OREGON COAST COMMUNITY COLLEGE

Oregon Coast Community College

Go-Bond Program | OCATT

Programming Report | Final

April 03, 2025

GLAS ARCHITECTS, LLC + HACKER

Contents

Executive Summary

Introduction

The Oregon Coast Community College (OCCC) is committed to design and construct a new Career and Technical Education facility on their Newport Campus. This programming study describes the proposed skills that will be taught in the facility, what spaces are needed to teach those skills, and how the various spaces relate to one another. Funding for the facility was secured through a general obligation bond measure passed in May of 2024 and supplemented with a matching grant from the state of Oregon, along with other smaller grants.

Overview

OCCC is a community college based in Newport, Oregon with satellite campuses of varying sizes in Waldport, Oregon, Lincoln City, Oregon and Toledo, Oregon. It's main campus is in Newport at 400 SE College Way and consists of two buildings: the Main Building and the Aquarium Science Building. The Oregon Coast Advanced Trades and Technology (OCATT) building will be the third facility at the Newport campus.

Project Objectives

- Support regional career and technical trades education
- Equip students for entry into regional trades
- Be flexible enough to adjust to new CTE needs as they arise

Programming Assumptions

This programming document serves as the foundational basis for the schematic design development. It reflects the best available information and decisions at the time of its creation, intended to guide subsequent design phases.

Program

General Learning Support	
Flex Learning Lab	1200
Flex Learning Lab	1200
Simulation Lab	600
Shared Workspace	400
Enclosed Offices	200
Commons	1000
	4600

Building Systems	
Flex Build	1500
Equipment Zone	1500
Touch Base / Demo	600
Tool Storage	200
Material Storage	300
Air Compressor Room	75
	4175

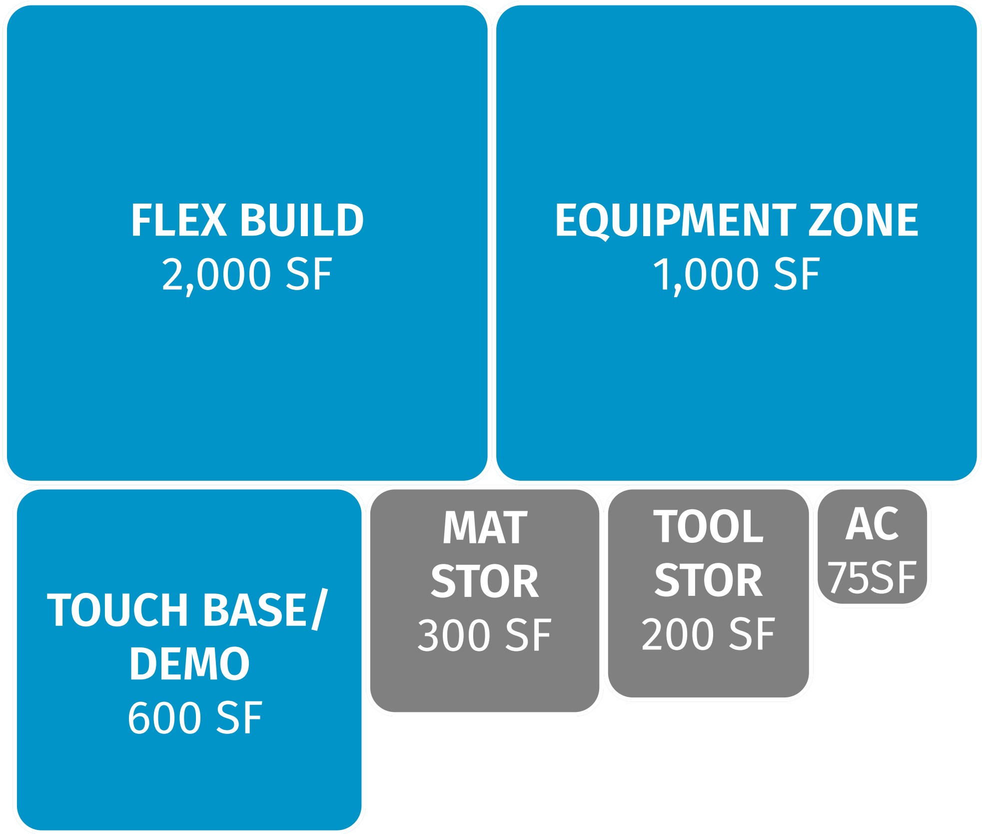
Electronic Systems	
Flex Build	500
Trainer Storage	200
Instruction / Build	1000
Tool Storage	200
Component Storage	200
	2100

Mechanical Systems	
Flex Build	1000
Trainer Storage	200
Instruction / Build	1000
Tool Storage	200
Component Storage	400
Wed Pump Setup	400
	3200

Dirty Build Lab	
Dirty Lab	2000
Welding Zone	600
Instruction / Build	500
Tool Storage	400
Component Storage	400
Plasma Room, Manifold Room	300
	4200

Subtotal		**18275**
Grossing Factor	30%	**5482.5**
Total		**23757.5**

Program Building Systems



4,175sf = total area

Skills
- Building Plumbing
- Construction Build Space
- Building Elec
- Refrigeration
- HVAC
- AC
- Boiler

Key Features:
- Work area with tables and technology
- Flexible open build area
- Permanent equipment zone
- Separate storage areas

Infrastructure:
- Dust Collection
- Trench Drain at Overhead door
- Power and Air from perimeter and above
- Water Spigot
- Overhead door to outdoor build

Program Building Systems

Building Systems: Touch Base/Demo Zone, Equipment Zone

The Building Systems Lab focuses on skills and training relevant to the construction and renovation of residential and commercial structures. With cohort sizes of between 16-20 students the space supports basic introductory skills such as using a tape measure as well as more advanced hands on building projects involving multiple building systems.

The space is divided up into a three primary zones. A Touch Base and Demonstration Zone, a designated Equipment Zone and a Flexible Build zone.

The ***Touch Base/Demonstration Zone*** is comprised of counter height tables and work benches that can be used for lecture style safety briefings, project reviews, or specific skill demonstrations. With a monitor/screen and whiteboard the space can be used for video demonstrations when needed outside a classroom. This space also can support hands-on application of skills. For example, skills that requires the assembly of components, like wiring an electrical receptacle. With overhead power, compressed air and mobile tables, the space can be reconfigured to accomodate different skill modules. This space is open to the rest of the Building Systems Lab and can provide extra layout space for larger projects. Personal Protection Equipment (PPE) is located at the entry in cabinets so that students or visitors can be protected before entering the lab. Additional lockers or tool cabinets provide space for storing students belongings, boots, individual PPE, measuring devices and tool bags.

The ***Equipment Zone*** provides the necessary space for permanent or semi-permanent equipment. This could include wood focused equipment as well as other equipment that might be needed on a jobsite. A dust collection system (size and location to be determined) would be connected to commonly used equipment such as a Table Saw, Sliding Compound Miter Saw, Bandsaw, Router Table, Drill Press, etc. Safety in this space is especially important for students with basic skills and so emergency shut-offs at the entry to the Building Systems Lab and at the exit door to the outside, to shut off all equipment at the panel. Overhead power and compressed air would be planned with future expandability and reconfiguration. Built-in or purchased furniture for additional storage for consumables and hardware would be located at the perimeter to maximize open floor space. Other equipment that might be on a jobsite would also be accommodated on a rotational basis.

Depending on the depth of demonstration the Equipment Zone would also have different trainers for HVAC, AC, Refrigeration, Boilers, etc. These trainers would be on carts and could be moved into the middle of the lab for access from students. There could be access outside to a "Training yard" were condensing units could be located. There could also be space dedicated to build electrical systems and panels, showing different installation techniques.

A large ***Build Zone*** is a two-story space for the construction of large projects that could include tiny houses, SkillsUSA Pods, fish houses, trailers, etc. This space would be open to the Equipment zone and Touch Base/Demo zone and additional jobsite equipment would be setup from overhead power drops and flexible dust collection drops. Compressed air from the ceiling or walls would be needed for pneumatic nailers and other equipment. A large overhead door to the outside build area would provide flexibility to move projects inside to outside or vice verse, depending on weather. The overhead door would also be used to bring in material to the Material Storage Room. A large overhead door between the Flex Build and Dirty Build provides flexibility to drive through large trucks for demonstration purposes. An overhead bridge crane, or chain hoist would be used to lift materials into place or assist with unloading materials or equipment.

Support Spaces: In addition to the main Building Systems Lab, several support spaces consolidate equipment and materials for a cleaner, more well organized main lab. These spaces include a Tool Room, Material Storage Room and Air Compressor Room.

The ***Tool Room*** has electrical receptacles mounted above counter height for battery charging. Tool cabinets are located at the perimeter for individual student "kits" and equipment. Open shelves and a mixture of lockable and unlocked storage cabinets are located around the perimeter. Additional storage for unused trainers and demonstration tools are also located in the Tool Room. Unvented flammable cabinets are located in the Tool Storage Room for paints, adhesives, etc. Space for modular tool kits for students groups should be considered in this space. A centralized storage area for scaffolding, ladders, and other equipment should be considered.

The Building Systems Lab as well as the supporting spaces have a strong connection with the Electrical Systems Lab and where possible should share tools and equipment that overlap, including conduit benders, crimpers, safety equipment, and building specific electrical trainers, etc.

The ***Material Storage Room*** is located close to the exterior wall with clear and wide access for storage of sheet goods and dimensional lumber. Multiple cantilever storage racks can store material up to 20 feet, as well as PVC pipe and conduit. A vertical or horizontal sheet good rack holds wall sheeting and finish plywood. Vertical type storage can also be used for Building Plumbing and Electrical related materials.

The ***Air Compressor Room*** houses an air compressor with air dryer and floor drain for condensate. Space for an additional holding tank adds capacity for all the labs. The room is built with additional supply air to reduce heat buildup as well sound attenuation/isolation to reduce the impact of the air compressor noise on the adjacent teaching spaces. A double door may be necessary for serviceability and replacement.

Outdoor Build The outdoor build space adjacent the overhead door should have electrical receptacles, through wall compressed air and hose bib. The surrounding pad should be sloped away from the overhead door but at a minimal percentage.

Key Adjacencies The Building Systems Lab is a central program to the new facility and provides many opportunities for overlap with other programs. There is a strong connection to the Electronic Systems Lab for support of building related systems. The Building Systems Lab should be directed connected to the Outdoor Build for large construction projects.

Spatial Characteristics:

Walls/Doors:
1. Large Overhead Door
2. Storefront

Flooring:
1. 6" Slab
2. Sealed Concrete

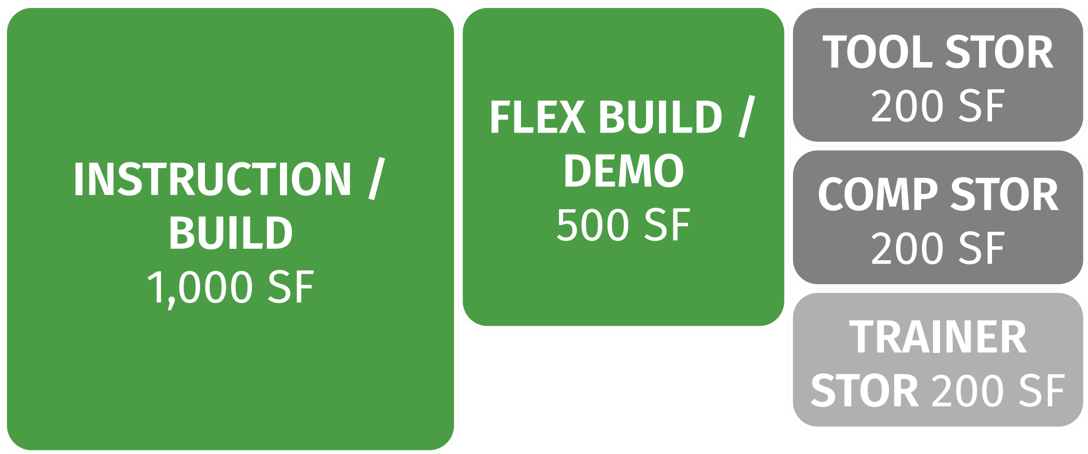
Ceiling/Structure:
1. Acoustic Deck
2. Bridge Crane (3 ton)

Electrical:
1. Electrical Cord Reels
2. Emergency Shut-Offs
3. Overhead Bus Ducts

Technology:
1. Monitors
2. Wireless Access

Mechanical/Plumbing:
1. Dust Collection with Floor Sweeps
2. Air Compressor with Dryer
3. Trench Drain
4. Utility Sink/Eyewash
5. Hose Bibb

Program Electronic Systems



2,100sf = total area

Skills
- PLC
- Process Control / Instrumentation
- Sensors
- Electronic Systems
- Motors / Controls
- AC / DC

Key Features:
- Large work area with tables and technology
- Trainers around perimeter
- Flexible open build area
- Separate storage areas
- Connection to Building Systems and Mechanical Systems

Infrastructure:
- Floor Drain
- Power and Air from perimeter and above

Program Electronic Systems

Electronic Systems: Instruction/ Build Zone, Flexible Build/Demonstration Zone

The Electronics Systems Lab focuses on skills and training relevant to implementation and troubleshooting of industrial electronics. With cohort sizes of between 16-20 students, the space supports introductory knowledge, basic circuits through an understanding of sensors, automated systems and mechatronics.

The space is divided up into a two primary zones. An Instruction/Build Zone and a Flex Build/Demo zone with more specialized trainers and equipment.

The ***Instruction/Build Zone*** is used for lecture style lessons or topic introductions with the ability to breakdown specific components and systems for a collaborative hands-on demonstration. With a monitor/screen and whiteboard the space can be used for video demonstrations when needed outside a classroom. This space supports hands-on application of skills. For example, specific skills can be introduced with an immediate assembly or application for students. With overhead power from bus ducts and electrical reels, compressed air and mobile tables, the space can be reconfigured to accomodate different skill modules or table top trainers. Rolling tool cabinets can be integrated with counter height rolling tables to increase the usable space. Tables can be moved into different configurations based on the needs of the program. This zone is open to the rest of the Electronic Systems Lab and can provide extra layout space for larger projects, such as Mechatronics Trainers. Personal Protection Equipment (PPE) is located at the entry in cabinets so that students or visitors can be protected before entering the lab. Additional lockers or tool cabinets provide space for storing students belongings.

The ***Flex Build/Demonstration Zone*** provides the necessary space for permanent or semi-permanent equipment and large collaborative projects. This could include frequently referenced trainers, robotic arms, or other equipment. Emergency shut-offs at the entry to the Electronic Systems Lab and at the exterior exit, to shut off all equipment at the panel. Overhead power and compressed air would be planned with future expandability and reconfiguration. Built-in or purchased furniture for additional storage for consumables and hardware would be located at the perimeter to maximize open floor space. Compressed air from the ceiling or walls would be needed as well as a set of double doors into the space for moving large trainers into the lab. Multiple soldering stations should be located along the perimeter with appropriate exhaust, either self contained-recirculating equipment or integrated into the building mechanical system.

Because of the nature of Electronic Systems, simplified systems and trainers would be integrated into the curriculum. These trainers, ideally, maintain a ratio of 2 students per unit. Bench mounted trainers and trainers on wheels would aid in the flexibility of the space, so they could be moved to other adjacent Trainer Storage Room space when not needed. Flexible power around the perimeter would allow these trainers to be located anywhere, when the lab is reconfigured. Specific types of trainers could include: PLC Trainers, AC/DC Power Trainers, Mechatronics Trainers, Robotic Arm Trainers, Programmable Controls Trainers, Troubleshooting Trainer, Instrumentation Trainers as well as introductory Electronic Component Trainers.

Support Spaces: In addition to the main Electronic Systems Lab, several support spaces consolidate equipment and materials for a cleaner, more well organized main lab. These spaces include Tool Storage, Trainer Storage and Component Storage Room.

The ***Tool Room*** has electrical receptacles mounted above counter height for battery charging. Tool cabinets are located at the perimeter for individual student "kits" and equipment. Open shelves and a mixture of lockable and unlocked storage cabinets are located around the perimeter. Unvented flammable cabinets are located in the Tool Storage Room for paints, adhesives, etc. Space for mobile tool kits for students groups should be considered in this space.

Additional storage for unused trainers and demonstration tools are also located in the Trainer Storage Room. Large industrial shelving hold benchtop trainers and have space below for rolling trainers.

The ***Component Storage Room*** is located close to the exterior wall and exterior door. A large cantilever storage racks can store material like conduit, aluminum extrusions, etc. up to 10 feet. Cabinets on wheels store individual components and can be rolled into the lab for easy student access. Rolling racks for spools of wire are also stored in the Component Storage Room.

The ***Trainer Storage Room*** has double doors into the Electronic Systems Lab for the easy movement of different Trainers in and out of the lab. The Trainer Storage Room has electrical receptacles above counter height so some trainers can remain usable, while the rest of the room has heavy duty shelving for benchtop trainers and rolling trainers to dock into.

