

An aerial photograph of a campus, likely the University of Alaska Southeast, showing a large building complex with a central courtyard and surrounding greenery. The image is oriented vertically on the page.

ECI HYER / NBBJ

UNIVERSITY OF ALASKA SOUTHEAST

ANDERSON BUILDING REMODEL

UAS PROJECT NO: 2007-01

PHASE 1: PROJECT PROGRAM

DRAFT 2: MAY 16, 2008

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PHASE 1: PROJECT PROGRAM

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PROJECT OVERVIEW

The majority of the University of Alaska Southeast's Juneau classroom laboratory teaching space is located in the Anderson Building which is adjacent to the main campus. The Anderson Building is currently jointly occupied by both UAS and the University of Alaska Fairbanks School of Fisheries and Ocean Sciences (SFOS). However, in 2008 the UAF program will be vacating the building and moving to a new building at Lena Point. This presents UAS with the opportunity to renovate the aging Anderson building and expand into former UAF space. A capital request has been made to the state for funding to remodel and renew the facility.

This document is the draft Program component of the Phase 1: "Planning & Concepts" stage of the work. In this phase, a more detailed programmatic and technical analysis will provide a better understanding as to the opportunities and costs associated with the best reuse of the Anderson Building.

This preliminary program is intended as the seed document to further discussion and decision making by the University leading to an approved final program and a basis for the design concept. Given the space limitations within the Anderson Building, it will be necessary to prioritize and develop strategies to arrive at a final approved program that will be the basis for Concept Design Options.

Vision

The Arts and Sciences program at UAS has a significant leadership position in the delivery of a quality education for its students. Science programs occupy a special place in the identity of the University, and there is an opportunity for it to lead with science and to lead with the unique location that is Juneau. All majors can benefit from the strength of the science curriculum. The opportunity for the participation of undergraduates in scientific research is a particular strength of the UAS program and should be further encouraged.

The remodeling of the Anderson Building into a significant modernized science facility presents an opportunity for UAS to further its strengths and core values and to fit to its vision for the future –"to speak to who we are".

The existing running seawater system in the building, fed directly from Auke Bay, is a unique asset to marine science programs. The program for the remodeled building should make the most of this capability.

The first priority in the remodeled building is to provide facilities that will further the quality of the science teaching program and classrooms.

The second priority is to provide research space that is also a venue for undergraduate research participation.

Background

The current project builds on work accomplished in the past five years that has identified a goal to advance and achieve further recognition for the excellence of the UAS programs in biology, marine biology and environmental sciences.

Recent University studies have identified the need to attract more students from outside of the region as well as outside of the state to UAS. Given the Juneau setting and the strength of its faculty, the biological and environmental science program areas have excellent potential to attract students to Juneau.

Two previous studies, in particular, provide some of the background for the current work: “The Study for an Expanded Science Facility (August 2002)” and “UAS: The Next Decade: Strategic Plan for the University of Alaska Southeast 2000- 2010”.

UAS Strategic Goals

In the “Strategic Plan for the UAS 2000-2010”, a set of key strategic goals were developed by the University community, and approved by the Regents, to provide a roadmap for the continuing success and growth of the University. Several of these goals directly relate to the development of the facilities that are encompassed in the current project.

The following excerpts from that document have particular relevance to the Anderson Building project:

“Goal Two: Faculty & Staff Strength”

“The University will recruit, develop and retain a culturally diverse faculty and staff who bring excellence to our research, teaching, and public service through innovative and mission-focused academic programs and services.”

“Faculty Development and Research”

- *Support faculty to grow in their discipline through research and scholarship, and professional engagement.*
- *Assist faculty to secure funded opportunities for research, especially in service to state needs.*
- *Promote faculty research through inter-MAU collaboration and pursuit of research grants.*
- *Assist faculty in integrating technology into instruction that leads to enhanced learning.”*

“Goal 3: Educational Quality”

“Expand and Enhance Program Offerings”

“In an effort to increase retention and attract new students, bachelor degree programs have expanded and now include liberal arts, English, social science, mathematics, biology, marine biology, and environmental science. Each program emphasizes experiential learning and mentoring relationships with faculty to take advantage of favorable student to faculty ratio and the campus’ unique location. In addition, UAS will:

- *Continue to develop viable baccalaureate majors in preparation of graduate study, with attention to the needs of Master of Arts in Teaching (MAT) candidates.*
- *Develop additional appropriate baccalaureate minors.*
- *Further develop an Outdoor Leadership program, which incorporates the liberal arts with outdoor recreational experiences.*
- *Enhance AA and Bachelor of Liberal Arts (BLA) distance-delivered program offerings.*
- *Develop meaningful assessment procedures for all undergraduate degrees.*
- *Determine the feasibility of developing advanced degrees in areas of faculty strength and student interest.”*

“The University of Alaska Southeast will offer the highest quality programs, from non-degree training to graduate degrees. Our campuses will provide the highest possible quality programs and services within their respective missions. UAS recognizes that the traditional liberal arts education is more important now than ever as it provides students with the critical thinking skills and the foundation necessary to be prepared to meet rapid changing work, cultural, and social environments. The liberal arts education at UAS helps students develop skills in self-examination, imagination, and citizenship.”

“Marine Biology and Environmental Science”

“The UAS campuses are located within the diverse ecosystems of Juneau, Sitka, and Ketchikan. The campuses are contained within the 17 million acre Tongass National Forest, they border the Juneau Icefield that contains 38 major glaciers covering 1,500 square miles, and a glacial fjord system containing thousands of islands. The complex waterways and 33,000 miles of coastline in Southeast Alaska yield some of the richest fish and wildlife populations in North America. This rich natural environment provides UAS students and faculty with unparalleled educational laboratories, and our science programs take advantage of those opportunities for training resource managers, conducting original research, and educating citizens to make informed choices. UAS will extend its influence in these areas by undertaking the following activities.”

“Extend current natural resource-based degrees.”

“UAS focuses on Environmental Science and Marine Biology as its flagship programs in the natural sciences. Both of these programs attract students interested in careers in natural resource management, scientific research, and outdoor education. UAS students develop practical skills as well as textbook knowledge in a curriculum that integrates traditional lectures and laboratory courses with field research experiences in glaciology, hydrology, geology, chemistry, and marine biology. UAS will:

- *Continue to strengthen the marine biology, biology, and environmental science programs.*
- *Develop masters’ degrees in science areas that take advantage of the unique environment and experience of UAS.”*

“Develop an increased capacity for natural resource research.”

“The research and environmental monitoring services that UAS provides to public resource agencies and the private sector aim to assist these clients and create professional growth opportunities for faculty and students. To increase these opportunities, UAS will:

- *Expand on undergraduate research in environmental/marine science.*
- *Encourage faculty research through increased access to facilities and grant support.”*

“Provide scientific leadership concerning the natural resources of Southeast Alaska.”

“Balancing the needs for economic diversification and development with the need to manage the environmental effects of industrial and recreational activity in Southeast Alaska requires the acquisition and dissemination of sound scientific information. To provide leadership in this area, UAS will:

- *Expand scientific collaboration with other research universities and agencies.*
- *Provide scientific consultation for government, industry, and non-profit agencies.*
- *Host scientific conferences and meetings.”*

Accessibility

Accessibility requirements in the design of the facility arise from the City and Borough of Juneau, State of Alaska, and Federal laws and codes as well as University institutional mandates and initiatives. Given the extent of the remodeling, it is likely that the remodeled facility will need to

meet the majority of accessibility requirements that are code required. As the project goes into design, institutional based requirements will be developed with the University.

Sustainable Design

The design team will work with the University to develop appropriate sustainable design goals and parameters for the project prior to the start of Schematic Design. Areas for consideration include the design and specifications of materials for the remodeling project as well as the facility operational protocols and practices

Space Program Development

Interviews and tours of the UAS Juneau science facilities were conducted with representatives of the University over a four day period from November 13th to 16th, 2007.

The Draft 1 Phase 1: Program, dated December 10, 2007 was issued for review by the University and review comments, dated January 7, 2008, were issued. These comments addressed a number of aspects of the draft program and were the basis for further discussion in meetings held on February 13, 2008 in Juneau.

A key aspect of this second round of discussions were to prioritize the spaces and create a program model that would have the best chance of fitting within the Anderson Building during the concept phase. Further investigation of the building suggested that having options for a program area in the 9,000 to 11,000 square foot range would be prudent as the building is upgraded for life safety and accessibility. This model will be tested in the concept phase.

The University met in sessions subsequent to the February 13th session and developed a reduced program scenario that is identified as "Scenario 5 (Amended) that should constitute the minimum program for the project.

