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	
Natural Daylight	

EQUIPMENT BY OWNER:

REMARKS:
1. To be determined in future phases

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO.: B1.01**
SPACE NAME: HUMAN PERFORMANCE LAB **AREA NSF: 945 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module

0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO:** B1.01
SPACE NAME: HUMAN PERFORMANCE LABORATORY **OCCUPANTS:** 12-24

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	Note 1
Air Recirculation	Yes
Air Pressure Positive	●
Air Pressure Negative	
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	Note 2
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	●
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	●
Potable Cold Water (CW)	●
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	O_2 & CO_2
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 3
Zoned Lighting	Note 3
Other	Note 4

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	●
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	
Other	Note 5
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	
Gyp Board, Paint	●
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 6
Acoustic Tile	Note 6
Gyp Board, Epoxy Paint	
Height	Note 6
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

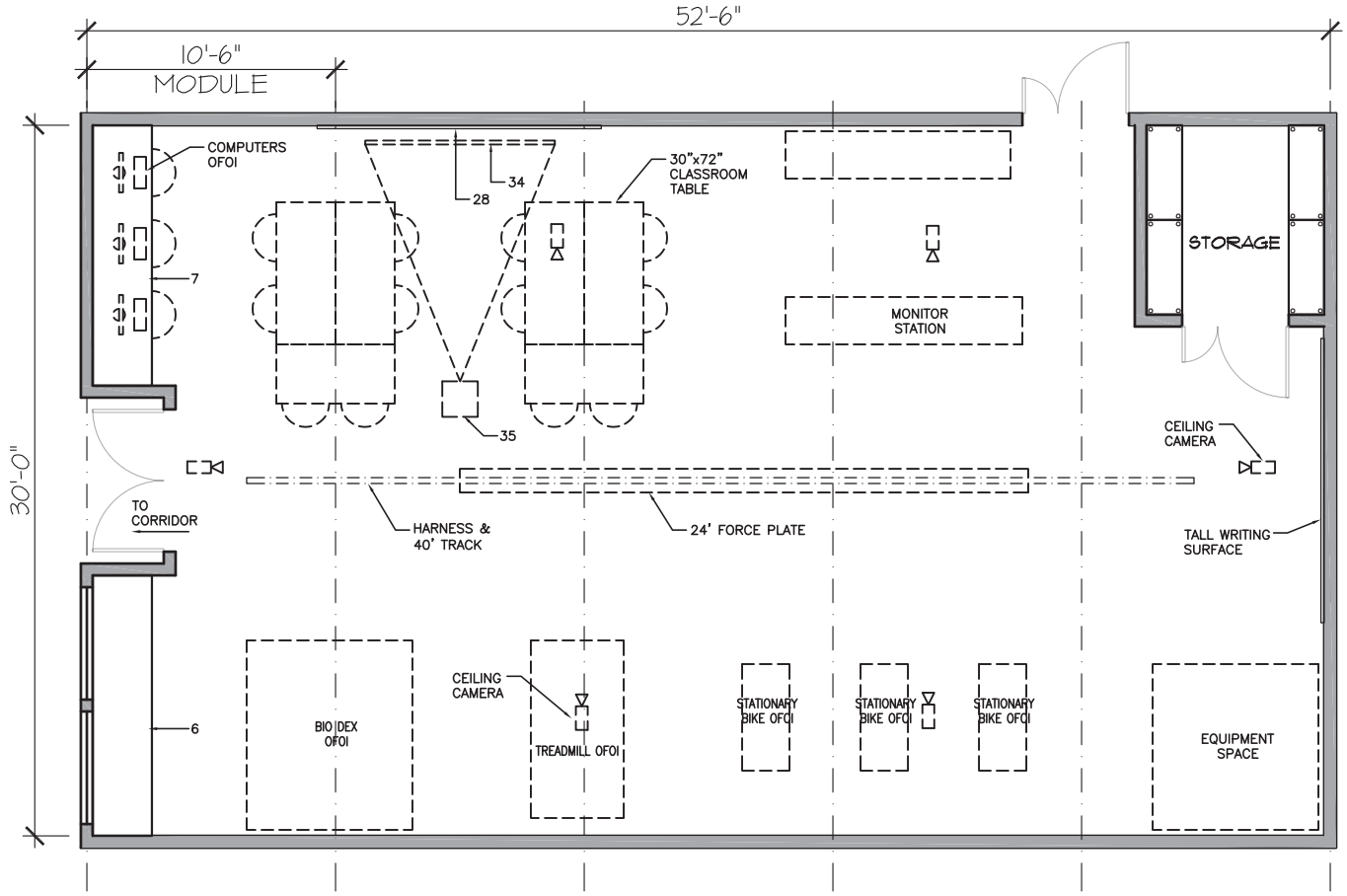
Treadmills
Stationary bikes
Weighing and height measuring equipment
Computers
Classroom tables and chairs
Blood draw seat
Carts
Anatomical models
Refrigerator