Key Adjacencies: The Electronic Systems Lab should be accessible to the Building Systems Lab and Mechanical Systems Lab because of the integration of electronics and electrical components in other methods of construction and/or industrial maintenance. There is an opportunity to share tools and equipment with other labs.

Spatial Characteristics:

Walls/Doors:
1. Double Doors
2. Storefront

Flooring:
1. 4" Slab
2. Sealed Concrete

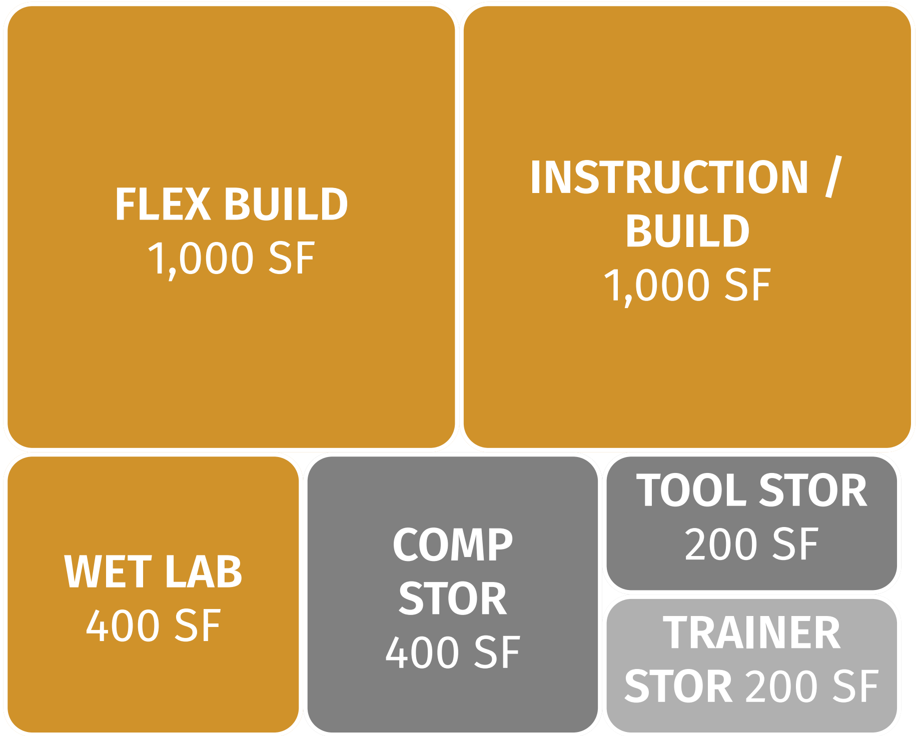
Ceiling/Structure:
1. Acoustic Ceiling/Deck

Electrical:
1. Electrical Cord Reels
2. Emergency Shut-Offs
3. Overhead Bus Ducts

Technology:
1. Monitors
2. Wireless Access
3. Data Rack/Program Specific Network

Mechanical/Plumbing:
1. Compressed Air
2. Floor Drain
3. Utility Sink/Eyewash

Program Mechanical Systems



3,200sf = total area

Skills

- Drive Systems
- Material Handling
- Equipment Maintenance
- Pneumatic / Hydraulic
- Bearing / Lube
- Mechanical Systems
- Ship Systems
- Pumps / Valves
- System Operation and System Maintenance

Key Features:

- Large work area with tables and technology
- Trainers around perimeter
- Flexible open build area
- Separate storage areas
- Connection to Building Systems and Electrical Systems
- Separated Wet Lab

Infrastructure:

- Trench Drain
- Power and Air from perimeter and above
- Water Spigot
- Overhead Door

Program Proposed Areas - Mechanical Systems

Mechanical Systems Lab: Instruction/Build Zone, Flex Build Zone, Wet Lab

The Mechanical Systems Lab focuses on skills and training relevant to the industrial maintenance, mechatronics and robotic systems. With cohort sizes of between 16-20 students the space supports basic introductory skills in mechanical systems through automated robotic systems and mechanical conveying systems.

The space is divided up into a two primary zones. An Instruction/Build Zone and a Flex Build/Demo zone with more specialized trainers and equipment.

The ***Instruction/Build Zone*** is used for lecture style lessons or topic introductions with the ability to breakdown specific components and systems for a collaborative hands-on demonstration. With a monitor/screen and whiteboard the space can be used for video demonstrations when needed outside a classroom. This space supports hands-on application of skills. For example, specific skills can be introduced with an immediate assembly or application for students. With overhead power from bus ducts and electrical reels, compressed air and mobile tables, the space can be reconfigured to accomodate different skill modules or table top trainers. Rolling tool cabinets can be integrated with counter height rolling tables to increase the usable space. Tables can be moved into different configurations based on the needs of the program. This zone is open to the rest of the Mechanical Systems Lab and can provide extra layout space for larger projects, such as Mechatronics Trainers and Industrial Robotic Work Cells. Personal Protection Equipment (PPE) is located at the entry in cabinets so that students or visitors can be protected before entering the lab. Additional lockers or tool cabinets provide space for storing students belongings.

The ***Wet Lab*** houses large tanks for demonstrations of pump and valve systems as well as system operation and system maintenance for wastewater, waterworks and water treatment. Power is distributed in this space from above with bus duct as well as a low pressure air system. An overhead hose reel could be used to fill tanks. 1-1/2" hose diameter preferred for faster operation. The floor is sloped to a central trench drain and has overhead door access to the Flex Build/Demonstration Zone for expanding lessons and visibility to the main lab. A gantry crane could be used to load and unload the tank as necessary.

The ***Flex Build/Demonstration Zone*** provides the necessary space for permanent or semi-permanent equipment and large collaborative projects. This could include frequently referenced trainers, robotic arms, or other conveying equipment. Emergency shut-offs at the entry to the Mechanical Systems Lab and at the exterior exit, to shut off all equipment at the panel. Overhead power and compressed air would be planned with future expandability and reconfiguration. Built-in or purchased furniture for additional storage for consumables and hardware would be located at the perimeter to maximize open floor space. Compressed air from the ceiling or walls would be needed as well as a set of double doors into the space for moving large trainers into the lab. Because of the potential need to build large projects, a cold saw for aluminum extrusions as well as light welding stations may be used in this space with appropriate exhaust, either self contained-recirculating equipment or integrated into the building mechanical system.

Because of the nature of Mechanical Systems, simplified systems and trainers would be integrated into the curriculum. These trainers, ideally, maintain a ratio of 2 students per unit. Bench mounted trainers and trainers on wheels would aid in the flexibility of the space, so they could be moved to other adjacent Trainer Storage Room when not needed. Flexible power around the perimeter would allow these trainers to be located anywhere, when the lab is reconfigured.

Specific types of trainers could include: , Mechatronics Trainers, Pumps/Valves, Robotic Arm Trainers, Pneumatic/Hydraulic Trainers, Drive Systems Trainers and Ship Systems Trainers.

A large overhead door would have access to the outside loading area so that large industrial mechanical systems could be delivered and set up in the lab for demonstration.

Support Spaces: In addition to the main Mechanical Systems Lab, several support spaces consolidate equipment and materials for a cleaner, more well organized main lab. These spaces include Tool Room, Component Storage Room and Trainer Storage Room.

The T***ool Room*** has electrical receptacles mounted above counter height for battery charging. Tool cabinets are located at the perimeter for individual student "kits" and equipment. Open shelves and a mixture of lockable and unlocked storage cabinets are located around the perimeter. Unvented flammable cabinets are located in the Tool Storage Room for paints, adhesives, etc. Space for mobile tool kits for students groups should be considered in this space.

Additional storage for unused trainers and demonstration tools are also located in the Trainer Storage Room. Large industrial shelving hold benchtop trainers and have space below for rolling trainers.

The ***Component Storage Room*** has a large cantilever storage racks can store material like conduit, aluminum extrusions, etc. up to 10 feet. Cabinets on wheels store individual components and can be rolled into the lab for easy student access. Rolling racks of hardware and various mechanical components allow student to make various large scale projects without having to shop for materials.

The ***Trainer Storage Room*** has double doors into the Mechanical Systems Lab for the easy movement of different Trainers in and out of the lab. The Trainer Storage Room has electrical receptacles above counter height so some trainers can remain usable, while the rest of the room has heavy duty shelving for benchtop trainers and rolling trainers to dock into.

Key Adjacencies: The Mechanical Systems Lab should be accessible to the Dirty Lab and Electronic Systems Lab because of the integration of mechanical and electronic components in industrial maintenance. There is an opportunity to share tools and equipment with other labs.

Spatial Characteristics:

Walls/Doors:
1. Overhead Door
2. Storefront

Flooring:
1. 4" Slab
2. Sloped floor in Wet Lab
3. Sealed Concrete

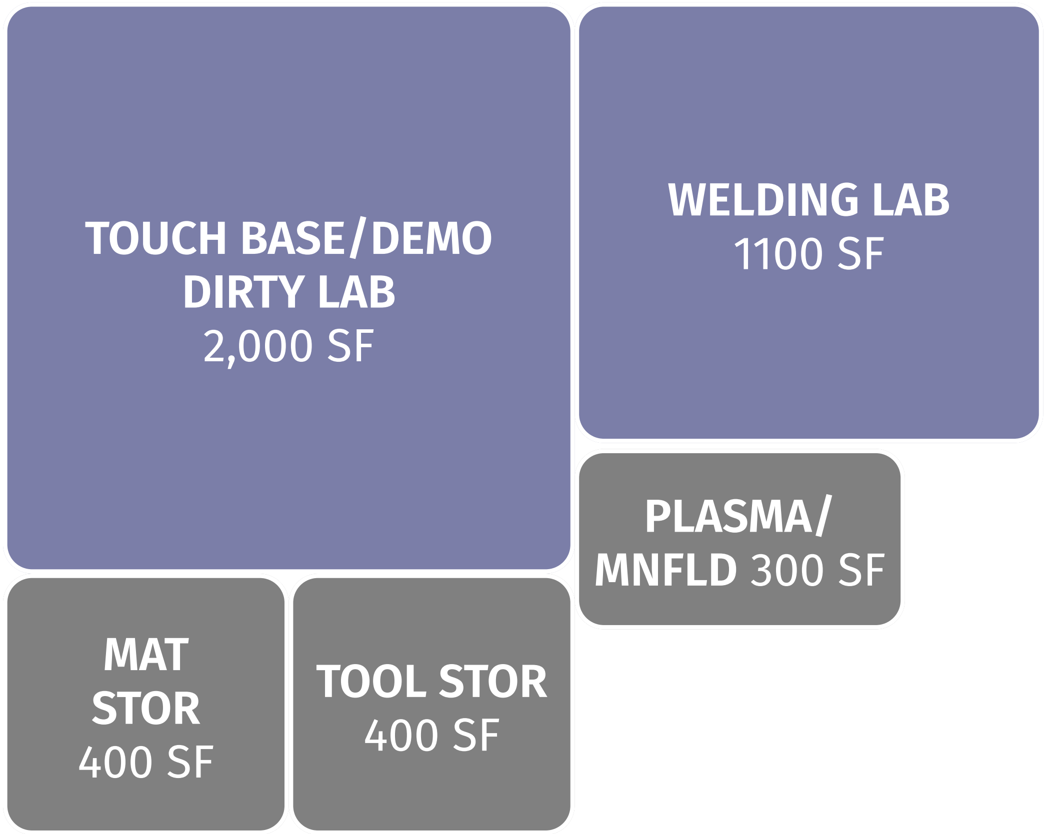
Ceiling/Structure:
1. Acoustic Deck

Electrical:
1. Electrical Cord Reels
2. Emergency Shut-Offs
3. Overhead Bus Ducts

Technology:
1. Monitors
2. Wireless Access
3. Data Rack/Program Specific Network

Mechanical/Plumbing:
1. Portable Fume Extraction
2. Compressed Air
3. Trench Drain
4. Sink/Eyewash
5. Hose Bib

Program Dirty Build Lab



4,200sf = total area

Skills
- Outboard Motors
- Diesel Engines
- Brazing
- Welding Build Space

Key Features:
- Large work area with tables and technology
- Trainers around perimeter
- Flexible open build area
- Separate storage areas
- Welding Zone
    - (10) Booths
    - (6) Stations
- Plasma Cutting Zone

Infrastructure:
- Overhead Bridge Crane
- Fume Extraction
- Exhaust for Engines
- Welding Gas Stor
- Trench Drain
- Power and Air from perimeter and above
- Water Spigot
- Overhead Door

Program Dirty Build Lab

Dirty Lab: Touch Base/Demonstration Zone, Welding Zone

The Dirty Build Lab is a flexible build space that can accomodate a variety of messy or dirty activities. Supplementary welding skills and fabrication as well as diesel engines and outboard motors could use this space for future curriculum expansion. The space can also be opened up to the other Flex Build Lab for large events up to 300 people.

With cohort sizes of between 16-20 students the space supports introductory skills in welding, fabrication and brazing, for skill overlap with Mechanical Systems and Building Systems, as well as advanced fabrication for Marine Construction. The space is divided up into a three primary zones. A Touch Base/Demo zone, a Welding Lab and the flexible primary Dirty Lab.

The ***Touch Base/Demonstration Zone*** is comprised of counter height tables and work benches that can be used for lecture style safety briefings, project reviews, or specific skill demonstrations. With a monitor/screen and whiteboard the space can be used for video demonstrations when needed outside a classroom. This space also can support hands-on application of skills. For example, discussing the main components of gasoline outboard motors or diesel engines. With overhead power, compressed air and mobile tables, the space can be reconfigured to accomodate different skill modules. This space is open to the rest of the Dirty Lab and can provide extra layout space for larger projects. Personal Protection Equipment (PPE) is located at the entry in cabinets so that students or visitors can be protected before entering the lab. Additional lockers or tool cabinets provide space for storing students belongings, boots, individual PPE, measuring devices and tool bags.

The ***Welding Lab*** provides the necessary space for designated welding stations, and associated metalworking equipment. This space is separated with an overhead door from the Dirty Build Lab for flexibility of the high bay space. Exact welding station number to be determined in Schematic Design but ten stations and 6 flexible stations are desired. Larger equipment, like CNC Press Brake or Ironworker would be in a permanent location and smaller equipment or semi-permanent equipment would be able to move around creating more flexibility. Additional equipment such a cold saw, horizontal bandsaw, fabrication tables, drill presses, shears/brakes/rollers, bandsaw, etc. would be able to be moved around the lab. This equipment could be moved to align with the program using the space, and could be moved per year, semester, month or week. Infrastructure would support this adaptability.

Safety in this space is especially important for students with basic skills and so emergency shut-offs at the entry to the Dirty Lab and at the exit door to the outside, to shut off all equipment at the panel. Overhead power and compressed air would be planned with future expandability and reconfiguration. Built-in or purchased furniture for additional storage for consumables and hardware would be located at the perimeter to maximize open floor space.

A fume extraction system would be needed for the welding booths with additional boom arms dropping to the flexible fabrication areas. The fume extraction system size, location and type has yet to be determined. There are four main types of configurations that could be used: mobile equipment with fume extraction, self contained booths with fume extraction for each pair of booths, wall mounted self-cleaning recirculating fume arms or large centralized fume extractor located outside. Each system has it's strengths and weaknesses and will be evaluated in the design process to align with the curriculum.

The ***Dirty Lab*** is a two-story space for the construction of large projects that could include building a boat, repairing a dock, or constructing a large automated conveying system, etc. This space would be connected to the Welding Lab via overhead door to maintain environmental separation. The Touch Base/Demo Zone and additional jobsite equipment would be setup from overhead power drops within the Dirty Build Lab. Compressed air from the ceiling or walls would be needed for pneumatic tools and other equipment. A large overhead door to the outside build area would provide flexibility to move projects inside to outside or vice verse, depending on weather. The overhead door would also be used to bring in material to the Material Storage Room. The desire is to have to option to pull a large vehicle into the Dirty Build and through the Flex Build to provide program flexibility. An overhead bridge crane, or chain hoist would be used to lift materials into place or assist with unloading materials or equipment.

Support Spaces: In addition to the main Dirty Lab, several support spaces consolidate equipment and materials for a cleaner, more well organized main lab. These spaces include a Tool Room, Material Storage Room, Plasma Table Room/Manifold Room and Outdoor Build.

Tool Room The Tool Room has electrical receptacles mounted above counter height for battery charging. Tool cabinets are located at the perimeter for individual student "kits" and equipment. Open shelves and a mixture of lockable and unlocked storage cabinets are located around the perimeter. Additional storage for unused trainers and demonstration tools are also located in the Tool Room. Unvented flammable cabinets are located in the Tool Storage Room for paints, adhesives, fuel, etc. Space for modular tool kits for students groups should be considered in this space. A centralized storage area for scaffolding, ladders, and other equipment should be considered.