List of Participants**Anderson Building Remodel Leadership Team Members**

John R. Pugh	Chancellor, University of Alaska Southeast
Carol Griffin	Vice Chancellor, Administrative Services
Robbie Stell	Provost
Patrick Brown	Dean of Arts & Sciences
Keith Gerken	Facilities Services Director
Joseph Mueller	Facilities Services Operations & Maintenance Manager

Anderson Building Remodel User Committee Members & Faculty Participants

Patrick Brown	Dean of Arts & Sciences
Cathy Connor	Associate Professor; Natural Sciences Department
Lisa Hoferkamp	Assistant Professor; Natural Sciences Department
Ginny Eckert	Associate Professor Of Biology; Natural Sciences Department
Erica Hill	Assistant Professor, Anthropology; Social Sciences Department
Brian Blitz	Associate Professor; Natural Sciences Department, Math Chair
Sherry Tamone	Associate Professor Of Biology; Natural Sciences Department

List of Participants**Anderson Building Remodel User Committee Members & Faculty Participants (Continued)**

David Tallmon Assistant Professor Of Biology; Natural Sciences Department
Beth Mathews Assistant Professor Of Biology ; Natural Sciences Department

Anderson Building Remodel UAS Project Management & Consultant Team

James J. Malanaphy III Facilities Services Planning and Construction, Architect
Project Manager
Dan Dennison NBBJ; Lab Programmer-Designer
Jon Steele ECI/Hyer, Inc. Project Manager

Program Space List Development

It is the intention of this programming exercise to quickly focus on programming options that make the most sense within the limitations of the area available in a renovated Anderson Building. To that end, the Space Program has focused on scenarios that would seem to have the best conceptual organization and academic program delivery within those area constraints. The preliminary space program is recorded in two sections: Section 4 “Program Space List” and in Section 5 “Program Room Data Sheets”.

The “Space List” identifies room or space types and names and lists a “net assignable square feet (NASF) area for each. A base list of spaces that were initially deemed to have highest priority was developed from the programming interviews and observations. This list forms what the is identified in the Section 4 “Program Space List” as the “Master List of Spaces”.

The total area of the Draft 1 Master Space List exceeded the likely available area in the Anderson Building which is approximately 9,000 to 11,000 NASF depending on required code related upgrades. The University has developed several scenarios to assist in prioritizing the program spaces. These are identified in the Space List as Scenario 3 and Scenario 5. They encompass a range of program area from 9,210 NSF to 11,350 NSF to allow for design impacts that will be identified in the concept phase.

The Section 5 Program Room Data Sheets are the beginning of what will eventually be developed into very specific descriptions of each space. As shown, they are mostly provided as a basis to start the conversation which will elicit more information. The detailed development of these sheets will not be required for the concept development phase of this study They will need to be to be developed through the early stages of the architectural design process through interviews and concept refinement.

Types of Program Space

The draft program includes program spaces in the following broad categories:

1. Office and Support Spaces. These spaces include offices for faculty and staff, student interaction space, building and general support spaces that are needed to operate the building.

2. Research Labs. These spaces are labs and lab support areas that are primarily research space. However, at UAS, undergrads are encouraged to work in these research settings, so some instruction is taking place.

3. Classroom Labs. These include the typical teaching labs where the primary emphasis is on instruction. Students typically work alone or in pairs to perform set experiments as directed by the instructor. We have included a “Dry Lab” computer based classroom in this category as it typically has special needs beyond a typical classroom.

4. Classrooms. These include several typical dry classrooms where students sit in an audience setting and interact with a presenter.

Program Scenarios

The available space in the Anderson building is assumed to be approximately 9,000 to 11,000 net assignable square feet (NASF) for purposes of creating scenarios that recognize priorities of space needed for the program. The actual available net area will be affected by factors that may arise in the remodeling design process. In the modernization of the building, a number of existing conditions may require code related updating that will take up more assignable space than is presently used for that purpose. Such areas may include accommodation of code mandated accessibility requirements, revised code mandated plumbing fixture counts in restrooms and revised mechanical and electrical support spaces.

The University has worked with the design team to develop the two new Draft 2 program scenarios from the Draft 1 information in order to allow for a range of net areas that can be tested in the concept phase. These two scenarios should allow for the design team to develop and test concepts that provide the best outcome for UAS as well as the best utilization of the Anderson Building.

Next Steps

After the approval of the Draft 2 Program, three concepts will be developed for the reuse of the Anderson Building. The design intent will be to provide the greatest programmatic use of the building in keeping with the University's priorities.

PEDESTRIAN ACCESS

Overview

The Anderson Building is located a short distance from the main campus with direct vehicle access from the Glacier Highway. The point of connection to the building is along a stretch of the Highway that has limited sight lines and no pedestrian accommodations adjoining the Anderson Building side of the road. Pedestrian pathways have been created to reach the main campus side of the Glacier Highway but formalized crossings to the Anderson Building do not exist.

The Phase 1: “Planning & Concepts” stage also includes the evaluation of the current pedestrian connection to the Anderson Building. The Glacier Highway physically separates the Anderson Building from the balance of the Juneau campus. With an understanding of the current connections we are charged to evaluate the options to enhance the pedestrian connection and increase user safety.

Vision

UAS sees a need to improve the connectivity between the Anderson Building and the balance of the campus. Throughout the day students, instructors and guests walk from the Anderson Building to other main campus academic and administrative spaces and areas of more developed and convenient parking. Currently pioneer trails and improved walkways exist serving these pedestrians however; all of these routes terminate along the main campus side of the Glacier Highway. The University wishes to address pedestrian safety, crossing the Glacier Highway, and establish convenient and direct paths between the main campus and the Anderson Building.

History

The Glacier Highway is the major transportation route between the Mendenhall Glacier Highway, Auke Bay and the ferry terminal. Mendenhall Loop Road (Back Loop Road) serves as an alternate route between the Mendenhall Valley and Auke Bay.

In 2002, the State of Alaska Department of Transportation and Public Facilities prepared initial scoping documents for potential modifications to the Glacier Highway in the area defined as the Auke Bay Corridor. The corridor has exhibited a wide variety of problems that need attention. These include deteriorating pavement surfaces, inadequate pedestrian and bicycle facilities, substandard geometrics and site distance, and sparse illumination. Additionally, Fritz Cove Road, the UAS East Entrance, and the Back Bay Loop Road intersections have geometry and sight distance deficiencies.

The analysis investigated; a by-pass to improve traffic flow serving areas either side of the UAS campus, realignment of the Glacier Highway in the vicinity of the Anderson Building to alleviate restricted sight lines inherent with the curve bordering the campus, and the construction of traffic rotaries on the Glacier Highway at the Fritz Cove and DeHarts intersections to slow the traffic speeds and permit on-grade pedestrian crossing points.

Due to regional and statewide funding demands, the State of Alaska has adjusted the priority ranking of this project such that further analysis and design is on hold with no near term activities planned.

UAS wishes to see pedestrian safety improvements realized and with the renovation of the Anderson Building has charged the design team to investigate if the State DOTPF can see ways to financially participate in advancing portions of the preferred improvement options or understand what permitting and regulatory steps are necessary for UAS to advance safety improvements associated with crossing the Glacier Highway.

UAS Planning Goals

During our interviews with university representatives, several goals for a formalized pedestrian connection were stated.

Provide a safe pedestrian crossing option at the Glacier Highway.

Provide convenient walkway connections between the main campus and the Anderson Building. The convenience relates to ease of access to the walkway, the travel time and distance to reach the end terminus, and the ability to directly enter the Anderson Building and utilize the facilities elevator to provide an accessible route.

Consider broader connectivity than just the Anderson Building and main campus. Discussion included; expanded trail systems envisioned for Fritz Cove and Auke Bay, linkage to commercial retail nodes in the vicinity of DeHarts, improve access to the student bookstore and administrative services facilities, and offer an expanded area for housing options.

The experience of the walkway user should be reinforced by the natural setting of the UAS campus. Also, the walkway offers and supports a transportation mode more in line with the environmental conscience of the student attracted to UAS.

Options Being Considered

On Grade Crossing

The State of Alaska DOTPF has clarified that on grade crossing of the Glacier Highway is not illegal. As the agency controlling the permitted uses and activities, they would not allow a stripped crossing or signalization with a stripped crossing serving the main campus to Anderson Building pedestrian circulation.

DOTPF's preliminary analysis of improvements considered for the Glacier Highway incorporate a realignment of the curve moving the roadway closer to the main campus. We are currently researching DOTPF's historical information to obtain a more detailed picture of the new alignment at the curve and its relationship to both the main campus and the Anderson Building.

DOTPF analysis also suggests creating roundabouts at the intersection of the Glacier Highway with Fritz Cove Road and DeHarts. The introduction of roundabouts gains DOTPS' support to incorporate on-grade crossing of the highway. This support is due to reduced travel speeds associated with a roundabout, reduced distance to cross single lanes of traffic, and the creation of a safe zone in the center of the roundabout for the pedestrian to time their crossing. Reliance on the roundabout solution to access the Anderson Building would require the addition of sidewalk along the highway between the roundabout and the Anderson Building. The availability of right-of-way combined with step shoulder gradient along the highway increase the costs associated with this crossing option.