REMARKS:

1. Per code or other requirements for classroom use
2. (1) 4' CFH
3. Suitable for A/V presentations
4. Special power needed for treadmills
5. Resilient floor - type to be determined in future phases
6. To be determined in future phases - need as high as possible

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO.: B1.02**
SPACE NAME: MOVEMENT LABORATORY **AREA NSF: 1,573 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module
0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO:** B1.02
SPACE NAME: MOVEMENT LABORATORY **OCCUPANTS:** 12-24

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	Note 1
Air Recirculation	Yes
Air Pressure Positive	●
Air Pressure Negative	
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	●
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	
Potable Cold Water (CW)	
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Carbon Dioxide (CO_2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	Note 2
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 3
Zoned Lighting	Note 3
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	
Other	Note 4
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	
Gyp Board, Paint	●
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 5
Acoustic Tile	Note 5
Gyp Board, Epoxy Paint	
Height	Min 12'-0"
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

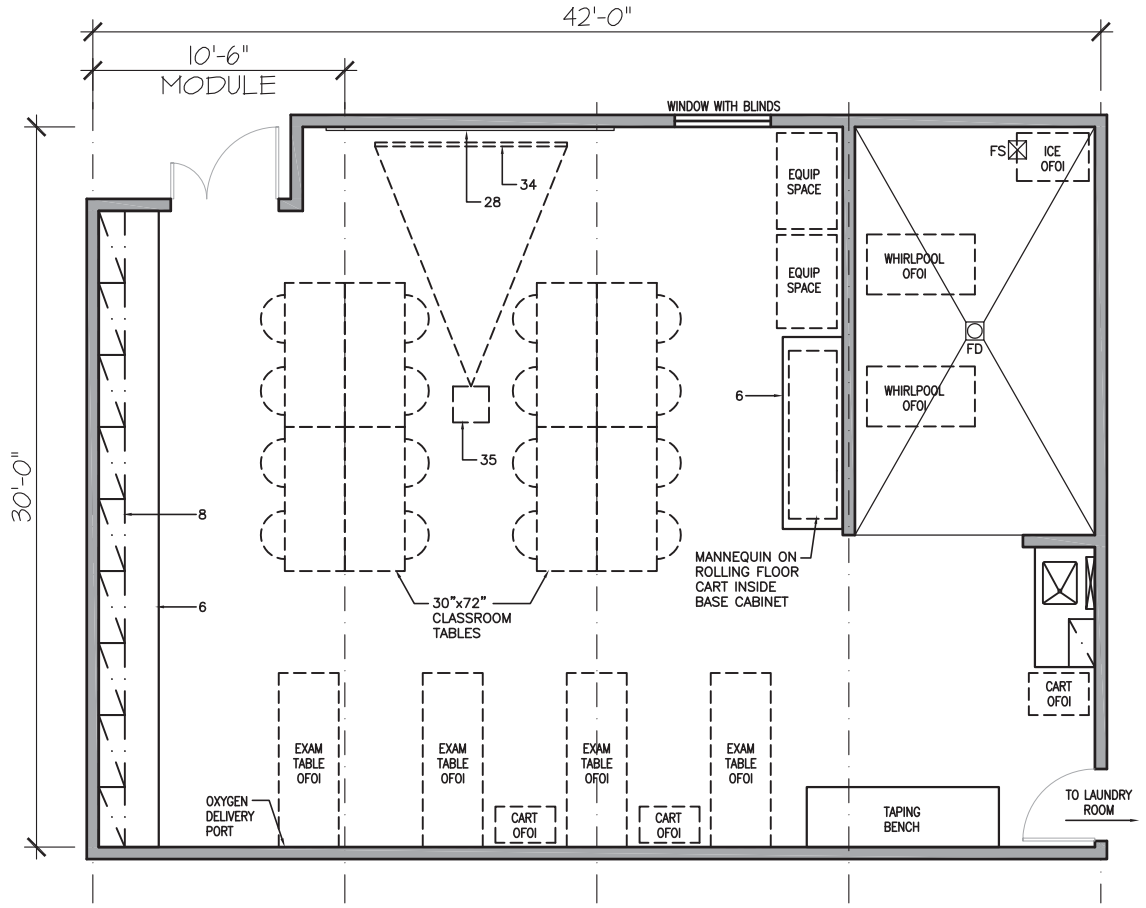
Biodex
Treadmill
Stationary bike
Force plates
Cameras
Ceiling mounted track & harness
Classroom tables and chairs
Computers
Monitors