Material Storage The Material Storage Room is located close to the exterior wall with clear and wide access for storage of steel and aluminum sheet and sticks of steel and aluminum. Multiple cantilever storage racks can store material up to 20 feet, as well as PVC pipe, aluminum extrusions and conduit. A vertical or horizontal sheet rack holds steel plate, steel sheet and aluminum sheet. Additional sheet and plate storage should be accessible to the Plasma Room. Depending on the depth of demonstration the lab could have different trainers or demonstration tools for Mechanical Systems, Welding, Marine Construction or Diesel Engines, etc. These trainers would be on carts and could be moved into the middle of the lab for access from students and would be stored in the Material Storage Room.

Plasma Table Room/Manifold Room The Plasma Room houses a 4 ft x 8 ft CNC Plasma cutting table. The space has a large door or overhead door into the Dirty Lab for full size sheets of material. A chain hoist, jib crane or other lifting equipment is needed to assist in loading the plasma table. An overhead snorkel type fume arm or hood with curtains can be used to capture smoke. The table uses water to control fumes and smoke and a hose bibb, and floor drain would be needed, in addition to compressed air. Sizing for the main air compressor should account for this room as well as what is needed in the Building Systems Lab. Sound attenuation is recommended for this space.

The Manifold Room is a 1 hr rated room that houses the shielding gases required for various types of welding processes. To create the most flexibility dedicated manifold lines should be run to each welding booth with C25, and 100% Argon. The option to create custom mixed gases should be explored for two booths, for welding different materials. Extra tanks can be stored in this room along with Oxygen and Acetylene. Acetylene should be physically separated. Automatic switches should maintain access to the required gases until a tank is switched.

Outdoor Build The outdoor build space adjacent the overhead door should have electrical receptacles, through wall compressed air and hose bib. The surrounding pad should be sloped away from the overhead door but at a minimal rate and be reinforced for large delivery vehicles.

Key Adjacencies

The Dirty Build Lab is a flexible space that could provide a separate large build space besides the Building Systems Lab. The Dirty Build space could be used by any other lab for projects they cannot accomodate in their own space. This space could also be used by any other program, for example Aquarium Science.

Spatial Characteristics:

Walls/Doors:
1. Large Overhead Door
2. Storefront

Flooring:
1. 6" Slab
2. Sealed Concrete

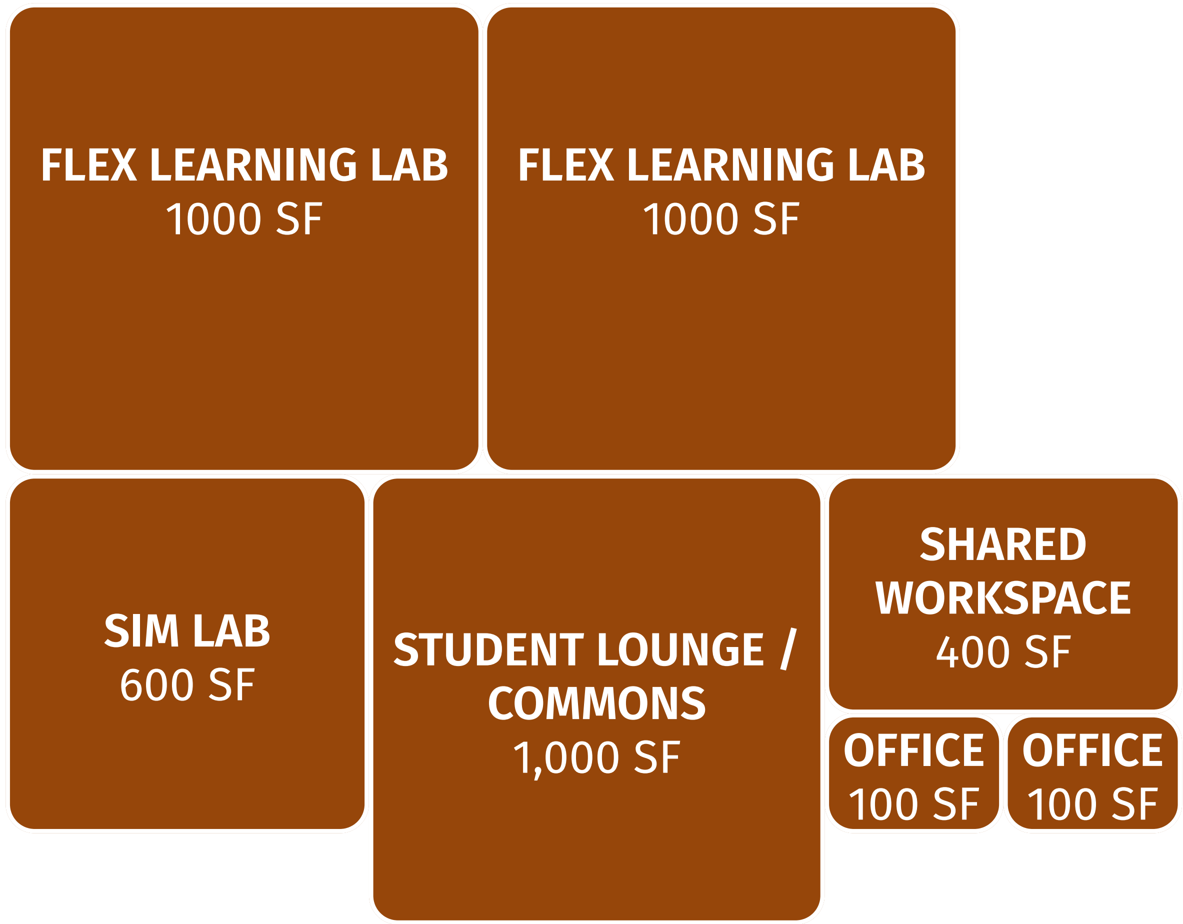
Ceiling/Structure:
1. Acoustic Deck
2. Bridge Crane (3 ton)

Electrical:
1. Electrical Cord Reels
2. Emergency Shut-Offs
3. Overhead Bus Ducts

Technology:
1. Monitors
2. Wireless Access

Mechanical/Plumbing:
1. Fume Extraction
2. Air Compressor with Dryer
3. Trench Drain and Flammable Waste Interceptor
4. Sink/Eyewash
5. Hose Bib

Program General Learning + Outdoor



4,600sf = total area

Skills

- Classroom
- Simulation
- CAD / GIS

Key Features:

- Technology
- Cleanable Floors
- Built In Storage
- 1 Flex Learning Lab connected to Sim Lab
- Computers laptop based
- Flex Labs adjacent to each other

Infrastructure:

- Overhead power and air
- Sink
- Floor Drain

Program Proposed Areas - General Learning + Outdoor

General Learning: The General Learning and Building Support spaces consist of two Flex Labs, a Student Lounge and Commons, Study Rooms, a Simulation Lab, Staff Offices and Restrooms.

The ***Flex Labs*** are classroom focused learning spaces that support up to 20 students plus an instructor and lab assistant. These spaces are next to each other for the option to have a operable partition to connect them allowing a group of approximately 45 people. The Flex Lab is primarily for lecture style learning with additional storage and cabinetry around the perimeter. A monitor and whiteboards would be needed with the potential to expand the number of monitors around the room. An overhead camera could be used for demonstration purposes. Power and compressed air are distributed with electrical cord reels from the ceiling. Flexible furniture and tables allows the lab to be reconfigured depending on the topics covered.

The ***Simulation Lab*** supports virtual and augmented reality for additional learning opportunities. Exact technologies to be determined but this space could house virtual welders, Virtual Reality (VR) setups for exploring virtual jobsites for on site simulation. Augmented Reality (AR) systems could demonstrate various skills and components for industrial building systems or robotic/mechanical systems. Monitors on the wall project what the user sees and can be integrated into lessons for small groups of students. Whiteboards would also be needed for directions and demonstration. A check in station with desk could be used for a student worker.

The ***Student Lounge/Commons*** is a space outside of the labs and separate from building circulation, where students can hang out, collaborate with each other and present their projects and ideas. Student lockers, approximately 50, are within the space allowing student to set aside their coats/boots outside of the labs. Vending machines and a small kitchenette with refrigerator and microwave are also in this space for warming up meals. A hardcopy library and a computer station for digital access should also be provided. Restrooms are also accessible from this space with one student shower area.

Three ***Study Rooms*** will be provided for testing and group study. They shoudl be directly adjacent the student Lounge and Instructor and Adjunct Offices. One Group Room will be sized for six students with a conference table and technology to display/cast to a monitor. The other two Individual Study rooms will be designed for one student for testing and independent study. Technology and a wall mounted monitor should be in all Small Group Rooms.

Two ***Staff Offices*** with space for two full time instructor offices with additional space for four adjunct instructors or lab assistants. The instructor offices should be approximately 100sf each with room for a desk, storage cabinet and file storage. The adjunct instructor desks are in a "hoteling" format where they aren't assigned and can be used by others when the adjunct instructor isn't on campus. Additional storage lockers should be in the adjunct office space for their belongings. These offices should be accessible from the main entry and help serve as a welcoming function and a security measure. Visibility into the labs is not required. Students will have badges to gain access into the building but the Instructor Offices provide passive supervision of the entry.

Spatial Characteristics:

Walls/Doors:
1. Storefront
2. Operable Partition

Flooring:
1. 4" Slab
2. Epoxy Coating

Ceiling/Structure:
1. Acoustic Ceiling

Electrical:
1. Electrical Cord Reels
2. Microwave
3. Refrigerator

Technology:
1. Monitors and Screen Sharing
2. Wireless Access
3. Data Connections
4. Data Rack for Overall Building

Mechanical/Plumbing:
1. Air Compressor with Dryer
2. Floor Drain
3. Utility Sink/Eyewash
4. Kitchen Sink

Program Proposed Total Area

BUILDING SYSTEMS
4,175sf

ELECTRONIC SYSTEMS
2,100sf

MECHANICAL SYSTEMS
3,200sf

FAB LAB
4,200sf

GENERAL LEARNING
4,600sf

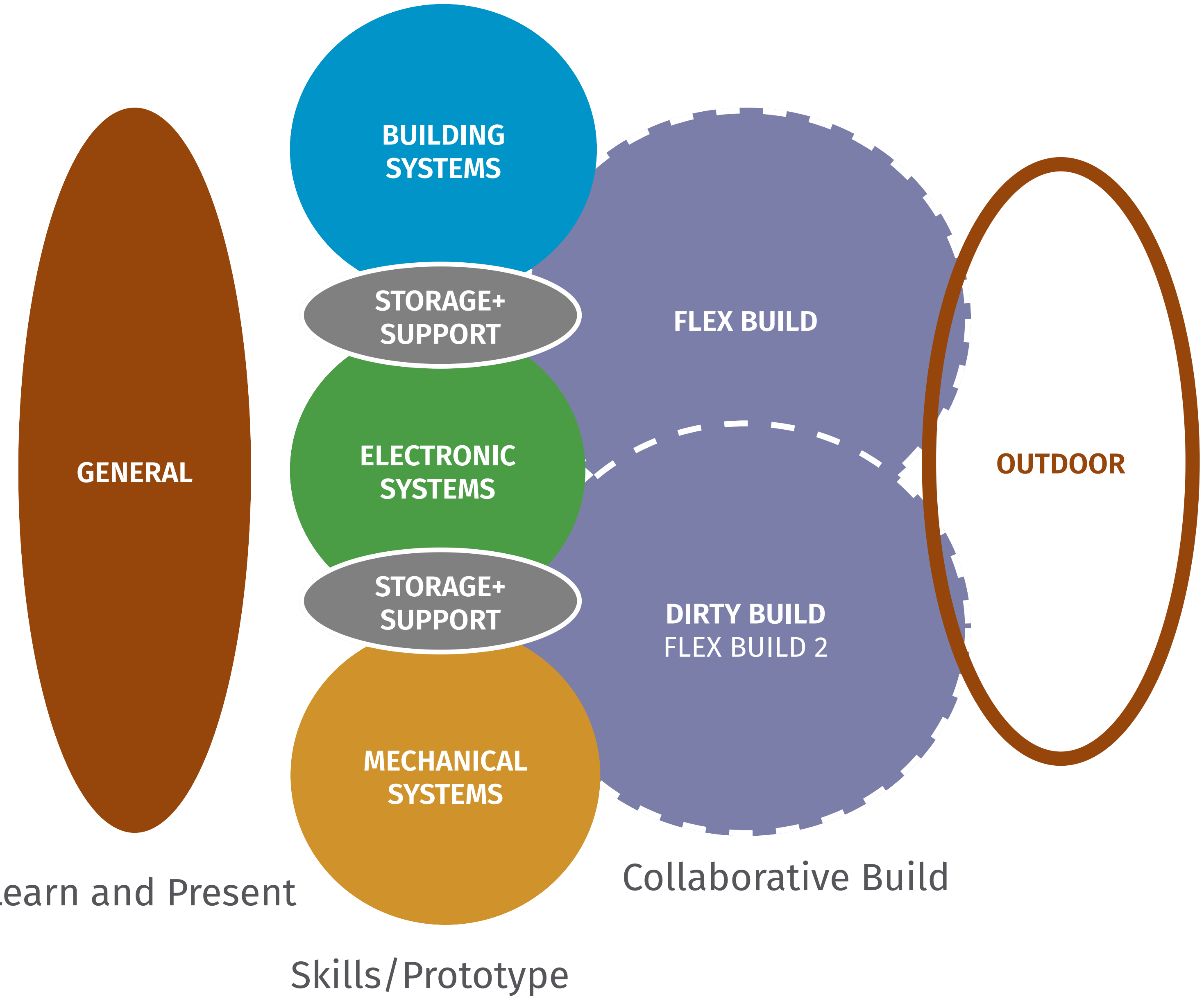
30% GROSSING
5,483sf

18,275sf = total area

+5,483sf = 30% grossing factor

23,758sf = total area (excludes outdoor space)