A project that incorporated the roadway realignment at the same time the roundabouts were built would most likely provide the needed right-of way for the needed sidewalk.

The State of Alaska does not have the funding source to advance either component of the project. They were willing to look into opportunities that might permit shared funding for the roundabout portions of the future project.

Elevated Crossing

Provide a bridge that crosses the Glacier Highway in the vicinity of the Anderson Building. The transition from the main campus to the Anderson Building offers a grade differential that might eliminate stairs or an elevator to access the crossing on the main campus side. Overhead utility lines exist on the Anderson Building side of the highway that may require relocation to facilitate the bridge structure. The ultimate solution would be to extend the bridge walkway to the Anderson Building and utilize the elevator access in the building to transition to grade level. The issues of building security and use by other than the university population may limit this function.

Depressed Crossing

Construct a tunnel under the Glacier Highway. This option would avoid interference with overhead utility lines and may result in longer walkway distances to reach grade levels at each terminus.

Another option being considered for the depressed crossing of the highway is to utilize the constructed outflow between Auke Lake and Auke Bay drainage. The location of this crossing would require a sidewalk connection between the outflow and the Anderson Building on the Auke Bay side of the highway, again impacted by available right-of-way.

The design team will pursue the validity of the options outlined as the conceptual design for the Anderson Building Renovation project is advanced.

Program Space List			Scenario 3	Scenario 5	Similar Existing Rms.
Draft 2	Net Assignable Area Totals		11,350 NSF Total	9,210 NSF Total	
ID	Name of Space	Occup	Net Area	Net Area	
OFFICE & SUPPORT SPACE			<u>2660</u>	<u>2460</u>	
OS-1.1	Tenured & Research Faculty Office #1	1	120	120	95(#210A)
OS-1.2	Tenured & Research Faculty Office #2	1	120	120	95(#210B)
OS-1.3	Tenured & Research Faculty Office #3	1	120	120	95(#210D)
OS-1.4	Tenured & Research Faculty Office #4	1	120	120	95(#220A)
OS-1.5	Tenured & Research Faculty Office #5	1	120	120	95(#220B)
OS-1.6	Tenured & Research Faculty Office #6	1	120	120	95(#220C)
OS-1.7	Tenured & Research Faculty Office #7	1	120	120	95(#220D)
OS-1.8	Tenured & Research Faculty Office #8	1	120	120	95(#223B)
OS-2.1	Adjunct Faculty Shared Office #1	2	120	120	147(#210C)
OS-4.1	Lab Tech Shared Office (3)	3	180	180	
OS-5.1	Department Workroom / Admin./ Mail / Copy	2	400	400	337(#210)
OS-6.1	Student Commons / Library / Breakroom / Kitchen	12	400	400	383(#220)
OS-9.1	Receiving / Shipping / Staging Area		100	100	
OS-11.1	Dive Locker/ Field Equipment Storage		300	300	
OS-12.1	Equipment Repair Workshop		200	0	
RESEARCH LABS (RL)			<u>2700</u>	<u>2700</u>	
RL-1.1	Biology Undergraduate Research Lab 1	6	600	600	590(#316)
RL-1.2	Support Lab: Biology Lab 1		150	150	
RL-2.1	Biology Undergraduate Research Lab 2	4	400	400	388(#315)
RL-2.2	Support Lab: Biology Lab 2		150	150	142(#317)
RL-4.1	Seawater Research Lab	8	800	800	780(#111)
RL-4.2	Seaweed / Greenhouse / Culture Lab	2	200	200	187(#115B)
RL-4.3	Support Lab: Seawater Labs	2	200	200	
RL-5.1	Necropsy / Mammalian Research Lab	2	200	200	

Program Space List (Continued)			Scenario 3	Scenario 5	Similar Existing Rms.
ID	Name of Space	Occup	<u>NASF</u>	<u>NASF</u>	
CLASSROOM LABS (CL)			<u>4640</u>	<u>3050</u>	
CL-1.1	General Biology Instructional Lab 1 (24 Students)	24	1250	1250	
CL-1.2	Support Lab: Biology 1		160	160	
CL-2.1	Biology Instructional Lab 2 (Micro / Anat / Phys)	15	850	0	880(#314)
CL-2.2	Support Lab: Biology 2		160	0	
CL-3.1	Specimen Collection Storage		180	180	
CL-4.1A	Chemistry Instructional Lab "A" -14 Students	14		860	858(#309)
CL-4.2A	Chemistry Stock Storage "A"			400	363(#309B)
CL-4.1B	Chemistry Instructional Lab "B" -24 Students	24	1400		
CL-4.2B	Chemistry Stock Storage "B"		440		
CL-4.3	Chemistry Instrument Room		200	200	68(#309A)
CLASSROOMS (CR)			<u>1350</u>	<u>1000</u>	
CR-2.1	Classroom -24 Seat	24	550	550	442(#224)
CR-3.1A	Classroom -40 Seat	40	800		688(#221)
CR-3.1B	Classroom -20 Seat	20		450	

Program Room Data Sheets

The Room Data Sheets are preliminary in nature when it comes to equipment and furnishings. They are primarily the basis for the preliminary space size and adjacencies. They are also intended as the vehicle to elicit further discussion and development of each space in the building. After the concept phase has clarified the design direction further, development of the specifics would occur during the Schematic Design phase.

Program Room Data Sheet List**OFFICE & SUPPORT****OS--**

- 1.1-1.8 Tenured & Research Faculty Offices**
- 2.1 Adjunct Faculty Shared Office**
- 4.1 Lab Tech Shared Office (3)**
- 5.1 Department Workroom / Administrative Office / Mail / Copy
Student Commons / Library / Breakroom/ Kitchenette /**
- 6.1 Vending**
- 9.1 Receiving / Shipping / Staging Area**
- 11.1 Dive Locker/ Field Equipment Storage**
- 12.1 Repair & Fabrication Shop**

RESEARCH LABS**RL**

- 1.1 Biology Undergraduate Research Lab 1**
- 1.2 Support Lab: Biology Lab 1**
- 2.1 Biology Undergraduate Research Lab 2**
- 2.2 Support Lab: Biology Lab 2**
- 4.1 Seawater Research Lab**
- 4.2 Seaweed / Greenhouse / Culture Lab**
- 4.3 Support Lab: Seawater Labs**
- 5.1 Necropsy / Mammalian Research Lab**

CLASSROOM LABS**CL-**

- 1.1 General Biology Instructional Lab**
- 1.2 Support Lab: General Biology**
- 2.1 Biology Instructional Lab 2 (Micro)**
- 2.2 Support Lab: Biology 2**
- 3.1 Specimen Collection Storage**
- 4.1A/B Chemistry Instructional Lab**
- 4.2A/B Chemistry Stock Storage**
- 4.3 Chemistry Instrument Room**

CLASSROOMS**CR-**

- 2.1 Classroom -24 Seat**
- 3.1 Classroom -40 Seat**

Office & Support

USE

- Private Office for Tenured & Research Faculty.

OCCUPANCY / ADJACENCY

- Private Office -1 occupant, 1 visitors (24/7)
- Desire to be adjacent to lab.

HVAC REQUIREMENTS

- **Temp.:** 69-79dF Humidity: Ambient
- **Ventilation:** Office.

PLUMBING

- None

GASES (BUILDING SYSTEM)

- None

POWER

- 120v/

LIGHTING

- **General Lighting:** 50 foot candles@ work plane (private office lighting levels TBD with user mock-ups)
- **Task Lighting:** @ desk

DAYLIGHTING

- Required

COMMUNICATIONS

- **Telephone:** 1
- **Data:** 2
-

ARCHITECTURAL

- **Floor:** Carpet
- **Wall:** Painted GWB
- **Ceiling:** ACT **Height:** TBD
- **Doors:** Wood with glass side light
- **Windows:** Desirable
- **Security:** Key lockable door
- **Acoustics:** Acoustic privacy required

FURNISHINGS/ACCESSORIES

- Whiteboard
- Blinds
- Desk: 1
- Credenza: 1
- Task chair with arms: 1
- Side chairs: 1
- Lateral File: 1 -2-drawer
- Pedestal File: 1 -2-drawer

BUILT-IN EQUIPMENT

- 10" deep wall mounted shelving on adjustable standards.

EQUIPMENT

- Printer:1
- 1- PC & Monitor:1

SAFETY REQUIREMENTS

-

SPECIAL REQUIREMENTS / NOTES

-

USE

- Shared Office for Adjunct Faculty

OCCUPANCY / ADJACENCY

- Shared Private Office -2 occupants typical (24/7)

HVAC REQUIREMENTS

- **Temp.:** 69-79dF Humidity: Ambient
- **Ventilation:** TBD, operable window.