REMARKS:

1. Per code or other requirements for classroom use
2. Some floor and ceiling outlets will be needed in addition to wall outlets
3. Suitable for A/V presentations
4. Resilient floor - type to be determined in future phases
5. To be determined in future phases

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO.: B1.03**
SPACE NAME: ATHLETIC TRAINING **AREA NSF: 1,260 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module

0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO:** B1.03
SPACE NAME: ATHLETIC TRAINING **OCCUPANTS:** 12-24

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	Note 1
Minimum Air Changes/Hour	Note 2
Air Recirculation	Yes
Air Pressure Positive	●
Air Pressure Negative	
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	●

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	●
Potable Cold Water (CW)	●
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Oxygen (O2)	●
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	●
Floor Sink (FS)	●
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	Note 3
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 4
Zoned Lighting	Note 4
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	Note 5
Base	
4" Vinyl	●
Integral w/floor	Note 5
Partitions	
Gyp Board, Epoxy Paint	●
Gyp Board, Paint	
Epoxy/Fiberglass System	
Other	Note 5
Ceiling	
Open	Note 6
Acoustic Tile	Note 6
Gyp Board, Epoxy Paint	Note 7
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	●
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

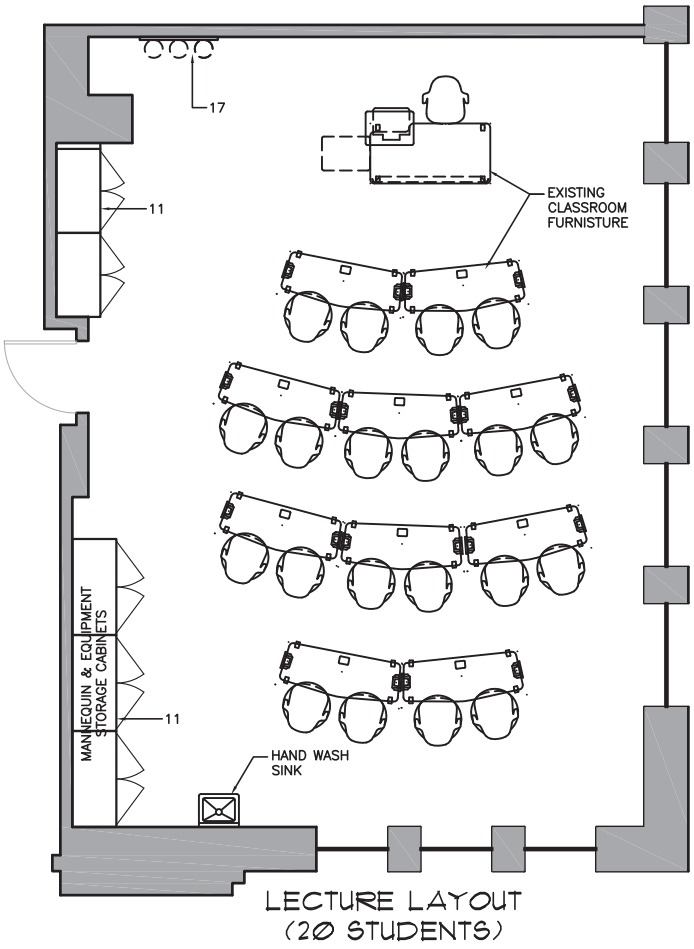
Exam tables
Carts
Whirlpools
Ice machine
Classroom tables and chairs
Mannequin on cart

REMARKS:

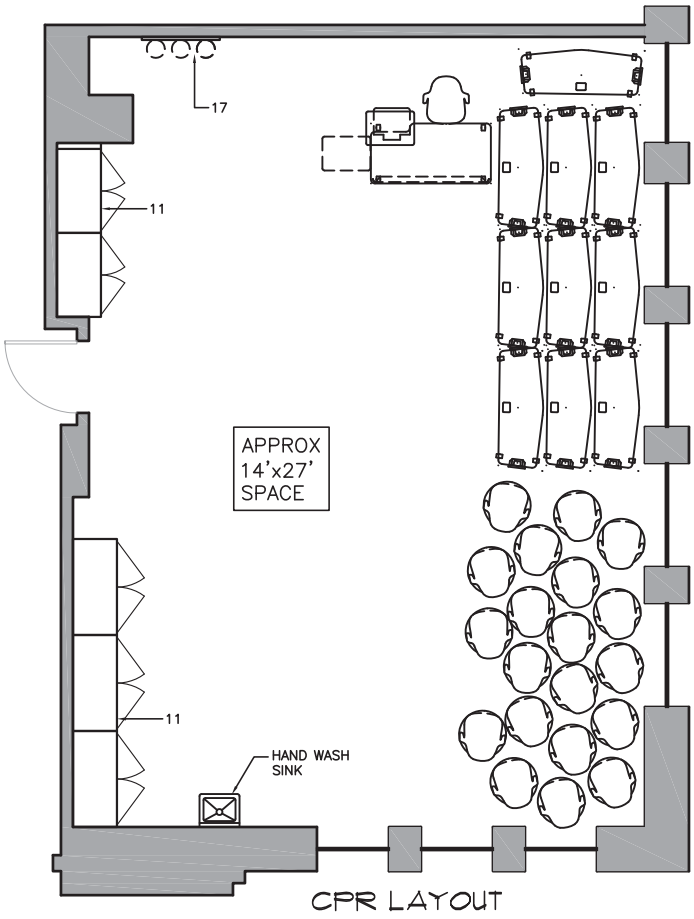
1. Humidity control required in whirlpool area
2. Per code or other requirements for classroom use
3. GFI hospital grade for whirlpools
4. Suitable for A/V presentations
5. Tile in whirlpool area. Slope floor to drain.
6. To be determined in future phases
7. In whirlpool area - humidity resistant

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO.: B1.04**
SPACE NAME: EMERGENCY FIRST RESPONDER (ROOM 209) **AREA NSF: 778 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



LECTURE LAYOUT
(20 STUDENTS)



CPR LAYOUT

10'-6" Module

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO:** B1.04
SPACE NAME: EMERGENCY FIRST RESPONDER (ROOM 209) **OCCUPANTS:** 21