Program Adjacency Model C - Paired Flex Build



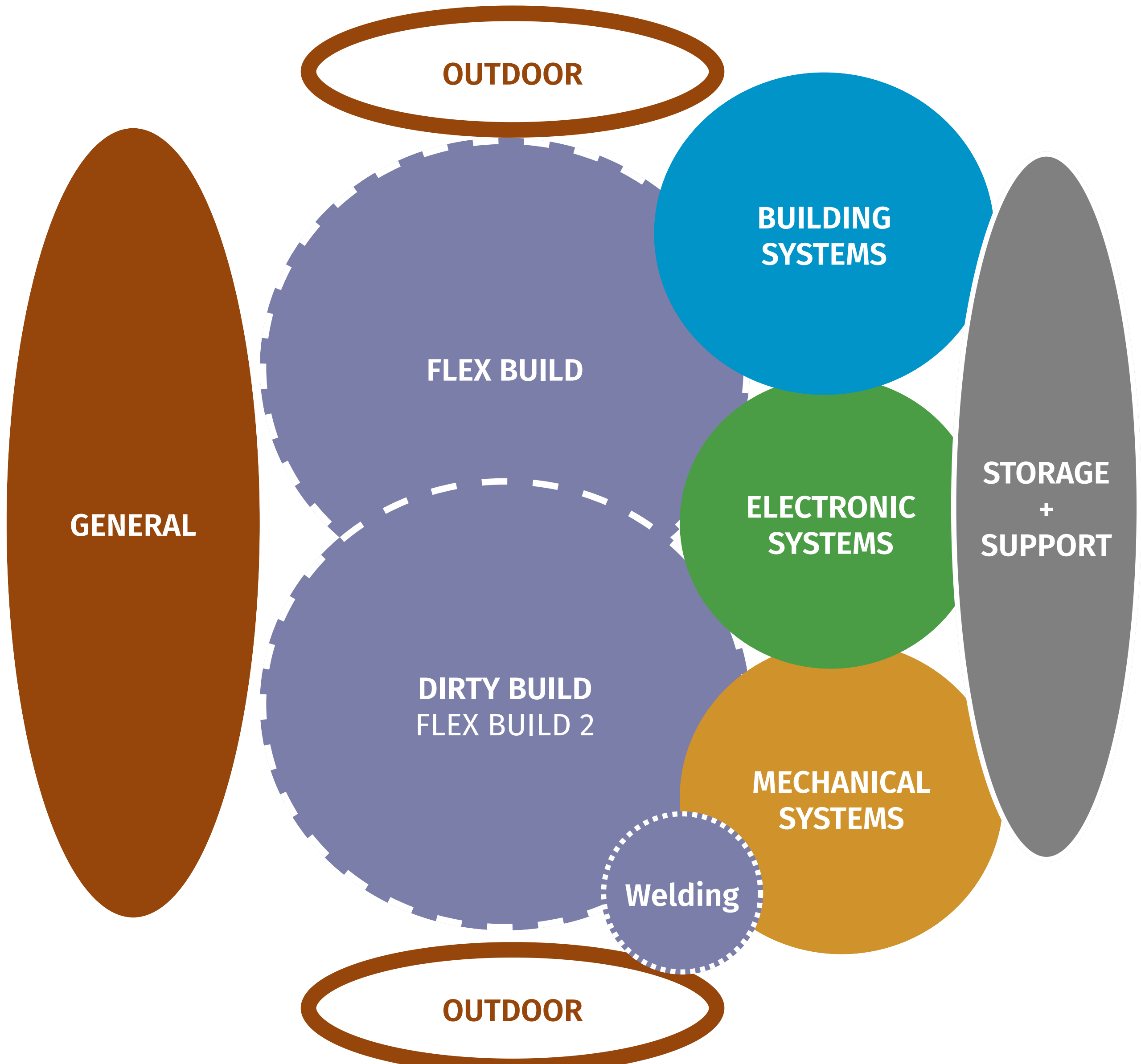
Learn / Present

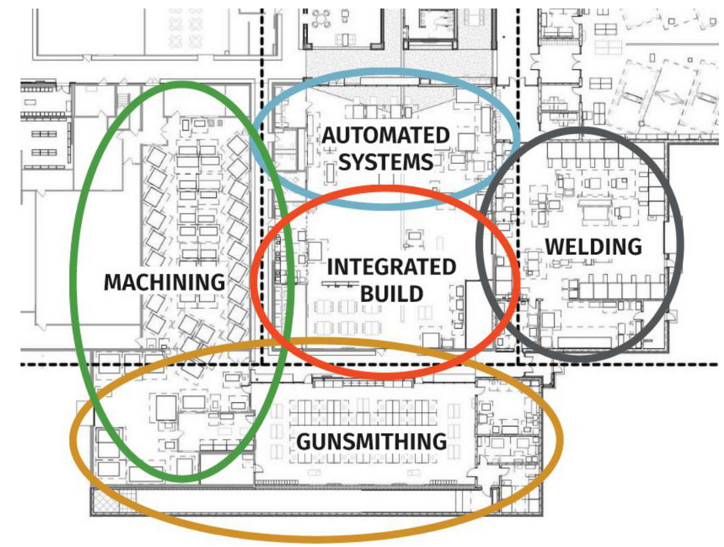
Skills / Prototyping

Collaborative Build

Program Adjacency Model D - Internal Paired Flex Build

PREFERRED



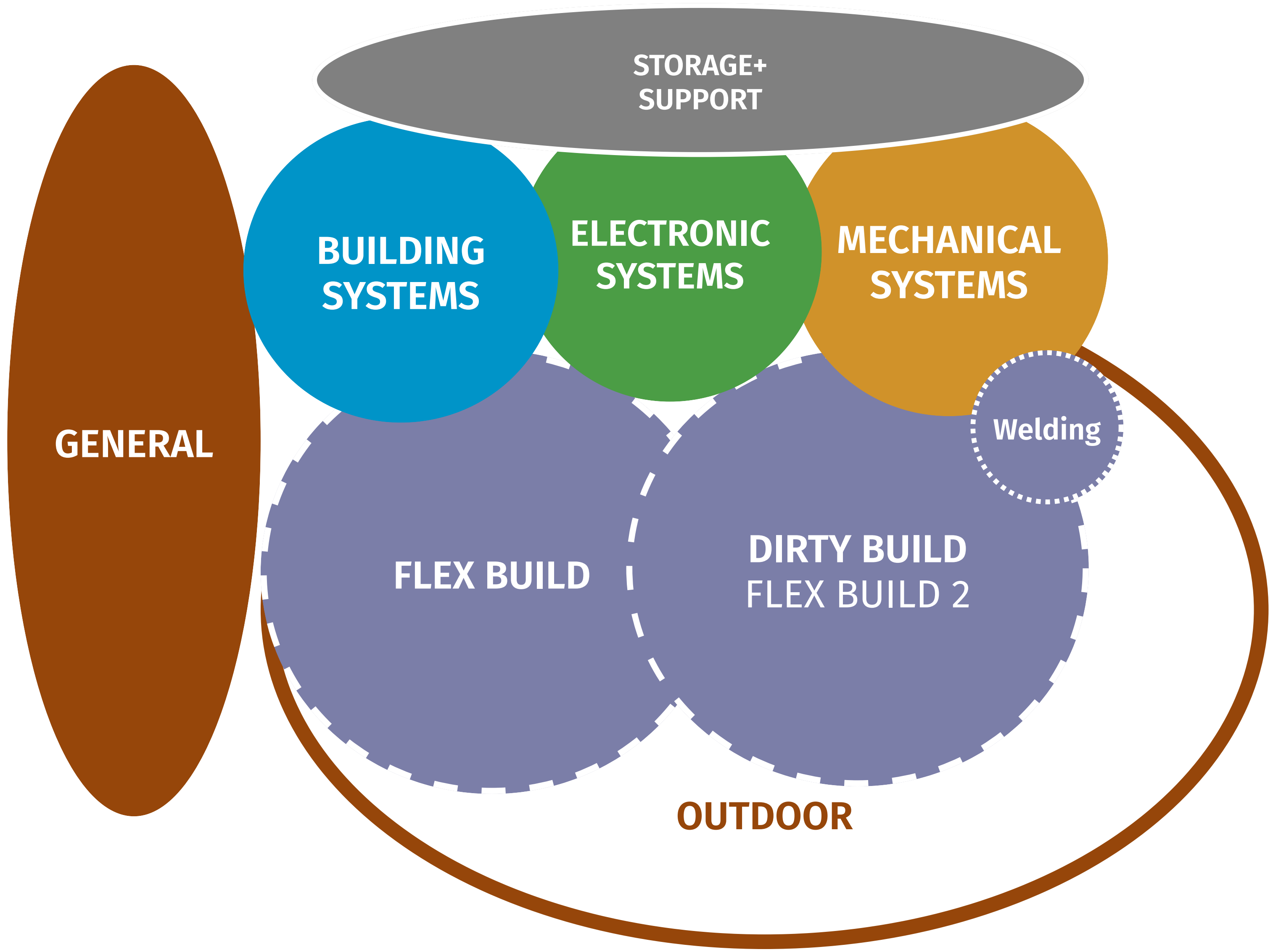


Central Hub

PCC OMIC

Program Hybrid Adjacency Model

PREFERRED



Strengths

1. Paired Flex Build
2. Central Collaborative Zone in Flex Builds
3. Visible Flex Build
4. Shared Access and Frontage
5. Efficient Outdoor Space

Weaknesses

1. Visible Flex Build
2. Larger General Space to accomodate circulation
3. Dirty Build not physically separate for future programming
4. Connection between Flex Builds is Challenging

Program Sustainability + Resiliency

Sustainability Principles

OCCC does not wish to pursue a sustainability certification but would like the building to adhere to the following sustainability principles.

1. Building systems should work together as a whole to reduce the impact of the building on the climate, resulting in reduced energy consumption, but without a significant increase in the building cost. The design team will work together to achieve these goals by identifying the approach during Schematic Design, and implementing that approach during the rest of the project.
2. During site development, efforts will be made to minimize size as well as the impact on the disturbance area.
3. Efficient landscaping design and plumbing fixtures, will be used in order to reduce the overall water consumption of the building.
4. Mechanical and electrical systems will be specified to limit energy consumption.
5. Natural daylighting will be utilized where possible to reduce the need for interior lighting during the daytime.
6. Materials will be long lasting and low maintenance. Where possible, materials will be sourced from the northwest region. Where possible, materials will not contain heavy metals.
7. Waste generated during construction will be reduced, and recycled.
8. The building materials will contain low to no volatile organic compounds.
9. The building will allow outside views for the building occupants
10. The building will provide acoustic separation between loud spaces and quiet spaces.
11. Electric vehicle charging stations will be included – quantity and type will be decided during schematic design.
12. The design team will work with the Energy Trust of Oregon to maximize any incentives for energy efficient design.

Resiliency Principles

The OCCC Newport Campus is in a seismically active region that encompasses much of the Oregon Coast, resulting in infrequent but substantial seismic events. The region is also affected by storms that can result in power outages. While these events cannot be predicted or changed, the building can be designed in a way that prepares it to withstand these events. OCCC would like to incorporate the following resiliency principles into the design:

1. Structural Systems will be designed to IBC Table 1604.5 Risk Category III, buildings that represent a substantial hazard to unman life in the event of failure.
2. Renewable energy systems will be designed to be harvested by the building in the event of a extended outage (standard operation will be to return electricity to the grid). Depending on funding, battery storage may be included as a part of this system.
3. Generator power will provide emergency backup to emergency systems as well as critical systems within the building as determined during Schematic Design. At a minimum, emergency lighting, IDF racks, and access control systems will be backed up by generator power. Additionally generator power will be provided at a limited number of outlets in the building. It is assumed that the generator will be diesel fueled and the associated storage tank will provide 48 hours of run time at full capacity.
4. IDF racks will have UPS power for conditioning and to bridge the gap between an outage and generator power.

Building Performance

The following building performance guidelines will be followed and developed throughout the design phases.

1. Exterior materials will be low maintenance and long lasting, either through the inherent nature of the materials or through coating that are low maintenance.
2. The building will be designed to withstand the high winds, and heavy wind driven rain typical for this region.
3. Building entrances and other doorways will be oriented away from the prevailing winter winds and be protected by overhangs and alcoves.
4. Roofs will be designed to have longevity, shed water and direct it to the storm water system.
5. Exterior concrete walks will slope at 1.5% minimum.
6. Exterior asphalt roadways, drive isles and parking areas will slope at 2% minimum with the exception of ADA parking areas where they will slope at 2% maximum.
7. Storm water systems will meet or exceed the City's requirements for detention / retention.
8. Where possible nonferrous metals (stainless steel or aluminum) will be used both outside and in the semi-conditioned spaces (exceptions include structural steel)
9. HVAC systems will be designed to withstand the corrosive environment.
10. Intake and exhaust louvers will be oriented away from the prevailing winter winds and be designed to prevent wind driven rain intrusion.
11. The building will be fully accessible and meet all applicable ADA standards.
12. The building will be fully sprinklered.
13. The building will accommodate the delivery and storage of 16' material (wood, steel or piping).
14. The building will accommodate turning radiuses for a 24' flatbed truck (not necessarily a semi truck and trailer).
15. Overhead drive through clearances for delivery spaces will be 14'
16. Parking will be added as the budget allows. A minimum of 10 additional parking spaces are desired.
17. Site lighting will accommodate night sky restrictions.

Program Appendix

- **Kick-Off Meeting 1/24/2025**
- **Program Meeting 2/27/2025**
- **Program Meeting 3/03/2025**
- **Program Meeting 3/13/2025**
- **List of Participants**

January 24, 2025

OCCC OCATT Project Programming Kick Off Meeting

Attendees: Chris Walkup, Corey Martin, Jesse Grant, Sarah Weber, Tyler Whitehead, Scott Krenner

Agenda:

1. **Introduction**: Advisory Group (2 min)

    a. Marshall, Spencer Smith, Chris Giggy, Nancy Giggy, Jesse Grant, Robin Gintner, Larry Boles, Corey Martin, Daniel Lara, Sarah Weber, Dave Price, Craig? Chris Rogers, Chris Walkup, Ben Kaufmann, Bruce Clemesten

2. **Introduction**: Design Team (2 min)

3. **Project background**: Advisory Group to provide a brief background of the project, progress that has been made. (3 min)

    a. Adding 3-5 new cte programs, aligned with workforce development, trades aligned programs, including Aquaculture.

    b. Programs within new building, Construction and Manufacturing Trades, Pre Apprenticeship, Apprenticeship, Certification, AAS programs, special focus on Marine Tech, installation and troubleshooting of marine systems, including land based work, diesel technology-land and ship based systems,

    c. Program to have broad cross over skillsets, overlap with tourism and travel with properties looking for troubleshooting for building systems.

    d. Related programs could include building systems, refrigeration systems, electrical systems, mechanical systems, support through pre apprenticeship and apprenticeship. Certificates can rapidly spin up programs to support service sector and rapidly pivot, with periodic needs. Flexible spaces critical, EMS one term/year, fire another year. Flexibility to serve industry demands. Roofing and carpentry are needed skills. Plumbing is a crossover skills. Building maintenance program could use plumbing for short term trainings. Plumbing does not necessarily need a dedicated room, program could wheel trainers in and out. Lots of storage and flex space.

    e. Skill to support multiple career paths. Laddering off PACT program.

    f. Important to have disciplines with lots of crossover, skills. Not bank teller, need specific skills but flexible. Welding intro and then have offshoot programs.

g. Diesel, roofers and Construction, HVAC Refrigeration, Elec, Maintenance Techs, EMT, Paramedic, Marine Surveyor. County reports there are jobs. Maritime Technology, crossover skills vs standalone skills. Build unicorns!

4. **Articulate Project Vision**: Advisory Group to describe the College's vision for CTE now and into the future and refine how that vision relates specifically to the OCATT building. (4 min)

    a. Build Unicorns! Hyper flexible with focus on base and transferable skills. Adjustable base skills.

5. **Describe Programming Process:** (3 min)

    a. Kickoff Meeting with Advisory Group

    b. Discovery Workshop with Focus Groups

    c. Programming Workshop with Focus Groups

    d. Align project goals with facilities goals with Facilities and Advisory Groups

    e. Generate report

6. **Establish Working Groups**: (10 min)

    a. Advisory Group: (this group) will be the decision makers who will represent the College as the design progresses – confirm.

    b. Focus Groups: Groups with 5 to 8 people. Groups may consist of current faculty, current students, future students, underrepresented students, CTE clubs, industry partners, educational partners, and others to be determined.

        i. Strong community partners, industry partners, need to include the community, high degree of participation, Toledo presentation night, 4 distinct opinions from the surrounding communities. Need sustained participation for OCCC students. County is 1200 square miles, so lots of different perspectives. Students could participate but have a lot going on. Robust support from local trade unions, foundation of Georgia Pacific. It's important to have meetings at different communities, local tribe and ask what is important for different areas? Programs could potentially bleed over into those areas.

    c. Outreach Planning: How will groups be identified, encouraged to participate and contacted?

        i. Group different communities, important to engage because of overwhelming support for the bond. Engagement with existing buildings and campuses..

Detail specific enhancements in those communities. Not be a repeat of moving Toledo as the county seat in 1954. Share responsibility of community meetings between design team and school. Surveys and other types of gathering info could be used to get broad engagement.

ii. Series of meetings/presentations is more communication plan with community at large, and more input from industry partners, who have more skin in the game. Presentations on the road. Community has a lot of confidence and faith in the process and the college. We need to stress the importance of transparency of process. The county has the oldest average population in the state of Oregon, yet had the highest pass rate in state. We need to be able to explain process to the community and invite them to participate.

iii. The college has a mechanism, catch the wave?, for community engagement. 150 HS students could be included. OCCC to develos plan for engagement.

iv. Foundation donors as well. Reporting out to them? What's the process?

v. Expandability important. Programs selected beyond anecdotal evidence, share data driven information to make determination. Framing programs around high county needs vs individual company needs. Advisory committee can self-determine. Likely the community won't waste time coming but want to be invited.