PLUMBING

- None

GASES (BUILDING SYSTEM)

- None

POWER

- 120v/

LIGHTING

- **General Lighting:** 50 foot candles@ work plane (private office lighting levels TBD with user mock-ups)
- **Task Lighting:** @ desk

DAYLIGHTING

- Desired

COMMUNICATIONS

- **Telephone:** 4
- **Data:** 4

ARCHITECTURAL

- **Floor:** Carpet
- **Wall:** Painted GWB
- **Ceiling:** ACT **Height:** TBD
- **Doors:** Wood with glass side light
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Whiteboard
- Blinds (if outside window)
- Desks: 2 typical (24"d x 60"w)
- Task chairs: 2 typical (4 max)
- Side chairs: 2
- Lateral File: 2 -2-drawer 30"w x 19"d

BUILT-IN EQUIPMENT

- 12" deep wall mounted shelving on adjustable standards.

EQUIPMENT

- PC & Monitor: 2
- Printer: 1

SAFETY REQUIREMENTS

-

SPECIAL REQUIREMENTS / NOTES

-

USE

- Shared Office for 3 Lab Technicians.

OCCUPANCY / ADJACENCY

- Shared Private Office -3 occupants typical (24/7)
- May need to serve as “conciierge” for building depending on staffing plan. If so, locate by front entry. If not required, should be near labs they serve.

HVAC REQUIREMENTS

- **Temp.:** 69-79 dF Humidity: Ambient
- **Ventilation:** TBD, operable window.

PLUMBING

- None

GASES (BUILDING SYSTEM)

- None

POWER

- 120v/

LIGHTING

- **General Lighting:** 50 foot candles@ work plane (private office lighting levels TBD with user mock-ups)
- **Task Lighting:** @ desk

DAYLIGHTING

- Not Required

COMMUNICATIONS

- **Telephone:** 4
- **Data:** 4

ARCHITECTURAL

- **Floor:** Carpet
- **Wall:** Painted GWB
- **Ceiling:** ACT **Height:** TBD
- **Doors:** Wood with glass side light
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Whiteboard
- Blinds (if outside window)
- Desks: 3 typical (24”d x 60”w)
- Task chairs: 3 typical (4 max)
- Side chairs: 1
- Lateral File: 3 -2-drawer 30”w x 19”d

BUILT-IN EQUIPMENT

- TBD

EQUIPMENT

- PC & Monitor: 3 typ., 4 max (probably laptops)
- Printer: 1

SAFETY REQUIREMENTS

-

SPECIAL REQUIREMENTS / NOTES

-

OS 5.1

DEPARTMENT WORKROOM / ADMIN. OFFICE / MAIL / COPY

Office & Support

400 NSF

USE

- Combined area for Administrative support open office, files & workroom space for building wide support & use; large copier, shared fax, shared printers, paper storage, mail processing, office supply storage

OCCUPANCY / ADJACENCY

- Administrative support open office for 2 and workroom space.
- Near main entry to act as building receptionist

HVAC REQUIREMENTS

- **Temp.:** 69-79 dF Humidity: Ambient
- **Ventilation:** TBD,

PLUMBING

- None

GASES (BUILDING SYSTEM)

- None

POWER

- 120v/

LIGHTING

- **General Lighting:** 50 foot candles@ work plane (private office lighting levels TBD with user mock-ups)
- **Task Lighting:**

DAYLIGHTING

- Desired

COMMUNICATIONS

- **Telephone:** 3
- **Data:** 4,

ARCHITECTURAL

- **Floor:** Carpet
- **Wall:** Painted GWB
- **Ceiling:** ACT **Height:** TBD
- **Doors:** Wood with glass side light
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Whiteboard
- Blinds (if outside window)
- Modular workstations: 2
- Task chairs: 2
- Side chairs: 2
- Lateral Files: 4 -5-drawer
- Lockable Steel Supply Cabinets: 2
- Large layout worktable
- Supply storage cabinets
- Collating table
- Printer table or strand

BUILT-IN EQUIPMENT

- Mailboxes

EQUIPMENT

- Production Copier
- Fax Machine
- Printers

SAFETY REQUIREMENTS

-

SPECIAL REQUIREMENTS / NOTES

-

**Office &
Support****USE**

- Multiple use interaction space. Serves as study lounge with 3 provided desktop computers, as well as breakroom for the building with kitchenette and vending alcove. Library shelving and seating area.
- **OCCUPANCY / ADJACENCY**
- Student seating / study area -8 occupants (24/7)
- Area could be open to corridor

HVAC REQUIREMENTS

- **Temp.:** 69-79 dF Humidity: Ambient
- **Ventilation:** TBD,
- **Air filtration:** normal filtration

PLUMBING

- Kitchen Sink -2 bowl with garbage disposal

GASES (BUILDING SYSTEM)

- None

POWER

- 120v/ computer workstation power
- 120v/ 4- 20 amp kitchen outlets minimum
- 120v for Vending machines

LIGHTING

- **General Lighting:** 50 foot candles@ work plane
- **Task Lighting:** TBD

DAYLIGHTING

- Not Required

COMMUNICATIONS

- **Telephone:** 1
- **Data:** 3 computer workstations, WiFi

ARCHITECTURAL

- **Floor:** Carpet
- **Wall:** Painted GWB
- **Ceiling:** ACT **Height:** TBD
- **Doors:** Wood with glass side light
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Whiteboard
- Blinds (if outside window)
- Computer table or built-in counter for 3 desktop PC's
- Computer chairs: 3
- Study/lunch tables: 3
- Side chairs: 9
- Soft seating for 2
- Shelving sections: 4 -3' wide sections

BUILT-IN EQUIPMENT

○

EQUIPMENT

- PC & Monitor: 3 desktop PC's provided (laptops by users), WiFi connectivity
- Printer: 1
- Microwave
- Small Refrigerator (30" wide)
- Coffee maker
- Electric teapot
- Vending Machines- by vendor

SAFETY REQUIREMENTS

○

SPECIAL REQUIREMENTS / NOTES

- Must be ADA accessible
- Note: 2 vending machines to be housed within this space if possible.

Office & Support

USE

Small short-term lockable storage & staging area for incoming & outgoing supplies, equipment

OCCUPANCY / ADJACENCY

- Temporary storage
- Near dock / service entry

HVAC REQUIREMENTS

- **Temp.:** TBD **Humidity:** TBD
- **Ventilation:** TBD

PLUMBING

- None

GASES (BUILDING SYSTEM)

- None

POWER

- 120v/

LIGHTING

- **General Lighting:** 60 foot candles
- **Task Lighting:** None

DAYLIGHTING

- Not Required

COMMUNICATIONS

- **Telephone:** 1 (Note: phone could be in corridor)
- **Data:** None

ARCHITECTURAL

- **Floor:** VCT or sealed concrete
- **Wall:** Painted GWB or CMU
- **Ceiling:** Open **Height:** TBD
- **Doors:** HM, 36" active, 36" inactive
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Sorting table: 1
- Movable metal shelving

BUILT-IN EQUIPMENT

-

EQUIPMENT

-

SAFETY REQUIREMENTS

-

SPECIAL REQUIREMENTS / NOTES

-

Office & Support

USE

Storage for diving equipment and other scientific field equipment. Unisex shower

OCCUPANCY / ADJACENCY

- Storage
- Adjacent to vehicle dock
-

HVAC REQUIREMENTS

- **Temp.:** TBD deg F **Humidity:** Ambient
- **Ventilation:** Needs ventilation for wet equipment

PLUMBING

- Floor Drain
- Shower

GASES (BUILDING SYSTEM)

- None

POWER

- 120v/ GFCI

LIGHTING

- **General Lighting:** 60 f.c. sealed industrial fixtures
-

COMMUNICATIONS

- **Telephone:** No
- **Data:** No

ARCHITECTURAL

- **Floor:** VCT or Sealed Conc.
- **Wall:** MR GWB or CMU
- **Ceiling:** Epoxy painted MR GWB. **Height:** TBD.
- **Doors:**TBD
- **Security:** Key lockable door

FURNISHINGS/ACCESSORIES

- Industrial storage shelving

BUILT-IN EQUIPMENT

- TBD

EQUIPMENT

- TBD, Possible tank-fill compressor

SAFETY REQUIREMENTS

- TBD

SPECIAL REQUIREMENTS / NOTES

- Well ventilated

OS-12.1

Office & Support

EQUIPMENT REPAIR WORKSHOP

200 NSF

USE

Shop with wood and metal working tools for the repair and fabrication of experimental apparatus and field equipment.

OCCUPANCY / ADJACENCY

- Shop
- Adjacent to vehicle dock

HVAC REQUIREMENTS

- **Temp.:** TBD deg F **Humidity:** Ambient
- **Ventilation:** Needs ventilation for fumes, may need paint booth.