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	Note 1
Air Recirculation	Yes
Air Pressure Positive	●
Air Pressure Negative	
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	●
Potable Cold Water (CW)	●
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Oxygen (O2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	O_2
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	Note 2
Zoned Lighting	Note 2
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	●
Other	
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	
Gyp Board, Paint	●
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 3
Acoustic Tile	Note 3
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

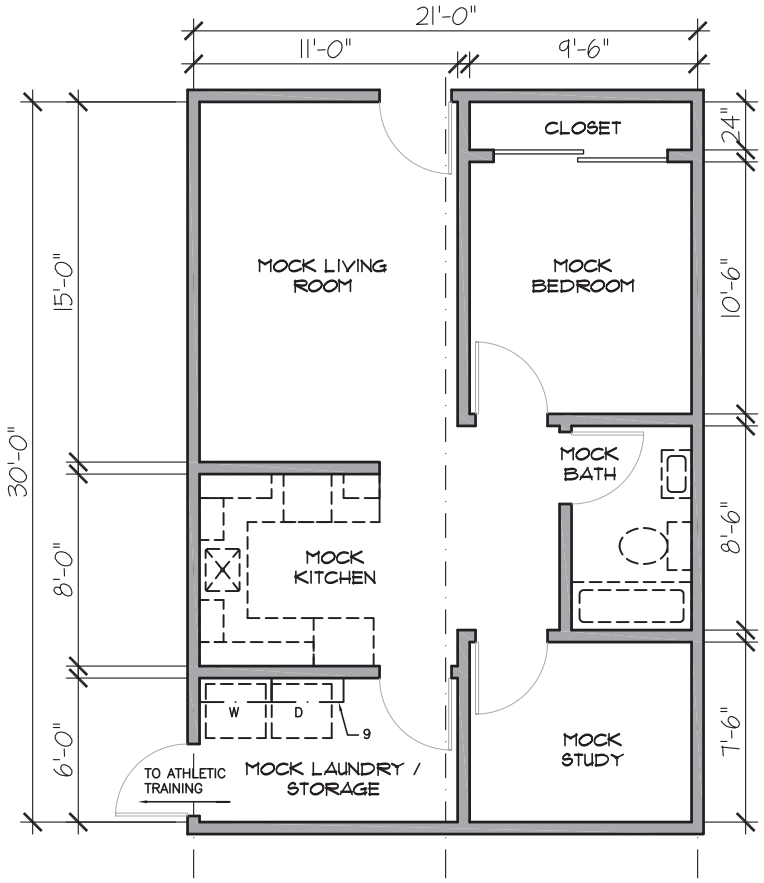
Classroom tables and chairs
Mannequins

REMARKS:

1. Per code or other requirements for classroom use
2. Suitable for A/V presentations

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO.: B1.05**
SPACE NAME: OCCUPATIONAL THERAPY (MOCK APARTMENT) **AREA NSF: 630 NSF**

This diagram is conceptual and is provided only to indicate required furnishings, equipment, and general room proportions. The actual room design may change.



10'-6" Module

0 1' 2' 4' 8'

FURNISHINGS

1. Chemical Fume Hood
2. Biological Safety Cabinet
3. Radioisotope Hood
4. Vented Workstation
5. Snorkel Exhaust
6. Laboratory Bench, Standing Height
7. Laboratory Bench, Sitting Height
8. Wall Cabinet
9. Adjustable Shelves
10. Reagent Shelves
11. Tall Storage Cabinet
12. Chemical Storage Cabinet
13. Equipment Space
14. Laboratory Sink
15. Water Purifier
16. Processing Sink
17. Cylinder Rack
18. Gas Cabinet
19. Safety Shower/Eyewash
20. Overhead Service Carrier
21. Pipe Drop Enclosure
22. Moveable Demonstration Bench
23. Glassware Washer
24. Glassware Dryer
25. Autoclave
26. Moveable Laboratory Table
27. Wire Shelving
28. White Markerboard
29. Black Chalkboard
30. Exam Light
31. Desk
32. Industrial Shelving
33. Laser Curtain and Track
34. A/V Screen
35. Multi-media Projector (Ceiling Mount)
36. Equipment Exhaust
37. Coat/Book Bag Storage Unit