7. **Program Selection**: (45 min)

   a. What programs are you still considering?

      i. College can determine noncredit training certificate:

         1. Package things in different ways.

      ii. Focus on Maintenance skills in building and boats, land and water. Marine environment.

      iii. Skills could include: Electronics, Hydraulics, Plumbing, Water Systems, HVAC Controls, PLC, Pneumatics, Diesel, Boat Engines. Common threads can be found in multiple industries, Reconditioning Diesel, Forestry and Construction, Diesel Truck.

      iv. Core set of movable engines for training, move outside for exhaust, then back to storage. Boat engines and heavy equipment overlap with concepts, not about custom parts replacement.

v. Aquaculture may not be part of the OCATT building, but other skills like Pumps and Valves, Sensors, Wastewater overlap with existing programs. Wastewater tech every 4 or 5 years 6 techs. How to maintain a ship vs building? Welding is needed across the county and is a broadly needed skill.

vi. Welding- skill lab, virtual welders, maybe some hands on but transfer to Toledo for in depth practice.

vii. Expandability of building. How to expand for welding in the future? Capacity for 18 students, 2 cohorts of 18 up to 36. 1-year certificates, small incremental certificates available as well. Accredited test facility? Robotic deep dive welding as a future technology.

viii. National testing network, 120k revenue for previous college as a site for testing.

ix. State of Washington has a coordinator who is sharing maritime tech information.

x. Completion for Pre Apprenticeship students means priority for full Apprenticeships. Does the college need more Full trade curriculum?

xi. Diesel is maybe. There are potentially other programs with competitors who have standalone curriculum. There could be more industry partnerships like the Kubota institute.

xii. Figure out primary marine programming needs.

xiii. Basic skills, safety, taste before Apprenticeship. MC3 cert, CPR, AED, OSHA 10, informed commitment to a specific industry.

xiv. Apprenticeship, looking to leverage across programs, related instruction for broad skillsets.

xv. Aquaculture overlaps with Plumbing, Electrical and Marine Technology.

xvi. What are the important skills for students, in Trades, Marine Tech, what does this field need? Inclusion in broader public meetings.

xvii. There are Cooperative work experiences, clubs on campus. Nursing has lots of softskill development as part of their program.

xviii. During the interview, underwater welding was said to be removed because of liability insurance and welding was mentioned as potentially part of the project. Is that accurate?

b. What led you to select these programs? Are there student surveys or data you could share?

c. Are the programs you have listed an exhaustive list or are you hoping to find more/other full-time programs through this process? For example, a full Construction Trades program?

d. In the interview, program rotations were discussed as every 2-3 years. Please clarify if programs are being offered every 2-3 years or will rotate after 2-3 year?

e. What does that look like in practice? Should every space support every type of program or are there groupings of similar programs that rotate?

   i. Ultra Flexible Model: 4 labs that all rotate every year

   ii. Flexible Model: 4 labs, 2 rotate every year, 2 rotate every 5 years

   iii. Anchor Model: 4 labs, 2 programs stay in place long term, 2 rotate at varying timeframes

   iv. Track Model: 4 labs, 2 are construction/fabrication focused (Track A) and 2 are industrial process focused (Track B). All similar programs rotate within their like Track. For example, Track A, Welding, Maritime Construction. Track B, Marine Engineering, Automation.

   v. Aquaculture not in this facility, Pumps lab with trainers in facility, Plumbing skills, Sensors, not necessarily in a wet space. Students could build recirculating systems and utilize animals/tanks in aquarium science building. Maybe a more broad approach to space types: Clean vs dirty as a parameter, sawdust, etc.

f. Are any programs targeted as flagship programs because of demand? Or programs that don't rotate every 2 or 3 years?

   i. Less programs there for 2 years, fair amount 1 year time. Facilities maintenance might be anchor, intro Plumbing, Troubleshooting Mech systems, plug in play, central comprehensive system. Fixed locations and then add to.

g. Is the goal to increase student count by creating a pipeline for programs on a 2- or 3-year rotation? Build a backlog of students and have more full cohorts.

h. How will programs that do not yet have an instructor be programmed / designed?

   i. No instructors, Marine Tech, world wide instructional design systems, Feb 10th, feedback and other broad group. Utilize subject matter experts in industry.

   ii. Automation and Mechatronics program, NC3 programming, college needs the trainer list. Would be built out as a 2 year program.

i. How important is it to have opportunities to produce extra income through programs offered?

   i. 16 students per instructor/2 to 3 students per trainer. College to use cohort model where you enter at the same time and follow through, not a start stop model.

8. **Enrollment**: (15 min)

   a. What is the current CTE enrollment and capacity?

      i. 16-18 per instructor, 24 normal classrooms.

   b. Where do students come from (Reskill, Upskill, High School)?

   c. What are your CTE enrollment projections with timeframes?

      i. 2 or 3 cohorts, 3 -5 different cohorts,

   d. Ideally, do all programs have the same student teacher ratio? What student numbers should we plan for?

   e. What is the ideal utilization? Can you share a utilization report?

9. **Program Specifics:** (15 min)

   a. Describe how apprenticeship program students interact on campus?

   b. Do all pre-apprenticeship programs have the same duration? (Approx 1 semester) Are they also on 2- or 3-year rotations?

   c. What is the next step for students leaving the pre-apprenticeship program?

10. **Campus Culture:** (15 min)

    a. Are there any campus cultural events we should be aware of? CTE Fair, student project exhibit, etc.

        i. Upcoming fundraiser, gala, donors, March 15^{th}, activity on plan. Could play into this project? 200 10^{th} graders in April or May. School districts, counselors and Administration could be contacted on 7^{th} of Feb, all high school CTE programs 8^{th} graders check out in HS and college. Survey for feedback?

        ii. OCCC has a high touch student culture, student services may be needed in new building.

    b. What student groups should we talk to? Are there any student leaders/organizations that could act as a sounding board for us?

    c. What is OCCC's philosophy on learning spaces outside of the classroom? Independent Spaces?

11. **Questions:**

    Early Feb discovery agenda TBD

OREGON COAST COMMUNITY COLLEGE

Oregon Coast Community College

Go-Bond Program | OCATT

Design Advisory | Meeting 1

February 27, 2025

GLAS ARCHITECTS, LLC + HACKER

Agenda

- **Where we are** 5 mins
  - Engagement Meetings
  - Program
- **Engagement Summary** 10 mins
- **Program Assessment** 55 mins
- **Next Steps** 10 mins

Engagement Summary

Who Attended

Georgia Pacific
Dustin Appling
Andrea Formo
Mark Carden

OSU HMSC iLab
Jordan Drummond

Overleaf Lodge/ Fireside Motel
Daew Roslund

Three Rocks Electric
Jeremy Cordahan

Above Board Electric and Plumbing
Randy Smith II

Local Ocean Seafood
Tony Bixler

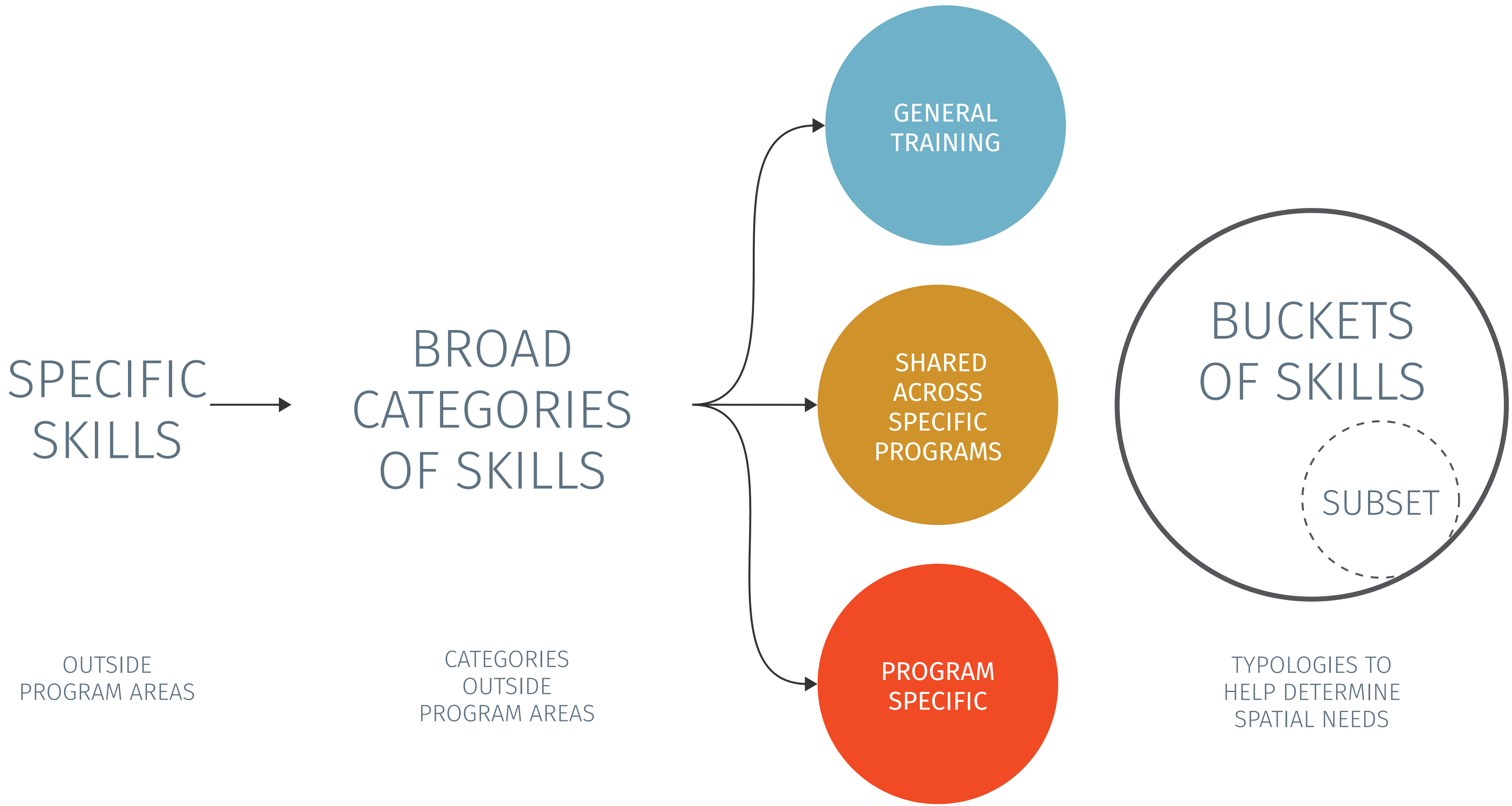
Inn at Otter Crest
Leo Newberg

IBEW 932/Pacific Inside Electrical JATC
Robert Westerman

Economic Development Alliance
Paul Shuytema

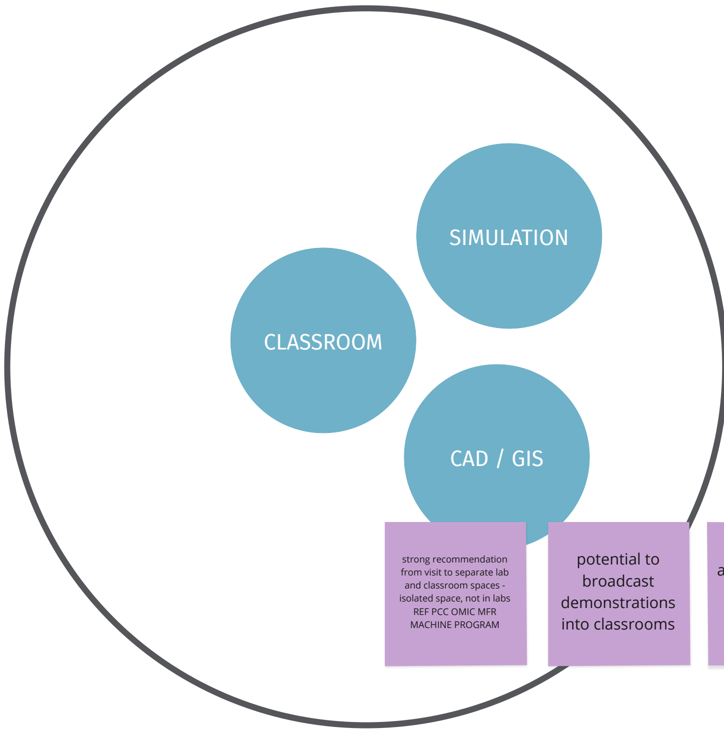
Program Assessment

Skills Assessment Categories



Skills Assessment General

GENERAL TRAINING
SHARED ACROSS SPECIFIC PROGRAMS
PROGRAM SPECIFIC



strong recommendation from visit to separate lab and classroom spaces - isolated space, not in labs REF PCC OMIC MFR MACHINE PROGRAM

potential to broadcast demonstrations into classrooms

more like an active classroom setting (no carpet, flexible power, etc)

probably 2 classrooms w/32-40 students - keep in mind that ideal cohort min is 16 ppl (consider dividing up)

some ability to pack up and move to other sites (stored in big tough boxes)

smaller style, open lab scenario (forklift, CDL, etc).

QUESTIONS

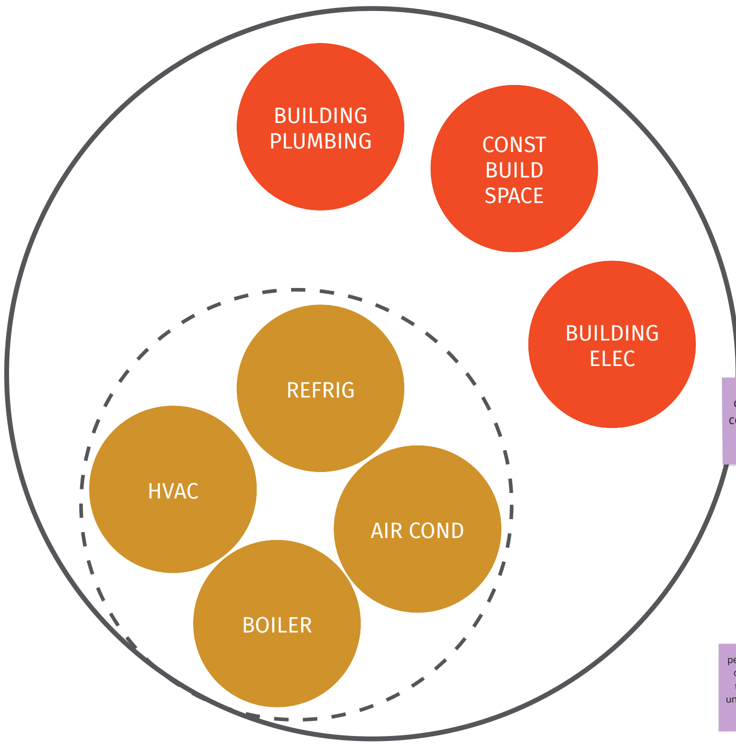
1. How many classrooms?
   a. Assume 4 cohorts at a time in the facility
   b. Assumed to have teaching space within each Lab
   c. Could Classrooms be scaled in funtionality? Minimal infrastructure, light, heavy, etc.
2. What could simulation look like?
   a. Is this a support space?
   b. Dedicated Space?
   c. Open to students after hours?

Skills Assessment Building Systems + Concepts

GENERAL TRAINING

SHARED ACROSS SPECIFIC PROGRAMS

PROGRAM SPECIFIC



HVAC is more of a skill than a program that would be offered

foundational concepts - for example, refrigeration theory, troubleshooting motors and controls, pumps and valves

could have components on carts

goal is more for awareness than a specific skill

people working on boats are typically not union - but abyc standards

some concepts and direct applications overlap - such as electrical

need space for 'shed size' builds - 'big build' space

BUILDING SYSTEMS & CONCEPTS: COHORT 8-12

1. Intro Framing - College Built (Semi-Fixed)
2. Intro to Electrical - College Built (Semi-Fixed)
3. Intro to Plumbing - College Built (Semi-Fixed)
4. Build Project

HVAC

1. Intro to HVAC - College Built Demo
2. Intro to Refrigeration - Trainer on Cart
3. Intro to AC & Heat Pump - Trainer on Cart
4. Intro to Heating Systems - Furnace on Cart
   Condensing Unit Outside/On Cart
5. Geothermal?
6. Mini Split?

QUESTIONS

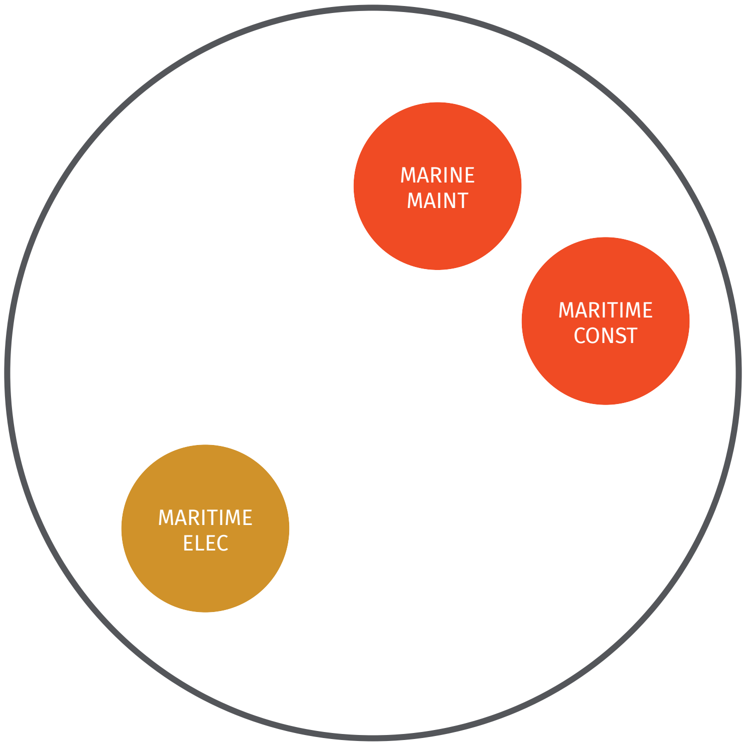
1. What is the overlap of Marine Systems and Building Systems?
2. How in depth? Furnaces/Boilers/Condensing Units?
3. Full scale construction inside?

Skills Assessment Maritime Systems

GENERAL TRAINING

SHARED ACROSS SPECIFIC PROGRAMS

PROGRAM SPECIFIC



MARITIME SYSTEMS: COHORT 8-12

1. Marine Maintenance
2. Maritime Electrical
3. Maritime Construction

QUESTIONS

1. Is Maritime Electrical a specific course or a module in Building Electrical?
2. Describe the activities in Maritime Construction?

What is the vision for Marine Construction?

Maritime welding program focused on repair. Don't have fab space in the current space.