PLUMBING

○

GASES (BUILDING SYSTEM)

- None

POWER

- 120v/ GFCI

LIGHTING

- **General Lighting:** 60 f.c. sealed industrial fixtures

○

COMMUNICATIONS

- **Telephone:** No
- **Data:** No

ARCHITECTURAL

- **Floor:** Sealed Conc.
- **Wall:** CMU
- **Ceiling:** Epoxy painted MR GWB. **Height:** TBD.
- **Doors:**TBD
- **Security:** Key lockable door

FURNISHINGS/ACCESSORIES

- Industrial storage shelving
- Workbench

BUILT-IN EQUIPMENT

- TBD

EQUIPMENT

- TBD,

SAFETY REQUIREMENTS

- TBD, shop areas require safety review
- Fire extinguisher
- First aid equipment
- Hazardous materials storage
- Eyewash

SPECIAL REQUIREMENTS / NOTES

- Well ventilated

Research Labs**USE**

- Flexible, general purpose, biology research bench lab. A generic approach would allow for better use over the life of the building. Undergraduate students serve as lab assistants, so teaching role is also present.

OCCUPANCY / ADJACENCY

- Research Lab with instructional aspects
- Adjacency TBD

HVAC REQUIREMENTS

- **Temp.:** 70 deg F +/- 2 deg **Humidity:** Ambient
- Ventilation:** Lab Standard -100% outside air; fume hood probably not required if one is available elsewhere on floor.

PLUMBING

- Hot/cold water, cold water aspirator
- Lab Sinks (3)
- RO water with local polisher within room.
- Seawater, filtered and unfiltered desired
- Garbage disposal and sediment traps

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi
- Burning gas (propane?)

POWER

- 120/208/240 V (surge protected)
- Surface mounted raceway > 18" above bench top

LIGHTING

- **General Lighting:** Direct/ Indirect preferred; 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Desired

COMMUNICATIONS

- **Telephone:** 2
- **Data:** Lab standard TBD 4 ports per lab, plus WiFi

ARCHITECTURAL

- **Floor:** VCT (acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** ACT **Height:** 10' desired
- **Doors:** Wood, 36" active, 18" inactive. W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Chalkboard / Whiteboard TBD
- Pegboard drying racks
- Soap Dispenser
- Paper towel dispenser
- Clock
- Pull-down blinds for light control

BUILT-IN EQUIPMENT

- Bench top: (TBD) epoxy countertops. Metal or Plastic Laminate base cabinets
- Shelving: (TBD) wall mounted cabinets with glass doors. Bench mounted adjustable open reagent shelving.

EQUIPMENT

- Fume Hood unless supplied in shared equipment area
- Microscopes

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Hazardous materials storage
- Safety Shower & Eyewash

SPECIAL REQUIREMENTS / NOTES

- Microscopy - typically 100-150X, but use at 1000-1250X as well.

USE

- Flexible support lab supporting Biological Research Lab "A". A generic approach is suggested to give maximum flexibility.
- This needs to be a flexible lab support space that could accommodate noisy and heat producing lab equipment such as refrigerators, freezers, and incubators.
- Lab could also be outfitted as Instrument Lab, or other specialty lab space.

OCCUPANCY / ADJACENCY

- 2 occupants
- Attached to respective Biological Research Lab

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** 100% outside air; expected use of biological preservatives, hydrocarbons, acids and bases. Fume Hood TBD.

PLUMBING

- Hot/cold water, cold water aspirator
- Lab Sink (1)

GASES (BUILDING SYSTEM)

- TBD

POWER

- 120v (surge protected)
- Surface mounted raceway > 18" above bench top-high power density

LIGHTING

- **General Lighting:** Direct/Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD

DAYLIGHTING

- Not required.

COMMUNICATIONS

- **Telephone:** 1
- **Data:** Lab standard,

ARCHITECTURAL

- **Floor:** VCT (acid resistant)

- **Wall:** epoxy painted MR GWB
- **Ceiling:** ACT **Height:** 10' desired
- **Doors:** Wood, 36" active, 18" inactive. W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- TBD
- Flexible lab tables

BUILT-IN EQUIPMENT

- Sink Cabinet & counter
- Pegboard
- Pull-down snorkel exhaust or Chemical Fume Hood TBD.

EQUIPMENT

- TBD; Need to accommodate refrigerators, freezers, incubators, biosafety cabinet

SAFETY REQUIREMENTS

- TBD
- Eyewash

SPECIAL REQUIREMENTS / NOTES

-

USE

- Flexible, general purpose, biology research bench lab. A generic approach would allow for better use over the life of the building. Undergraduate students serve as lab assistants, so teaching role is also present.

OCCUPANCY / ADJACENCY

- Research Lab with instructional aspects
- Adjacency TBD

HVAC REQUIREMENTS

- **Temp.:** 70 deg F +/- 2 deg **Humidity:** Ambient
- Ventilation:** Lab Standard -100% outside air; fume hood probably not required if one is available elsewhere on floor.

PLUMBING

- Hot/cold water, cold water aspirator
- Lab Sinks (2)
- RO water with local polisher within room.
- Seawater, filtered and unfiltered desired
- Garbage disposal and sediment traps

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi
- Burning gas (propane?)

POWER

- 120/208/240 V (surge protected)
- Surface mounted raceway > 18" above bench top
-

LIGHTING

- **General Lighting:** Direct/ Indirect preferred; 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Desired

COMMUNICATIONS

- **Telephone:** 2
- **Data:** Lab standard TBD 4 ports per lab, plus WiFi

ARCHITECTURAL

- **Floor:** VCT (acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** ACT **Height:** 10' desired
- **Doors:** Wood, 36" active, 18" inactive. W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Chalkboard / Whiteboard TBD
- Pegboard drying racks
- Soap Dispenser
- Paper towel dispenser
- Clock
- Pull-down blinds for light control

BUILT-IN EQUIPMENT

- Bench top: (TBD) epoxy countertops. Metal or Plastic Laminate base cabinets
- Shelving: (TBD) wall mounted cabinets with glass doors. Bench mounted adjustable open reagent shelving.

EQUIPMENT

- TBD'
- Microscopes

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Hazardous materials storage
- Safety Shower & Eyewash

SPECIAL REQUIREMENTS / NOTES

- Microscopy - typically 100-150X, but use at 1000-1250X as well.

USE

- Flexible support lab supporting Biological Research Lab "B". A generic approach is suggested to give maximum flexibility.
- This needs to be a flexible lab support space that could accommodate noisy and heat producing lab equipment such as refrigerators, freezers, and incubators.
- Lab could also be outfitted as Instrument Lab, or other specialty lab space.

OCCUPANCY / ADJACENCY

- 2 occupants
- Attached to respective Biological Research Lab

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** 100% outside air; expected use of biological preservatives, hydrocarbons, acids and bases. Fume Hood TBD.

PLUMBING

- Hot/cold water, cold water aspirator
- Lab Sink (1)

GASES (BUILDING SYSTEM)

- TBD

POWER

- 120v (surge protected)
- Surface mounted raceway > 18" above bench top-high power density

LIGHTING

- **General Lighting:** Direct/Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD

DAYLIGHTING

- Not required.

COMMUNICATIONS

- **Telephone:** 1
- **Data:** Lab standard,

ARCHITECTURAL

- **Floor:** VCT (acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** ACT **Height:** 10' desired
- **Doors:** Wood, 36" active, 18" inactive. W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- TBD
- Flexible lab tables

BUILT-IN EQUIPMENT

- Sink Cabinet & counter
- Pegboard
- Pull-down snorkel exhaust or Chemical Fume Hood TBD.

EQUIPMENT

- TBD; Need to accommodate refrigerators, freezers, incubators, biosafety cabinet

SAFETY REQUIREMENTS

- TBD
- Eyewash

SPECIAL REQUIREMENTS / NOTES

-

USE

- Seawater tank room for research and teaching. A variety of tank sizes TBD.

OCCUPANCY / ADJACENCY

- Running seawater lab 6 occupants
- 1st floor- direct access to outside driveway desired to move tanks.

HVAC REQUIREMENTS

- **Temp.:** 50 - 70 deg F **Humidity:** Ambient
- **Ventilation:** Temperature control - Summer -; fresh air ventilation desired to control humidity. Temperature control to be on local thermostat.

PLUMBING

- Hot/cold water
- Hose Reel –hot & cold
- Seawater system (for flow-through tanks, Heath trays, and Living Streams). Trench drains for normal effluent and waste treatment (necessity for treatment to be confirmed).
- Large deep stainless steel sink for clean up area with grinder and sediment traps.
- Modular trench drains (removable grate system)

GASES (BUILDING SYSTEM)

- Compressed air (oil free)- 15-30 psi for aerating tanks (1 or 2 systems)
- Burning gas (propane?)