DEPARTMENT: HEALTH & HUMAN PERFORMANCE **SPACE ID NO:** B1.05
SPACE NAME: OCCUPATIONAL THERAPY (MOCK APARTMENT) **OCCUPANTS:** 6-12

UTILIZATION	
Hours of Use	
8 hours/day	
14 hours/day	●
24 hours/day	

MECHANICAL	
Temperature	
68°-75° ± 2°F	●
Other	
Humidity	
Ambient	●
Other	
Minimum Air Changes/Hour	Note 1
Air Recirculation	Yes
Air Pressure Positive	●
Air Pressure Negative	
Additional Supply Air Filtr.	
Additional Exhaust Air Filtr.	

HOODS	
Chemical Fume Hood	
Radioisotope Hood	
Laminar Flow Hood	
Biological Safety Cabinet	
Snorkel	
Canopy Hood	
Low Slotted Exhaust	
Equipment Exhaust	Note 2
Other	

LABORATORY EQUIPMENT	
Vibration Sensitive	
Light Sensitive	
Vibration Producing	
Heat Producing	
Noise Producing	

PLUMBING	
Laboratory Gas (LG)	
Laboratory Vacuum (LV)	
Laboratory Air (LA)	
Compressed Air, 100 psi (A)	
Industrial Hot Water (IHW)	
Industrial Cold Water (ICW)	
Potable Hot Water (HW)	●
Potable Cold Water (CW)	●
Purified Water (DI/RO)	
Process Cooling Water (PCW)	
Steam	
Condensate Return	
Oxygen (O2)	
Nitrogen Gas (N_2)	
Cylinder Gases	
Inert	
Flammable	
Toxic	
Floor Drain (FD)	
Floor Sink (FS)	
Safety Shower/Eyewash (SS)	
Drench Hose (DH)	

ELECTRICAL	
110V, 20A, 1 Phase	●
208V, 30A, 1 Phase	●
208V, 30A, 3 Phase	
480V, 100A, 3 Phase	
Isolated Ground Outlet	
Standby Power	
UPS (OFOI)	
Phone	●
Data	●
Room "In Use" Light	
Task Lighting	
Lighting Level	
100 fc at bench/desk	
75 fc at bench/desk	●
Safe light	
Special Lighting	
Darkenable	
Zoned Lighting	
Other	

CHEMICALS	
Bases	
Acids	
Solvents	
Radioisotopes	
Carcinogens/Regulated	
Chemical Waste Storage	
Biological Storage	
Radioisotope Storage	
Chemical Storage	

ARCHITECTURAL	
Floor	
VCT	
Welded Seam Sheet Vinyl	
Epoxy	
Sealed Concrete	
Other	Note 3
Base	
4" Vinyl	●
Integral w/floor	
Partitions	
Gyp Board, Epoxy Paint	
Gyp Board, Paint	●
Epoxy/Fiberglass System	
Other	
Ceiling	
Open	Note 3
Acoustic Tile	Note 3
Gyp Board, Epoxy Paint	
Height	9' Min.
Doors	
3'-6" x 7'	
3' x 7'	●
1'-6" x 7'	
Light Tight Rotating Door	
Vision Panel	●
Natural Daylight	●

EQUIPMENT BY OWNER:

Houshold furniture
Residential kitchen appliances
Residential washer and dryer

REMARKS:

1. Per code or other requirements for classroom use
2. Residential clothing dryer and kitchen range hood exhaust
3. Flooring & ceiling requirements to be confirmed in future phases