Is fab important in the new facility? : Fed policy seems to make that unlikely at Toledo.

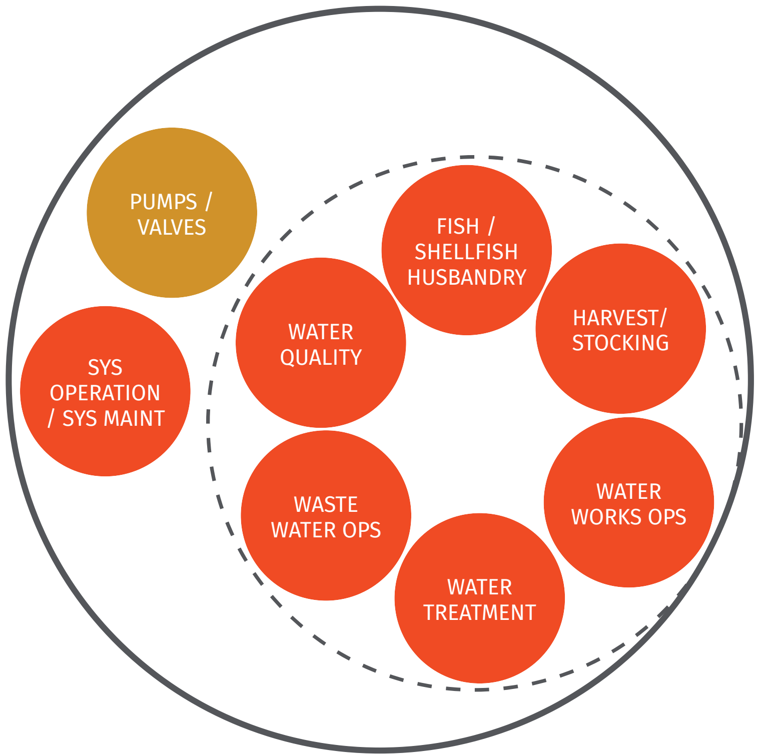
Pipe fitting applies to both maritime and georgia pacific. Encourage us to overbuild to allow space down the road a bit.

What about hydraulics?
We do identify in the next slides. Question is whether it is more individual module or a component in the lab.
We also have dirty build space discussion. Maybe this maritime systems electrical overlaps with building as does welding.

How would you describe marine maintenance? Currently in the process of a dacum around maritime tech. Skagit is an example. They have electrical havac, electrical tool fundamentals as a class that crosses all categories.

Skagit also does marine elec systems 1 and 2 and 3. They have pumps. Mechanical that have tool fundamental. Engine systems 1 and 2. Marine inboard drivetrains and electronics and outboard. They are not rebuilding these engines. They are working on components. If they could do things differently they would get down to the engine breakdown level. Would loved to have had a welding class.

Skills Assessment Water Systems



PROGRAM ASSUMPTIONS: COHORT 8-12

System Functionality

1. System Operation and Maint
2. Pumps/Valves

Water Systems

1. Water Quality
2. Fish Shellfish Husbandry
3. Harvesting//Stocking
4. Water Quality
5. Water Op
6. Water Treat
7. Waterworks Op

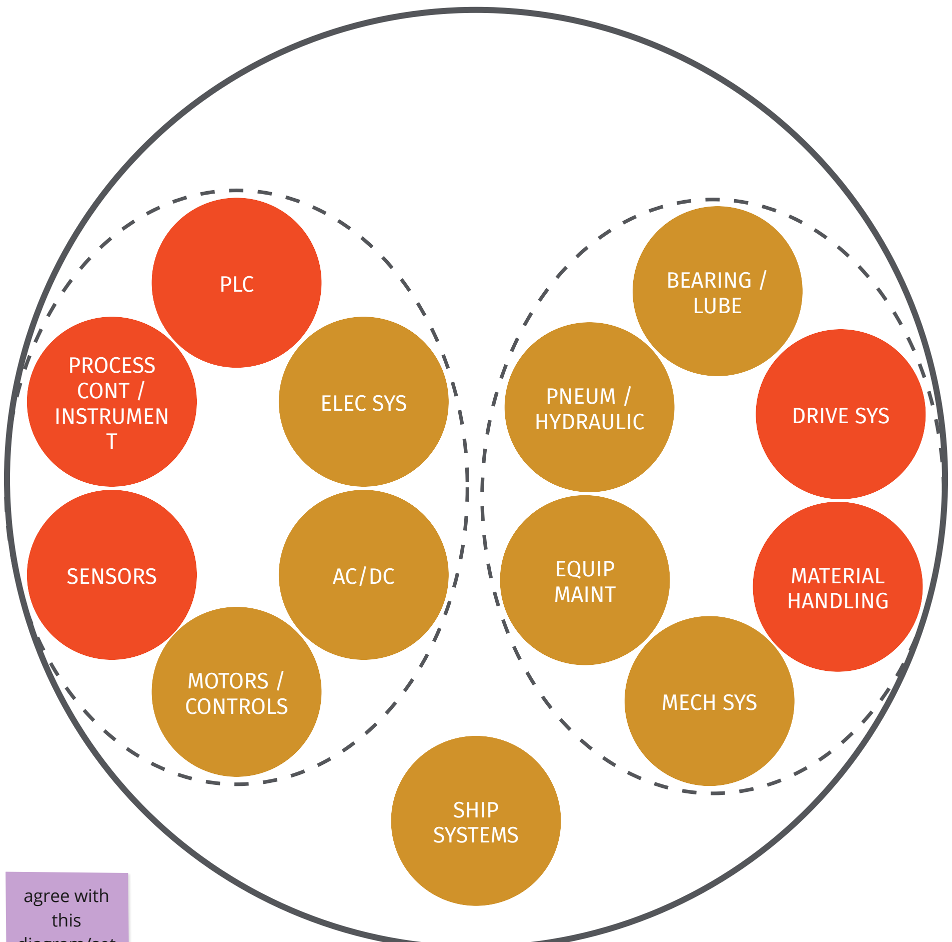
marine science program (not in OCATT)

QUESTIONS

1. How is each program instructed? Is this more of an apprenticeship experience?
    a. Water Quality - Water Treatment - Wastewater Operations - Waterworks Operations
2. Animal related activities in current Marine programs?
3. System Operations and Pumps/Valves, how in depth?

Skills Assessment Auxiliary Systems

GENERAL TRAINING
SHARED ACROSS SPECIFIC PROGRAMS
PROGRAM SPECIFIC



agree with this diagram/set up

PROGRAM ASSUMPTIONS: COHORT 8-12

Equipment/Maintenance

1. Pneumatics - Trainers on Carts
2. Hydraulics - Trainers on Carts
3. Bearing / Lube - Demo Display / College Provided Hardware
4. Mechanical Systems

Electronic Skills

1. Elec Systems
2. AC/DC
3. PLC
4. Sensors
5. Motor/Controls
6. Process Control/ Instrumentation

Ship Systems

1. Ship Systems

marine tech - farming: electrical, valves and pumps - skills developed at OCATT, farm at aq. sci

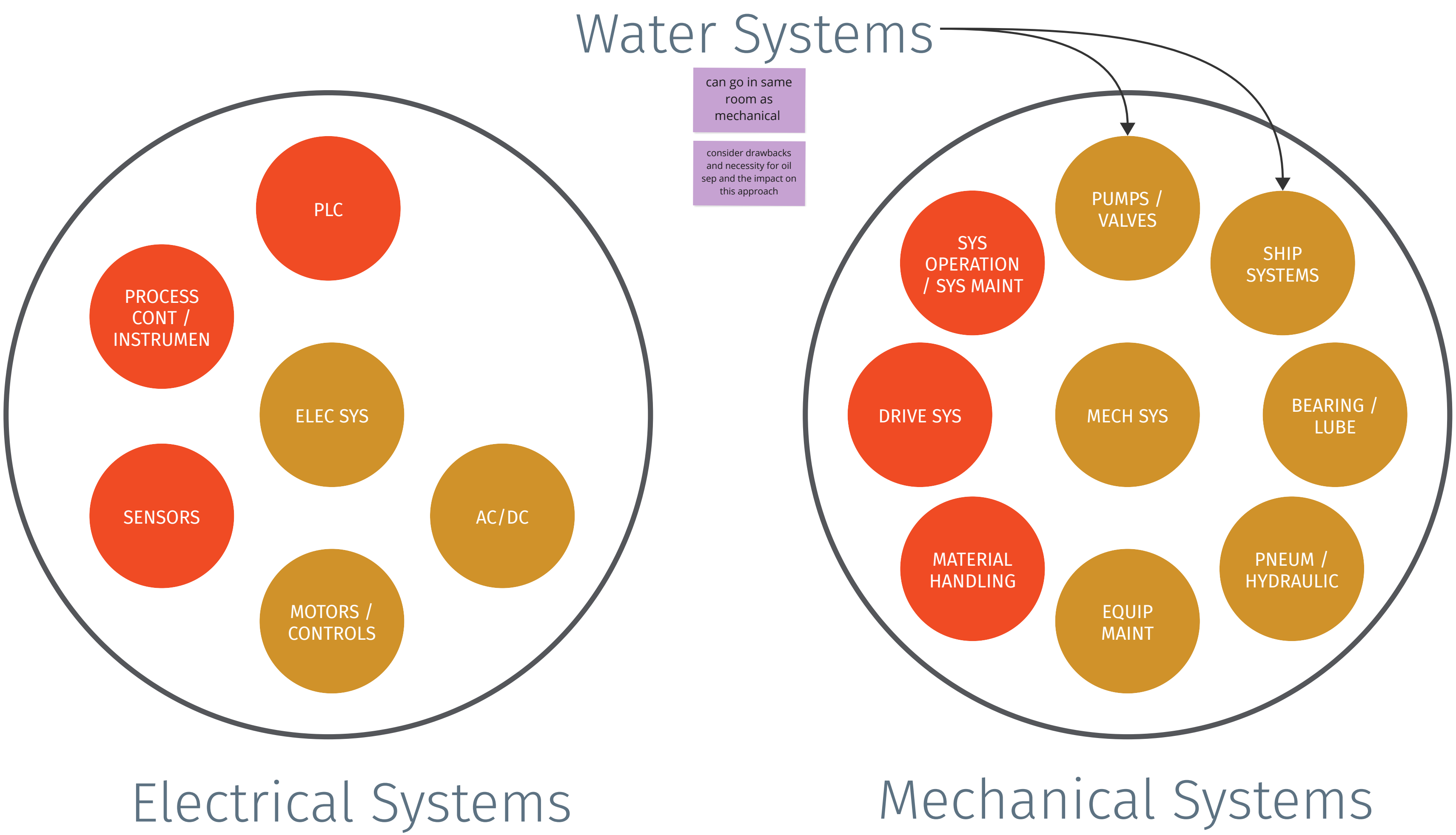
QUESTIONS

1. How often are specific Aux Systems taught?
2. Describe Ship Systems Program?
3. What type of instruction for each skillset? Trainers/CR/Mockups, etc

determine skillsets provided by trainers and assess best to minimize overall space needs

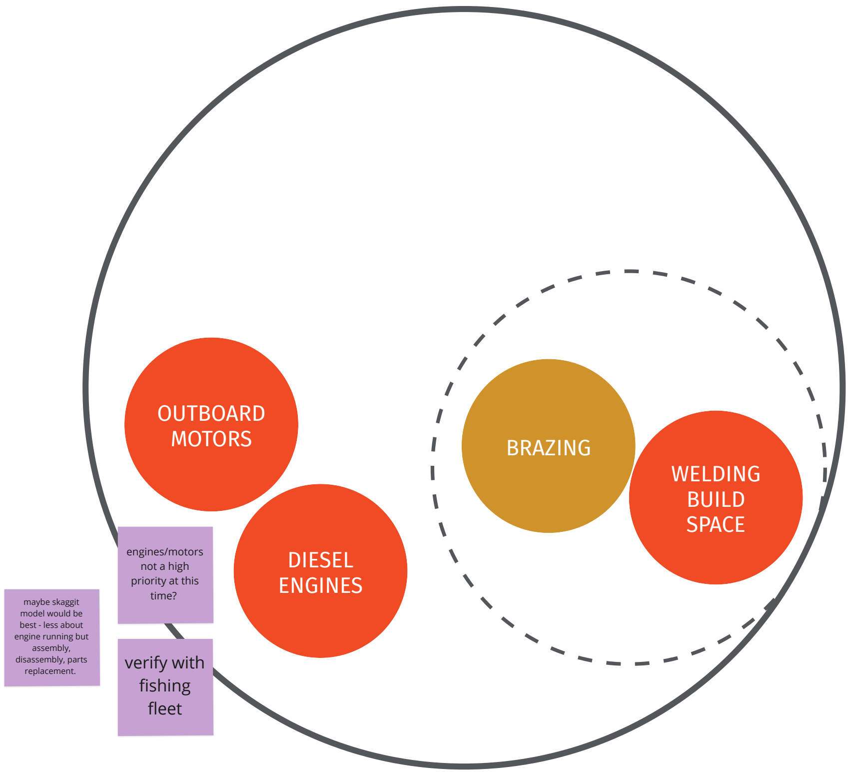
Skills Assessment Auxiliary Systems - Alternate

GENERAL TRAINING
SHARED ACROSS SPECIFIC PROGRAMS
PROGRAM SPECIFIC



Skills Assessment Dirty

GENERAL TRAINING
SHARED ACROSS SPECIFIC PROGRAMS
PROGRAM SPECIFIC



PROGRAM ASSUMPTIONS: COHORT 8-12

Fusing Processes

1. Brazing
2. Welding

Fuel Engines

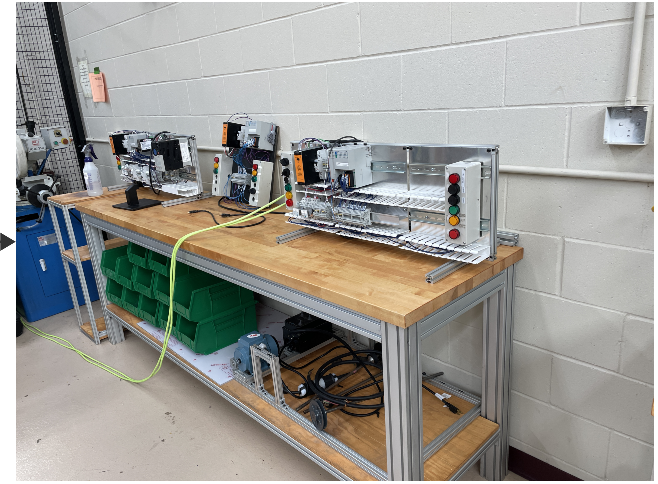
1. Diesel
2. Outboard Motors
3. Elec? Gasoline?

QUESTIONS

1. Do you want to teach Brazing?
2. How often Diesel and Outboard used?
3. Welding Space needed? Overlap with Automated Systems?
4. Could this overlap with Maritime Systems?