POWER

- 110v/240v gasketed drop cords
- Dedicated power
- Surge protection
- Room panel & emergency shunt
- Emergency power desired to supply aeration air with air stones (2 per lab) (Emergency power TBD)

LIGHTING

- **General Lighting:** Full spectrum lighting: 75 foot candles (gasketed, moisture proof)
- **Emergency Lighting:** TBD
- **Control:** User will provide Timer/Lighting system for experiment diurnal controls for tanks

○

DAYLIGHTING

- Desired with control blinds

COMMUNICATIONS

ECI HYER / NBBJ

- **Telephone:** 2

- **Data:** 2 ports at fixed bench; WiFi

ARCHITECTURAL

- **Floor:** Sealed concrete (slope to trench drains)
- **Wall:** waterproof epoxy painted filled CMU
- **Ceiling:** MR GWB with 4'x4' fiberglass Unistrut grid to support piping, curtains, lights, etc. **Height:** TBD'
- **Doors:** HM, 36" active, 36" inactive. W/ vision panels; insulated exterior roll-up doors 12'x12'
- **Windows:** operable exterior with black-out curtains
- **Security:** Key lockable door

FURNISHINGS/ACCESSORIES

- Tackboard /whiteboard
- Pegboard drying rack
- Net drying racks - for small dip nets
- Paper towel dispenser
- Soap Dispenser
- Clock

BUILT-IN EQUIPMENT

- Lab Bench: 10 LF, 316 Stainless steel countertops; 30" d. x 36" h., grooved with water resistant Poly pro base cabs w/doors.
- Reagent Shelving:10'

EQUIPMENT

- Water chillers & heaters (8 per lab)
- Conventional freezer 3'x3'x6' (2)
- Refrigerator 3'x3'x6' (2)
- Living stream rectangular tanks
- 1 meter to 2 meter round tanks

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Safety shower / Eyewash

SPECIAL REQUIREMENTS / NOTES

- Part of room will need to be subdivided to accommodate instrumentation and environments supporting research.

Research Labs**USE**

- Seaweed / Greenhouse space to replicate current facility.

OCCUPANCY / ADJACENCY

- Running seawater lab 3 occupants
- 1st floor- direct access to outside driveway desired to move tanks.

HVAC REQUIREMENTS

- **Temp.:** 50 - 70 deg F **Humidity:** Ambient
- **Ventilation:** Temperature control - Summer -; fresh air ventilation desired to control humidity. Temperature control to be on local thermostat.

PLUMBING

- Hot/cold water
- Hose Reel –hot & cold
- Seawater system.
-

GASES (BUILDING SYSTEM)

- Compressed air (oil free)- 15-30 psi for aerating tanks (1 or 2 systems)
-

POWER

- 110v/240v gasketed drop cords
- Dedicated power
- Surge protection
- Room panel & emergency shunt
- Emergency power desired to supply aeration air with air stones (2 per lab) (Emergency power TBD)

LIGHTING

- **General Lighting:** Full spectrum lighting: 75 foot candles (gasketed, moisture proof)
- **Emergency Lighting:** TBD
- **Control:** User will provide Timer/Lighting system for experiment diurnal controls for tanks
-

DAYLIGHTING

- Required with control blinds

COMMUNICATIONS

- **Telephone:** 1
- **Data:** 2 ports at fixed bench; WiFi

ARCHITECTURAL

- **Floor:** Sealed concrete (slope to trench drains)
- **Wall:** waterproof epoxy painted filled CMU
- **Ceiling:** MR GWB with 4'x4' fiberglass Unistrut grid to support piping, curtains, lights, etc.
Height: TBD'
- **Doors:** HM, 36" active, 36" inactive. W/ vision panels; insulated exterior roll-up doors 12'x12'
- **Windows:** operable exterior with black-out curtains
- **Security:** Key lockable door

FURNISHINGS/ACCESSORIES

- Tackboard /whiteboard
- Pegboard drying rack
- Net drying racks - for small dip nets
- Paper towel dispenser
- Soap Dispenser

BUILT-IN EQUIPMENT

Lab Bench:

EQUIPMENT

- Specialty tanks

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Safety shower / Eyewash

SPECIAL REQUIREMENTS / NOTES

.

RL-4.3

Research Lab Support

SUPPORT LAB: SEAWATER LABS

200 NSF

USE

- Wet Lab for fish processing, service to Seawater Labs, drying various specimens ranging from crabs to fish, dissecting fish.

OCCUPANCY / ADJACENCY

- 2 occupants
- Adjoin Seawater Labs

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** 100% outside air; dedicated exhaust system; (1) Fume hood (4') - expected use of biological preservatives, hydrocarbons, acids and bases w/ gas, air, and water outlets

PLUMBING

- Hot/cold water, cold water aspirator
- Filtered Sea water (stub out 2 locations)
- Hose bibb
- RO with polisher in room.
- Sink in fume hood 18" x 18"
- Oversized garbage disposal and sediment traps
- 1-36" sink,

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi (also in fume hood)
- Air supply r suitable for aeration
- Burning gas (propane)

POWER

- 120/208/240 V -TBD
- Surface mounted raceway > 18" above bench top

LIGHTING

- **General Lighting:** Full spectrum lighting: 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Not required

COMMUNICATIONS

- **Telephone:** 2
- **Data:** Lab standard to be developed ; 3 laptops, WiFi, fiber optic cabling TBD

ARCHITECTURAL

- **Floor:** epoxy sealed concrete
- **Wall:** epoxy painted MR GWB or CMU
- **Ceiling:** WR ACT or MR GWB **Height:** TBD.
- **Doors:** Wood, 36" active, 18" inactive. W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Tack board /whiteboard
- Peg Board Rack
- Net drying racks - for small dip nets
- Soap Dispenser
- Paper towel dispenser-2 @ sink
- Clock

BUILT-IN EQUIPMENT

- Stainless bench top with raised edge: along side walls, 30" d., 36" h., grooved
- Shelving: metal cabinets, wall mounted, glass doors
- Base cabinets to be water resistant
- 4' Fume Hood w/ built-in chemical safety cabinet

EQUIPMENT

- Refrigerators (2)
- -20 freezers (2)
- Bench top drying oven with canopy hood
- Small Autoclave

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Hazardous materials storage
- Eyewash

SPECIAL REQUIREMENTS / NOTES

- Needs to be very cleanable
- Flexible Casework

Research Labs

USE

- Necropsy / Dissection Research Lab for dissection processing, and analysis. Entire room needs to be able to be hosed down for cleaning. Some teaching will also be done here.

OCCUPANCY / ADJACENCY

- Lab /
- 1st floor- direct access to outside driveway desired to move specimens from trucks.

HVAC REQUIREMENTS

- **Temp.:** 50 - 70 deg F **Humidity:** Ambient
- **Ventilation:** Extremely high ventilation required to deal with odor.

PLUMBING

- Hot/cold water
- Hose Reel –hot & cold
- Large deep stainless steel sink for clean up area with grinder and sediment traps.

GASES (BUILDING SYSTEM)

- Compressed air (oil free)- 15-30 psi for aerating tanks (1 or 2 systems)
- Burning gas (propane?)

POWER

- 110v/240v gasketed drop cords
- Waterproof outlets

LIGHTING

- **General Lighting:** Full spectrum lighting: 75 foot candles (gasketed, water proof)
- **Emergency Lighting:** TBD

DAYLIGHTING

- Not required.

COMMUNICATIONS

- **Telephone:** 1
- **Data:** 2 ports at fixed bench; WiFi

ARCHITECTURAL

- **Floor:** Sealed concrete (slope to trench drains)
- **Wall:** waterproof epoxy painted filled CMU
- **Ceiling:** MR GWB with 4'x4' fiberglass **Height:** TBD'
- **Doors:** HM, 36" active, 36" inactive. W/ vision panels; insulated exterior roll-up doors 12'x12'
- **Security:** Key lockable door

FURNISHINGS/ACCESSORIES

- Whiteboard
- Pegboard drying rack
- Net drying racks - for small dip nets
- Paper towel dispenser
- Soap Dispenser
- Clock

BUILT-IN EQUIPMENT

- Lab Bench: 6 LF, 316 Stainless steel countertops; 30" d. x 36" h., grooved with water resistant Poly pro base cabs w/doors.
- Overhead crane rail for moving heavy specimens may be desired (TBD).

EQUIPMENT

- Necropsy / Dissection Table -TBD
- Surgical light-TBD
- Boiling Vessels
- Cooktop
- Drying Oven with canopy hood

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Safety shower / Eyewash

SPECIAL REQUIREMENTS / NOTES

USE

- This is the primary biology teaching lab at UAS. It is intended to be a pure lab setting with students at lab tables, without a separate lecture seating area in the room. A demonstration bench will be at the head of the room with wall and base cabinets for storage at the perimeter of the room. Flexible student bench systems will be considered.

OCCUPANCY / ADJACENCY

24 students, 1 instructor
Adjacency TBD

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** TBD. Fume hood probably not included.

PLUMBING

- Hot/cold water, cold water aspirator
- RO Water with local polisher within room.
- Running seawater for aquaria or small demo tanks
- No water or sink at student benches

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi
- Burning gas (propane?)

POWER

- 120/208/220 V (surge protected)
- Surface mounted raceway 18" above bench top
- Power & data drop cords (gasketed) location per casework layout,

LIGHTING

- **General Lighting:** Direct / Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Desired

COMMUNICATIONS

- **Telephone:** 2
- **Data:** Lab standard, fiber optic cabling to attached Prep Room.

ARCHITECTURAL

- **Floor:** VCT(acid resistant)

- **Wall:** epoxy painted MR GWB
- **Ceiling:** WR ACT **Height:** TBD
- **Doors:** Wood, 36" active, 18" inactive. W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Large multi panel chalkboard at front of room.
- Tackboard
- Pegboard Rack
- Soap Dispenser
- Paper towel dispenser
- Clock
- Student benches- fixed or movable TBD
- Student seats (24)
- Instructor's stool (1)

BUILT-IN EQUIPMENT

- Projection screen
- Bench top Prep area with sink 30"d. x 36" h.;
- Instruction bench top 30"d x 36"h
- Shelving: base cabinets, wall mounted, glass doors
- Epoxy countertops
- Microscope cabinet for 48 microscopes
- Fume Hood unless shared is available

EQUIPMENT

- AV equipment for projection of data, images, slides, overheads, & video- to be developed per UAS.
- Aquaria and or small demo tanks
- Carts
- Consider BSC or bench top laminar flow hood- TBD
- Microscopy - typically 100-150X, but use at 1000-1250X as well. Two microscopes per student -dissecting & compound

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Hazardous materials storage cabinets
- Eyewash
- Safety Shower
-

SPECIAL REQUIREMENTS / NOTES

USE

- Prep and Storage Lab supporting General Biology Instructional Lab.

OCCUPANCY / ADJACENCY

- 1 or 2
- Attached to General Biology Instructional Lab

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** TBD Consider fume hood or BSC
- **Air filtration:** norm

PLUMBING

- Hot / Cold Water
- 5' dual compartment stainless steel Scullery Sink
- Garbage disposal and sediment traps

GASES (BUILDING SYSTEM)

- TBD

POWER

- 120v. (surge protected)
- Surface mounted raceway > 18" above bench top

LIGHTING

- **General Lighting:** Direct / Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Not required

COMMUNICATIONS

- **Telephone:** 0
- **Data:** Lab standard, fiber optic cabling to attached Analytical Lab.

ARCHITECTURAL

- **Floor:** Welded sheet vinyl (acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** Mylar faced WR ACT **Height:** 10' min.
- **Doors:** Wood, 36" active, W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Stool
- Specimen Storage Cabinets
- Metal Shelving

BUILT-IN EQUIPMENT

- Lab Bench 30"d x 36"h
- Pull-down snorkel exhaust -TBD
- Consider fume hood -TBD

EQUIPMENT

- Refrigerator (1)
- -20 freezer (1)
- Ice Machine
- Small Autoclave
- Consider BSC

SAFETY REQUIREMENTS

- TBD
- Hazardous materials cabinets
- Eyewash

SPECIAL REQUIREMENTS / NOTES

-

CL-2.1

BIOLOGY INSTRUCTIONAL LAB 2 (MICRO / ANATOMY / PHYSIOLOGY)

Classroom Labs

850 NSF

USE

- This is a second flexible biology teaching lab, which is not presently at UAS. It could supplement the General Lab and have more of a Microbiology, Anatomy and Physiology focus if Bunsen burners and at least one Biosafety Cabinet or Fume Hood was included. Snorkel exhausts at the student stations should also be considered.

OCCUPANCY / ADJACENCY

- 14 students, 1 instructor
- Adjacency TBD.

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** TBD. Fume hood or BSC. Snorkel hoods at student stations to be considered.

PLUMBING

- Hot/cold water, cold water aspirator
- RO Water with local polisher within room.
- Running seawater for aquaria or small demo tanks
- No water or sink at student benches

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi
- Burning gas (propane?) Consider location for Bunsen burners.

POWER

- 120/208/220 V (surge protected)
- Surface mounted raceway 18" above bench top
- Power & data drop cords (gasketed) location per casework layout,

LIGHTING

- **General Lighting:** Direct / Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Desired

COMMUNICATIONS

- **Telephone:** 2
- **Data:** Lab standard, fiber optic cabling to attached Prep Room.

ARCHITECTURAL

- **Floor:** VCT(acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** WR ACT **Height:** TBD
- **Doors:** Wood, 36" active, 18" inactive. W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Tackboard
- Pegboard Rack
- Soap Dispenser
- Paper towel dispenser
- Clock
- Dissection Tables-TBD
- Student benches- fixed or movable TBD
- Student seats (14)
- Instructor's stool (1)

BUILT-IN EQUIPMENT

- Large multi panel chalkboard at front of room.
- Projection screen
- Bench top Prep area with sink 30"d. x 36" h.;
- Instruction bench top 30"d x 36"h
- Shelving: base cabinets, wall mounted, glass doors
- Epoxy countertops
- Microscope cabinet for 40 microscopes

EQUIPMENT

- AV equipment for projection of data, images, slides, overheads, & video- to be developed per UAS.
- Aquaria and or small demo sea tables
- Carts
- 8' Biosafety Cabinet or Fume Hood
- Microscopy Two microscopes per student - dissecting & compound

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Hazardous materials storage cabinets
- Eyewash

SPECIAL REQUIREMENTS / NOTES

- Provide accessible student stations as required.

USE

- Prep and Storage Lab supporting Biology Instructional Lab #2. Microbiology ,Anatomy, & Physiology as additional capability.

OCCUPANCY / ADJACENCY

- 1 or 2
- Attached to Biology Instructional Lab #2

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** TBD Consider fume hood or BSC
- **Air filtration:** norm

PLUMBING

- Hot / Cold Water
- dual compartment stainless steel Scullery Sink
- Garbage disposal and sediment traps
- Water Polisher

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi
- Burning gas (propane?) Consider location for Bunsen burners.

POWER

- 120v. (surge protected)
- Surface mounted raceway > 18" above bench top

LIGHTING

- **General Lighting:** Direct / Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Not required

COMMUNICATIONS

- **Telephone:** 1
- **Data:** Lab standard,

ARCHITECTURAL

- **Floor:** VCT (acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** WR ACT **Height:** TBD
- **Doors:** Wood, 36" active, W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Stool
- Specimen Storage Cabinets
- Metal Shelving

BUILT-IN EQUIPMENT

- Lab Bench 30"d x 36"h
- Pull-down snorkel exhaust –TBD
- Consider fume hood

EQUIPMENT

- Refrigerator (1)
- -20 freezer (1)
- Consider BSC

SAFETY REQUIREMENTS

- TBD
- Hazardous materials cabinets
- Eyewash

SPECIAL REQUIREMENTS / NOTES

-

CL-3.1

Classroom Lab Support

SPECIMEN COLLECTION STORAGE

180 NSF

USE

- Area allowance for storage of permanent comparative specimen collections. This space may be in a room or in alcoves off general circulation. Collection will be processed elsewhere

OCCUPANCY / ADJACENCY

- 0
- Adjacent to Biology Instructional Labs

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** TBD
- **Air filtration:** norm

PLUMBING

- None

GASES (BUILDING SYSTEM)

- None

POWER

- 120v. If in dedicated room
-

LIGHTING

- **General Lighting:** Direct / Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** None
- **Task Lighting:** None

DAYLIGHTING

- Not desired

COMMUNICATIONS

- **Telephone:** 0
- **Data:** 0

ARCHITECTURAL

- **Floor:** VCT (acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** ACT **Height:** TBD
- **Doors:** Wood, 36" active, W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Stool
- Specimen Storage Cabinets (lockable-12
- Metal Shelving
- Processing table

BUILT-IN EQUIPMENT

-

EQUIPMENT

-

SAFETY REQUIREMENTS

-

SPECIAL REQUIREMENTS / NOTES

-

USE

- This is the primary chemistry teaching lab at UAS. Two sizes are possible based on availability of space- 14 students or 24 students at lab tables, without a separate lecture seating area in the room. A demonstration bench will be at the head of the room with wall and base cabinets for storage at the perimeter of the room. Need to maintain sightlines from student bench area to demo podium.

OCCUPANCY / ADJACENCY

Chemistry Lab, 14 or 24 students, 1 instructor
Adjacency TBD

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** 100% outside air. Multiple fume hoods 5-10 hoods or "scoop" hoods at student bench for lesser need.

PLUMBING

- 6 general sinks
- Hot/cold water, cold water aspirator
- RO Water with local polisher within room.
- Water and sink or sink trough at student benches

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi
- Burning gas (propane?)

POWER

- 120/208/220 V (surge protected)

LIGHTING

- **General Lighting:** Direct / Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** TBD

DAYLIGHTING

- Desired

COMMUNICATIONS

- **Telephone:** 2
- **Data:** Lab standard.