Trainers Approach Specific Skillset

PLC Trainer Stations



Student Built PLC Trainer

Furnace Trainer

Full Size Furnace Trainer

Trainers Approach Full Size Trainers

Plumbing Trainer

Student Built "Pod"

Next Steps

4-Week Look Ahead

- **Review "Programs Under Consideration" Spreadsheet** — February 27
- **Meet with PACT / Welding Instructors** — March 3
    - Spatial needs, program overlaps, etc.
- **Advisory Group Meeting** — March 13
    - Adjacencies
    - General Sizes
    - Lab Infrastructure Narratives
- **Advisory Group Meeting** — March 27
    - Present Draft Programming Document
- **Final Programming Document** — April 1

Oregon Coast Community College

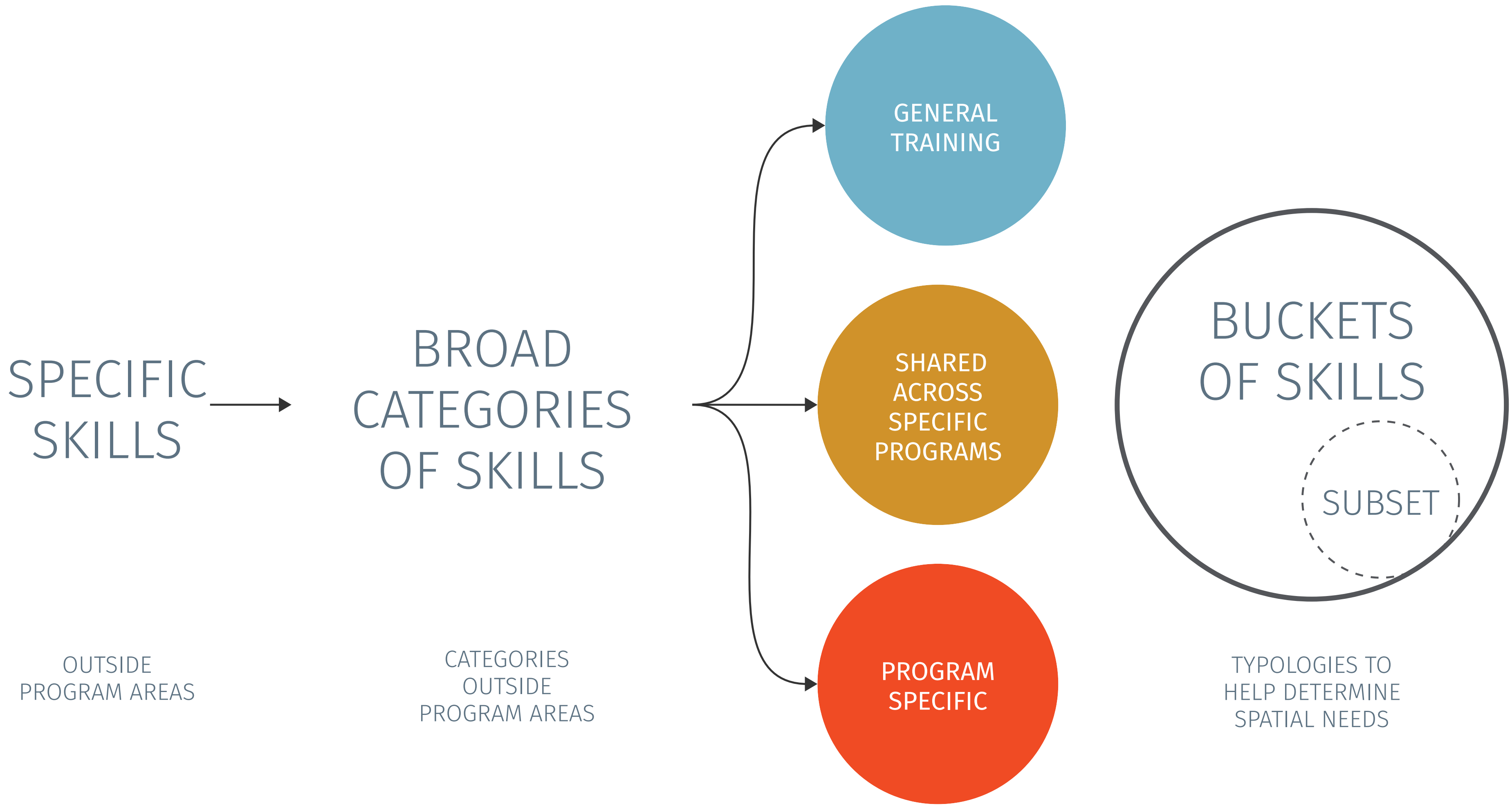
Go-Bond Program | OCATT

Focus Group - Instructors | Meeting 1

March 03, 2025

GLAS ARCHITECTS, LLC + HACKER

Skills Assessment Categories

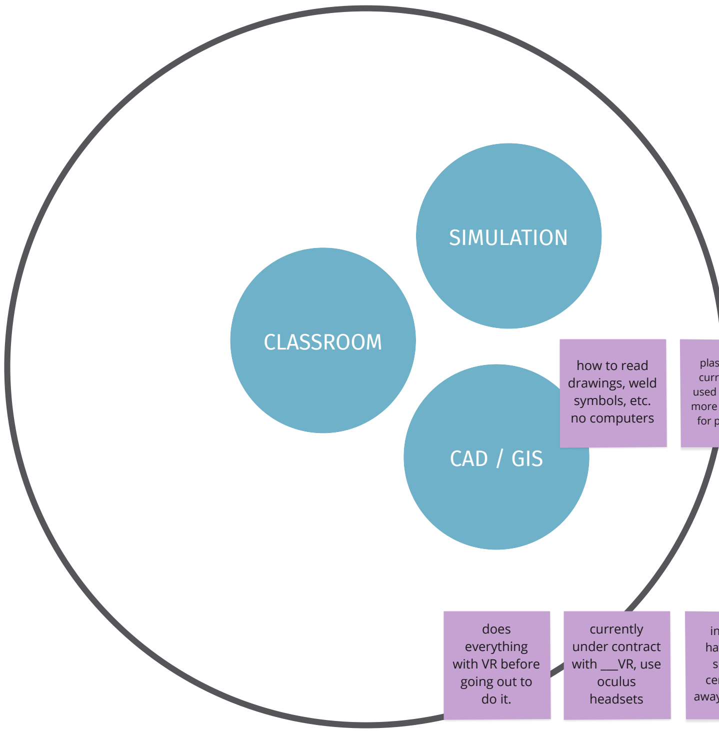


Skills Assessment General

GENERAL TRAINING

SHARED ACROSS SPECIFIC PROGRAMS

PROGRAM SPECIFIC



how to read drawings, weld symbols, etc. no computers

plasma CNC - currently only used by faculty - more of a means for production

interest in some other fabrication tools - laser/water cutter - would have computer/CAD overlaps

does everything with VR before going out to do it.

currently under contract with ___VR, use oculus headsets

interest in having a set space for certification away from shop

would be nice to have a safety class - could also have virtual welders in it - pre-prep course prior to actually doing it

could be an opportunity to expand/adapt approach

ideal set up = space for lecture/theory and separate space for labs with booths and space outside of the booths for larger projects

transferring projects from Toledo to 'main campus' would be difficult for students

Toledo not able to offer some programs they desire to

QUESTIONS

a. How to transition between lecture, skills overview and lab work?

1. What could simulation look like?

a. Is this a support space?

b. Dedicated Space?

c. Open to students after hours?

Skills Assessment Building Systems + Concepts

GENERAL TRAINING

SHARED ACROSS SPECIFIC PROGRAMS

PROGRAM SPECIFIC

envision as a large lab w/outdoor space and then with smaller breakout labs (soldering, plumbing, LV, etc) - nothing big and permanent

large lab space would be like KCC or PCC (wood storage, work bench with saws - dust extractors, large open space to map something out and build it up - large overhead door - no bridge crane, would use gantry

section of mounted tools (chop saw, planer) - but mostly flexible and mobile

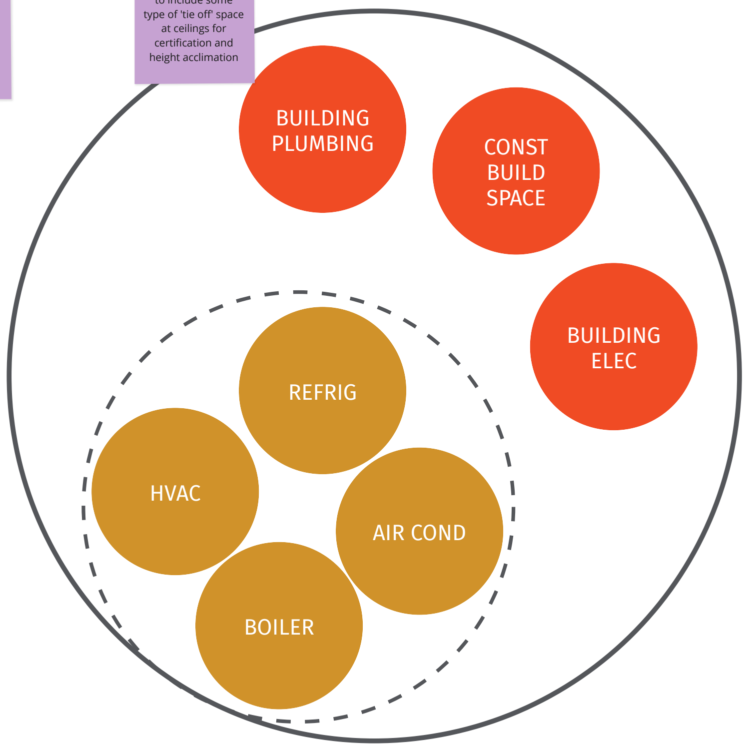
permanent equipment = miter saw, table saw, etc. future CNC? not a full on carpentry shop.

provide air taps, access to water hydrant and a sink

ductless mini-split/heat pump training - but also mobile furnace that can be rolled in and out.

smaller labs - for example , electronics space would be shared by all programs

could be beneficial to include some type of 'tie off' space at ceilings for certification and height acclimation



in terms of welding, there is no difference in processes between marine and building construction - difference is code

welding is more about commercial fabrication/erection, rather than residential

electrical/low voltage

BUILDING SYSTEMS & CONCEPTS: COHORT 8-12

1. Intro Framing - College Built (Semi-Fixed)
2. Intro to Electrical - College Built (Semi-Fixed)
3. Intro to Plumbing - College Built (Semi-Fixed)
4. Build Project

HVAC

1. Intro to HVAC - College Built Demo
2. Intro to Refrigeration - Trainer on Cart
3. Intro to AC & Heat Pump - Trainer on Cart
4. Intro to Heating Systems - Furnace on Cart
   Condensing Unit Outside/On Cart
5. Geothermal?
6. Mini Split?

QUESTIONS

1. Marine Construction and Building Construction - What's the overlap?
2. How in depth are setups? Furnaces/Boilers/Condensing Units?
3. How will PACT use large space? Full scale construction inside?

Skills Assessment Auxiliary Systems - Alternate

GENERAL TRAINING
SHARED ACROSS SPECIFIC PROGRAMS
PROGRAM SPECIFIC

specialized person comes into lab and they focus on a task. need a space/bench for each student to work on this. for example, rebuilding a sensor

not as big as mechanical space.

probably 2 students per worktable

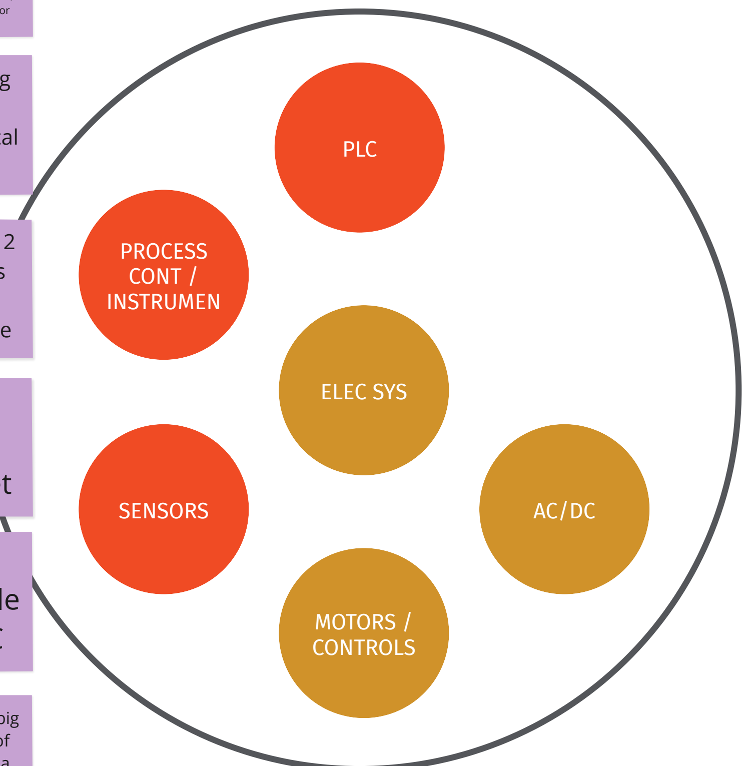
basic tool cabinet

good example is PCC

soldering a big part of all of this - need a few built in stations

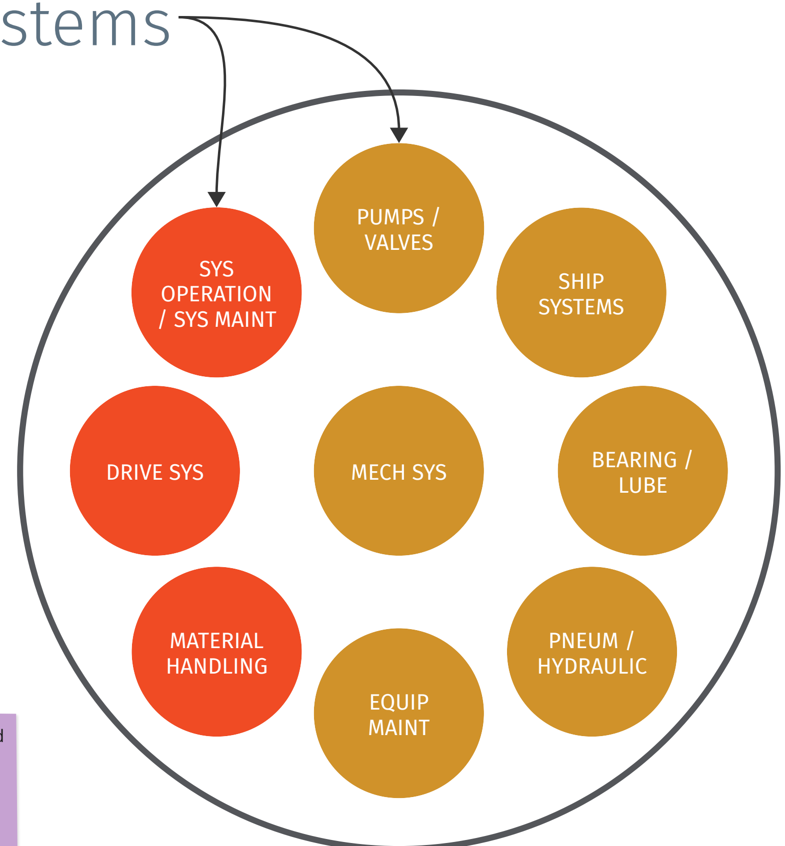
cabinets in room, +adj storage room ideal to think about this ahead to not block windows, etc.

Water Systems



Electrotonic Systems

would be good to have area for training how to use a forklift



Mechanical Systems

a few automatic/semi automatic welding processes in here - robotic arm, roller track welders

ability to bring examples in and out for equip maintenance, etc.

half tables and half fixed

space to be a bit more open than electronics lab

compressed air, floor drain, etc.

survey technician vs mechanical technician on boat side? for example, sensors built in electronics, dunked in tank in mechanical

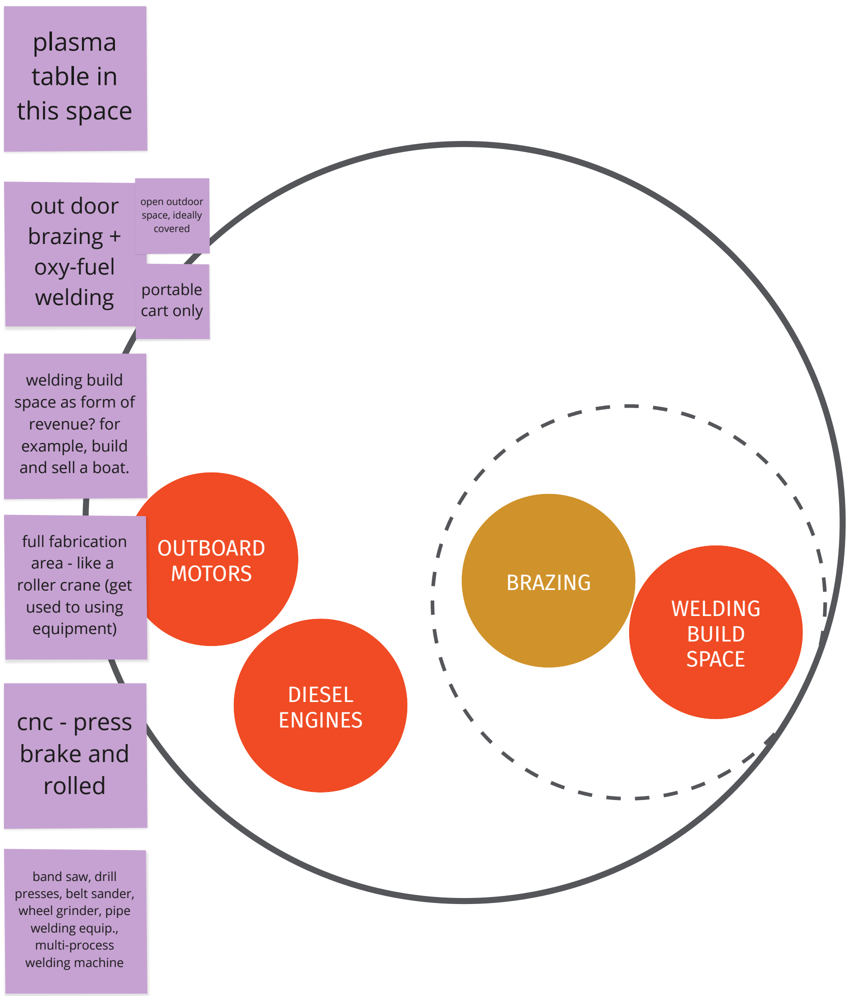
maybe gantry in here so they can hoist things up and then into tank

what is ideal tank depth?

consider a pit for water - lower than floor level vs having to lift up into tank

Skills Assessment Dirty

GENERAL TRAINING
SHARED ACROSS SPECIFIC PROGRAMS
PROGRAM SPECIFIC



PROGRAM ASSUMPTIONS: COHORT 8-12

Fusing Processes

1. Brazing
2. Welding

Fuel Engines

1. Diesel
2. Outboard Motors
3. Elec? Gasoline?

QUESTIONS

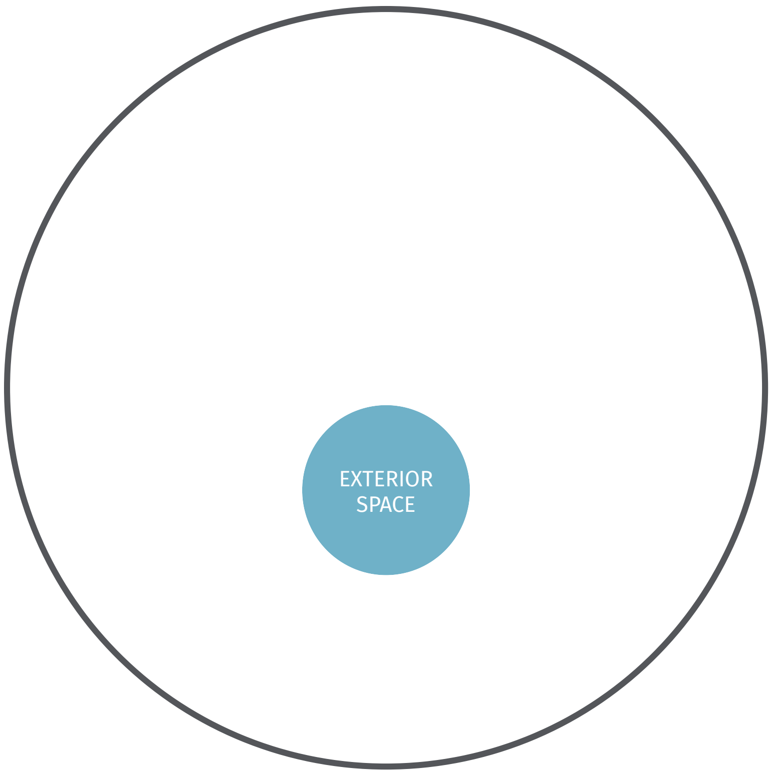
1. Do you want to teach Brazing?
2. How often Diesel and Outboard used?
3. Is large scale welding space needed? Overlap with Automated Systems? Marine Construction?
4. Could this overlap with Maritime Systems?