ARCHITECTURAL

- **Floor:** VCT(acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** WR ACT **Height:** TBD
- **Doors:** Wood, 36" active, 18" inactive. W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Large multi panel chalkboard at front of room.
- Tackboard
- Pegboard Rack
- Soap Dispenser
- Paper towel dispenser
- Clock
- Student benches- TBD
- Student seats (14 or 24)
- Instructor's stool (1)

BUILT-IN EQUIPMENT

- Projection screen
- Instruction bench top 30"d x 36"h
- Shelving: base cabinets, wall mounted, glass doors
- Epoxy countertops
- Consider linear fume hoods at student stations

EQUIPMENT

- AV equipment for projection of data, images, slides, overheads, & video- to be developed per UAS.
- Carts
-

SAFETY REQUIREMENTS

- Fire extinguisher
- First aid equipment
- Hazardous materials storage cabinets
- Eyewash
- Safety Shower

SPECIAL REQUIREMENTS / NOTES

- Provide accessible student stations as required.

CL-4.2 A / B

Classroom Lab Support

CHEMISTRY STOCK STORAGE A / B

400 / 440 NSF

Use

- Prep and Storage Lab supporting Chemistry Instructional Labs depending on size. Chemistry stock shelving, Hazardous materials storage cabinets, bench prep area, demonstration carts, refrigerator and freezer.

OCCUPANCY / ADJACENCY

- 1 or 2
- Attached to Chemistry Instructional Lab A or B

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** 100% outside air. 4' fume hood
- **Air filtration:** norm

PLUMBING

- Hot / Cold Water
- Water Polisher
- Sink
-

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi
- Burning gas (propane?)

POWER

- 120v. (surge protected)
- Surface mounted raceway > 18" above bench top

LIGHTING

- **General Lighting:** Direct / Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Not required

COMMUNICATIONS

- **Telephone:** 1
- **Data:** Lab standard, fiber optic cabling to attached Analytical Lab.

ARCHITECTURAL

- **Floor:** VCT(acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** WR ACT **Height:** 10' min.
- **Doors:** Wood, 36" active, W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Stool
- Storage Cabinets
- Shelving
- Pegboard Rack
- Glassware storage
- Towel Dispenser
- Soap Dispenser

BUILT-IN EQUIPMENT

- Lab Bench 30"d x 36"h and wall cabinets
- Consider fume hood -TBD

EQUIPMENT

- Refrigerator (1)
- -20 freezer (1)
- Carts

SAFETY REQUIREMENTS

- Hazardous materials cabinets
- Eyewash

SPECIAL REQUIREMENTS / NOTES

-

CL-4.3

Classroom Lab Support

CHEMISTRY INSTRUMENT ROOM

200 NSF

USE

- Instrument lab area supporting Chemistry Instructional Lab.

OCCUPANCY / ADJACENCY

- 1 or 2
- Attached to Chemistry Instructional Lab

HVAC REQUIREMENTS

- **Temp.:** 72 deg F **Humidity:** Ambient
- **Ventilation:** 100% outside air. Consider 4' fume hood
- **Air filtration:** norm

PLUMBING

- Hot / Cold Water
- Water Polisher
- Sink

GASES (BUILDING SYSTEM)

- Compressed air- 15-30 psi
- Burning gas (propane?)

POWER

- 120v. (surge protected)
- Surface mounted raceway > 18" above bench top

LIGHTING

- **General Lighting:** Direct / Indirect: 75 foot candles @ bench top
- **Emergency Lighting:** TBD
- **Task Lighting:** Under shelf above bench

DAYLIGHTING

- Not required

COMMUNICATIONS

- **Telephone:** 1
- **Data:** Lab standard, fiber optic cabling to attached Analytical Lab.

ARCHITECTURAL

- **Floor:** VCT(acid resistant)
- **Wall:** epoxy painted MR GWB
- **Ceiling:** WR ACT **Height:** 10' min.
- **Doors:** Wood, 36" active, W/ vision panels
- **Security:** Key lockable door
- **Acoustics:** TBD

FURNISHINGS/ACCESSORIES

- Stool
- Pegboard Rack
- Towel Dispenser
- Soap Dispenser

BUILT-IN EQUIPMENT

- Lab Bench 30"d x 36"h and wall cabinets
- Consider fume hood -TBD

EQUIPMENT

- Special Instrumentation and Equipment TBD- Balances, Mass Spec, GC, etc.

○

SAFETY REQUIREMENTS

- Hazardous materials cabinets
- Eyewash

SPECIAL REQUIREMENTS / NOTES

○

OCCUPANCY / ADJACENCY

- Flexible classroom / seminar space for table, tablet arm or theater style seating - 25 students @ tablet arm.
- Fixed lab bench teaching podium

OCCUPANCY / ADJACENCY

- 25 students, 1 instructor
- Adjacency TBD

HVAC REQUIREMENTS

- **Temp.:** 69-72 dF Humidity: Ambient
- **Ventilation:** Occupancy sensor based HVAC control system; low-system noise for un-reinforced voice lecturer
- **Air filtration:** normal filtration

PLUMBING

- Lab Sink and Lab Faucets at podium
- Hot & Cold Water

GASES (BUILDING SYSTEM)

- Compressed air
- Burning gas

POWER

- 120v power outlets spaced equally around room. Floor outlets to be flush with finished floor

LIGHTING

- **General Lighting:** dimmable or multiple switched luminaires lighting from 2 f.c. to 50 f.c. with silent electronic ballasts
- **Whiteboard Lighting:** 70 f.c. to 90 f.c.

DAYLIGHTING

- Desirable

COMMUNICATIONS

- **Telephone:** 1
- **Data:** TBD spaced equally around the room (1 per common use duplex outlet). Minimum 2 outlets at front of room. WiFi.
- **VTC:** distance learning capable-equipment TBD

ARCHITECTURAL

- **Floor:** Anti-static carpet
- **Wall:** Painted GWB with chair rail wall protection (FRP panels or 6" wide chair rails)
- **Ceiling:** ACT **Height:** TBD
- **Doors:** 2 pair of wood 36" Active leaf, 18" inactive; with glass side light
- **Security:** Key lockable door
- **Acoustics:** allow for natural speech; prevent sound from being transferred to adjacent classrooms.

FURNISHINGS/ACCESSORIES

- Tack board
- Clock
- Recessed projection screen
- Black-out blinds (if outside windows)
- Tablet arm seating: 25 seats -TBD (10% to be left handed; 5% or 2 stations min. ADA)

BUILT-IN EQUIPMENT

- Clg. Mounted video projector
- Projection screen
- Smartboard -TBD
- Multiple panel chalkboard at front wall.
- Teaching area to accommodate lab bench demonstration podium with sink and gases.

EQUIPMENT

- AV equipment for projection of data, images, slides, overheads, & video- to be developed per UAS. -TBD

SAFETY REQUIREMENTS

-

SPECIAL REQUIREMENTS / NOTES

- Allow for teaching area at least 8' from front wall of classroom to first row of tables or seats.

OCCUPANCY / ADJACENCY

- Flexible classroom / seminar space for table, tablet arm or theater style seating – 20/40 students @ tablet arm.
- Movable teaching podium /desk

OCCUPANCY / ADJACENCY

- 40 students, 1 instructor
- Adjacency TBD

HVAC REQUIREMENTS

- **Temp.:** 69-72 dF Humidity: Ambient
- **Ventilation:** Occupancy sensor based HVAC control system; low-system noise for un-reinforced voice lecturer
- **Air filtration:** normal filtration

PLUMBING

- Lab Sink and Lab Faucets at podium
- Hot & Cold Water

GASES (BUILDING SYSTEM)

- Compressed air
- Burning gas

POWER

- 120v power outlets spaced equally around room. Floor outlets to be flush with finished floor

LIGHTING

- **General Lighting:** dimmable or multiple switched luminaires lighting from 2 f.c. to 50 f.c. with silent electronic ballasts
- **Whiteboard Lighting:** 70 f.c. to 90 f.c.

DAYLIGHTING

- Desirable

COMMUNICATIONS

- **Telephone:** 1
- **Data:** TBD spaced equally around the room (1 per common use duplex outlet). Minimum 2 outlets at front of room. WiFi.
- **VTC:** distance learning capable-equipment TBD

ARCHITECTURAL

- **Floor:** Anti-static carpet
- **Wall:** Painted GWB with chair rail wall protection (FRP panels or 6" wide chair rails)
- **Ceiling:** ACT **Height:** TBD
- **Doors:** 2 pair of wood 36" Active leaf, 18" inactive; with glass side light
- **Security:** Key lockable door
- **Acoustics:** allow for natural speech; prevent sound from being transferred to adjacent classrooms.

FURNISHINGS/ACCESSORIES

- Tack board
- Clock
- Recessed projection screen
- Black-out blinds (if outside windows)
- Tablet arm seating: 20/40 seats - (10% to be left handed; 5% stations min. ADA)

BUILT-IN EQUIPMENT

- Clg. Mounted video projector
- Smartboard -TBD
- Multiple panel chalkboard at front wall.
- Teaching area to accommodate movable podium and desk.

EQUIPMENT

- AV equipment for projection of data, images, slides, overheads, & video- to be developed per UAS. –TBD

SAFETY REQUIREMENTS

-

SPECIAL REQUIREMENTS / NOTES

- Allow for teaching area at least 8' from front wall of classroom to first row of tables or seats.