Skills Assessment Exterior

GENERAL TRAINING

SHARED ACROSS SPECIFIC PROGRAMS

PROGRAM SPECIFIC



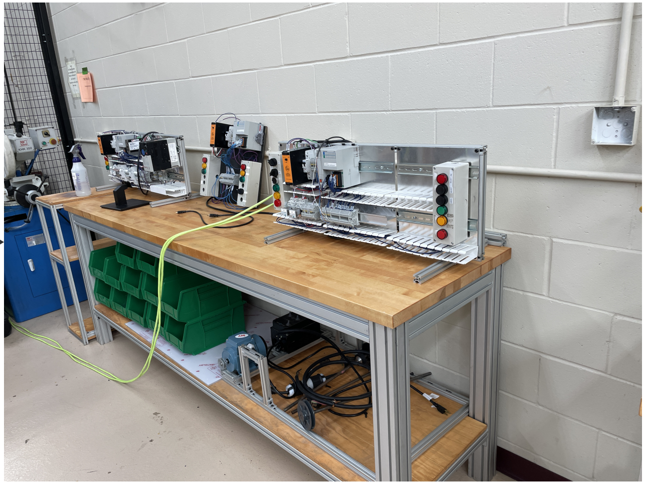
- 240v power
- compressed air
- hose bib
- gas tanks/storage + gantry (sim to PCC)
- thickened slab, close to flat
- ability to drop steel off
- racking? a mix of inside and outside - cantilever and normal style
- include a few welding booths

QUESTIONS:

1. Would Building Trades eventually build large projects? Marine Construction?
2. Any other programs utilize outdoor space?
    a. Trailer a boat?
    b. Diesel Vehicles?

Trainers Approach Specific Skillset

PLC Trainer Stations



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OREGON COAST COMMUNITY COLLEGE

Oregon Coast Community College

Go-Bond Program | OCATT

Design Advisory | Meeting 2

March 13, 2025

GLAS ARCHITECTS, LLC + HACKER

Agenda

• **Hellos**	5 mins
• **Program Summary, Sizes + Adjacencies**	55 mins
• **Next Steps**	10 mins

Program

Program Summary

- **2 x CLASSROOMS/LABS** *16-20 Students*

plan for 22

- **4 x LABS** *16 Students*
  - Building Systems
  - Electronic Systems
  - Mechanical Systems
  - Fabrication - Dirty Lab

- **OUTDOOR BUILD**
  - Loading/Unloading
  - Material Storage
  - Workspace

- **STORAGE**

- *SUPPORT SPACE*
  - *Lounge?*
  - *Lockers?*
  - *Kitchenette?*

student lounge, changing room with some lockers, purposeful kitchenette, space for a hardcopy library - maybe with a computer station for digital access, too. - 2 x study space, small room with a table/chair, etc. (80sf individuals) + 1 x group study room for 6 people (240sf)

- *OFFICES?*
  - *Admin*
  - *Staff*

1 x office for craig + 1 x office for future + 3-4 shared workspaces for adjunct faculty to prepare for class - not attached to a lab

Plan to be able to accomodate a desk in a tool room.

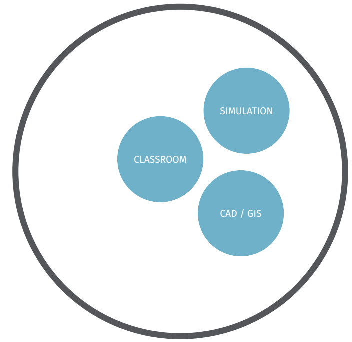
Locate office spaces close to the entry so it can serve as a welcome function.

Entry 'lobby' space to be open access but spaces beyond this to be secured.

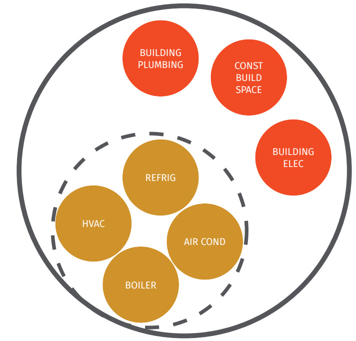
provide storage space (not necessarily dedicated to labs - more for site/building maintenance, etc. - maybe only externally accessible - or a separate building

custodial - larger room on L1, smaller on L2

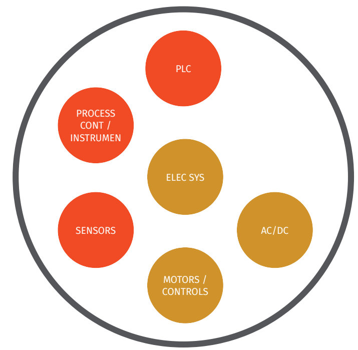
provide a receiving space



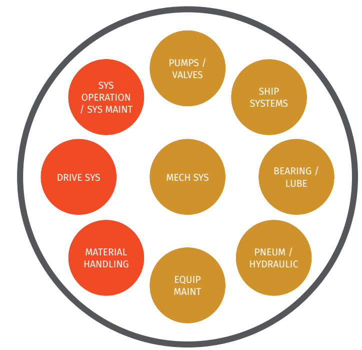
GENERAL



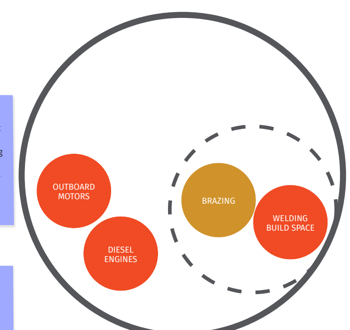
BUILDING SYSTEMS



ELECTRICAL SYSTEMS

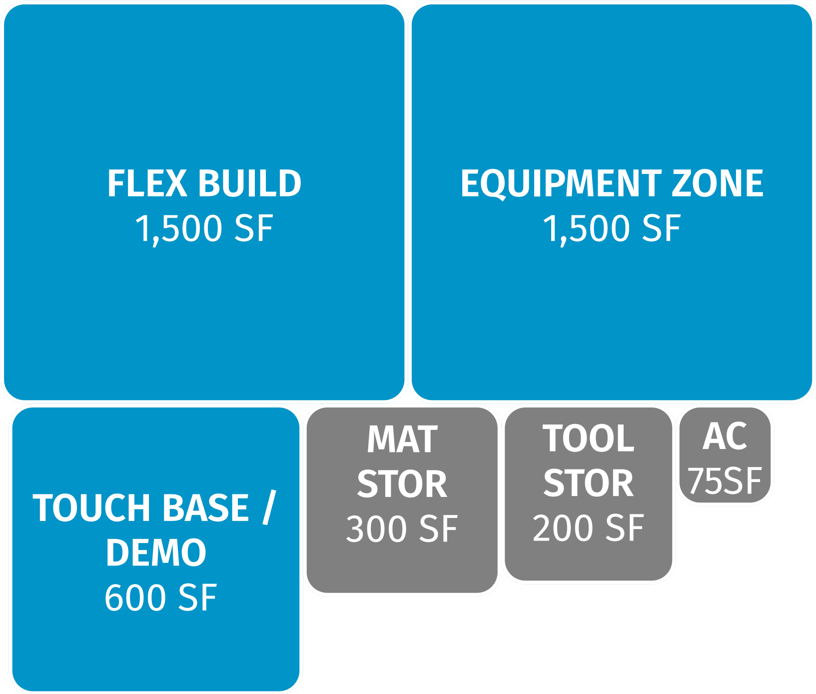


MECHANICAL SYSTEMS



FABRICATION

Program Proposed Areas - Building Systems



4,175sf = total area

Skills

- Building Plumbing
- Construction Build Space
- Building Elec
- Refrigeration
- HVAC
- AC
- Boiler

Key Features:

- Work area with tables and technology
- Flexible open build area
- Permanent equipment zone
- Separate storage areas

Infrastructure:

- Dust Collection
- Trench Drain at Overhead door
- Power and Air from perimeter and above
- Water Spigot
- Overhead door to outdoor build

Program Proposed Areas - Electronic Systems

INSTRUCTION / BUILD
1,000 SF

FLEX BUILD / DEMO
500 SF

TOOL STOR
200 SF

COMP STOR
200 SF

TOOL ZONE
200 SF

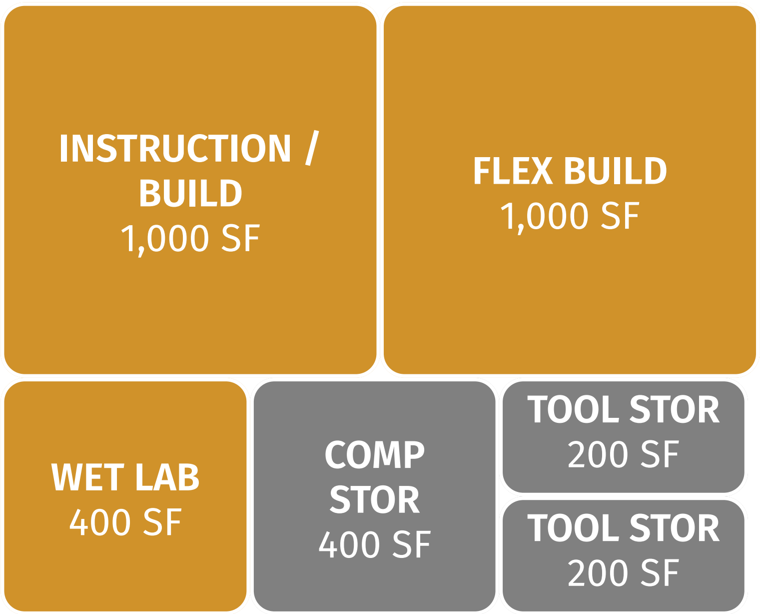
2,100sf = total area

Skills
- PLC
- Process Control / Instrumentation
- Sensors
- Electronic Systems
- Motors / Controls
- AC / DC

Key Features:
- Large work area with tables and technology
- Trainers around perimeter
- Flexible open build area
- Separate storage areas
- Connection to Building Systems and Mechanical Systems

Infrastructure:
- Floor Drain
- Power and Air from perimeter and above

Program Proposed Areas - Mechanical Systems



3,200sf = total area

consider increasing this size as tanks take up a lot of space themselves - maybe 600sf.

Skills

- Drive Systems
- Material Handling
- Equipment Maintenance
- Pneumatic / Hydraulic
- Bearing / Lube
- Mechanical Systems
- Ship Systems
- Pumps / Valves
- System Operation and System Maintenance

Key Features:

- Large work area with tables and technology
- Trainers around perimeter
- Flexible open build area
- Separate storage areas
- Connection to Building Systems and Electrical Systems
- Separated Wet Lab

Infrastructure:

- Trench Drain
- Power and Air from perimeter and above
- Water Spigot
- Overhead Door

Program Proposed Areas - Dirty Build Lab

DIRTY LAB
2,000 SF

WELDING ZONE
600 SF

INSTRUCTION / BUILD
500 SF

COMP STOR
400 SF

TOOL STOR
400 SF

PLASMA/ MNFLD 300 SF

4,200sf = total area

Skills
- Outboard Motors
- Diesel Engines
- Brazing
- Welding Build Space

(10) 5'x6' booths w/ (6) flexible welding station elsewhere

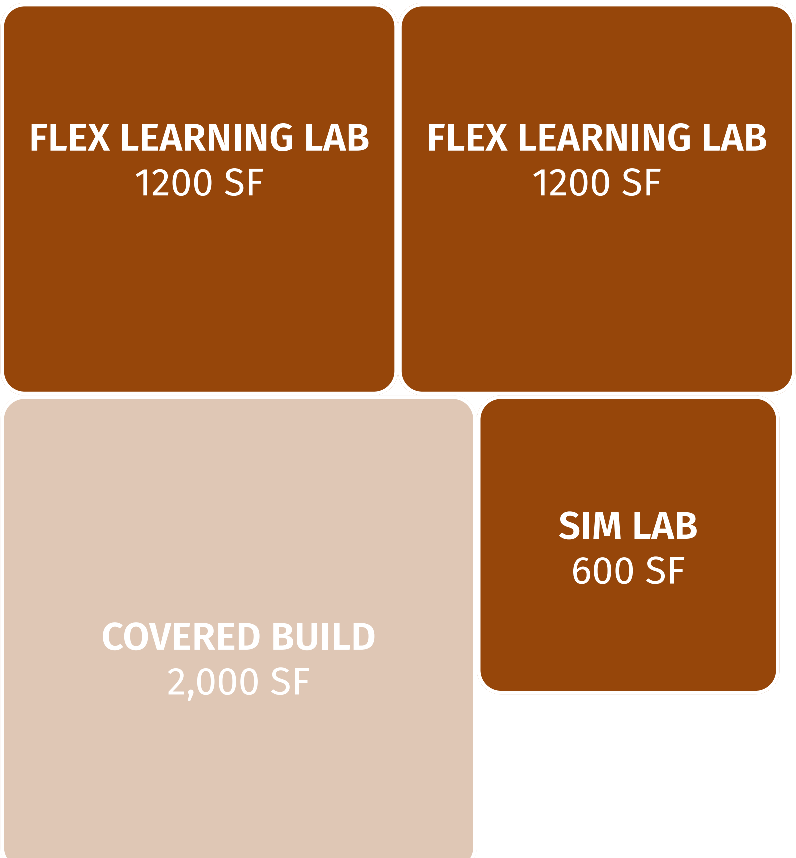
Key Features:
- Large work area with tables and technology
- Trainers around perimeter
- Flexible open build area
- Separate storage areas
- Welding Zone
- Plasma Cutting Zone

include a bridge crane

assume diesel and gas engines will be run inside

Infrastructure:
- Overhead Crane?
- Fume Extraction?
- Welding Gas Stor
- Trench Drain
- Power and Air from perimeter and above
- Water Spigot
- Overhead Door

Program Proposed Areas - General Learning + Outdoor



3,000sf = total area

Skills
- Classroom
- Simulation
- CAD / GIS

computer work will be laptop based

plan both flex learning labs with overhead power

flex labs to be adjacent to and have visual connection to one another

Key Features:
- Technology
- Cleanable Floors
- Built In Storage

- 1 Flex Learning Lab connected to Sim Lab

Infrastructure:
- Overhead power and air
- Sink
- Floor Drain

Program Proposed Total Area

BUILDING SYSTEMS
4,175sf

ELECTRONIC SYSTEMS
2,100sf

MECHANICAL SYSTEMS
3,200sf

FAB LAB
4,200sf

GENERAL LEARNING + OUTDOOR
3,000sf

30% GROSSING
5,000sf

16,675sf = total area

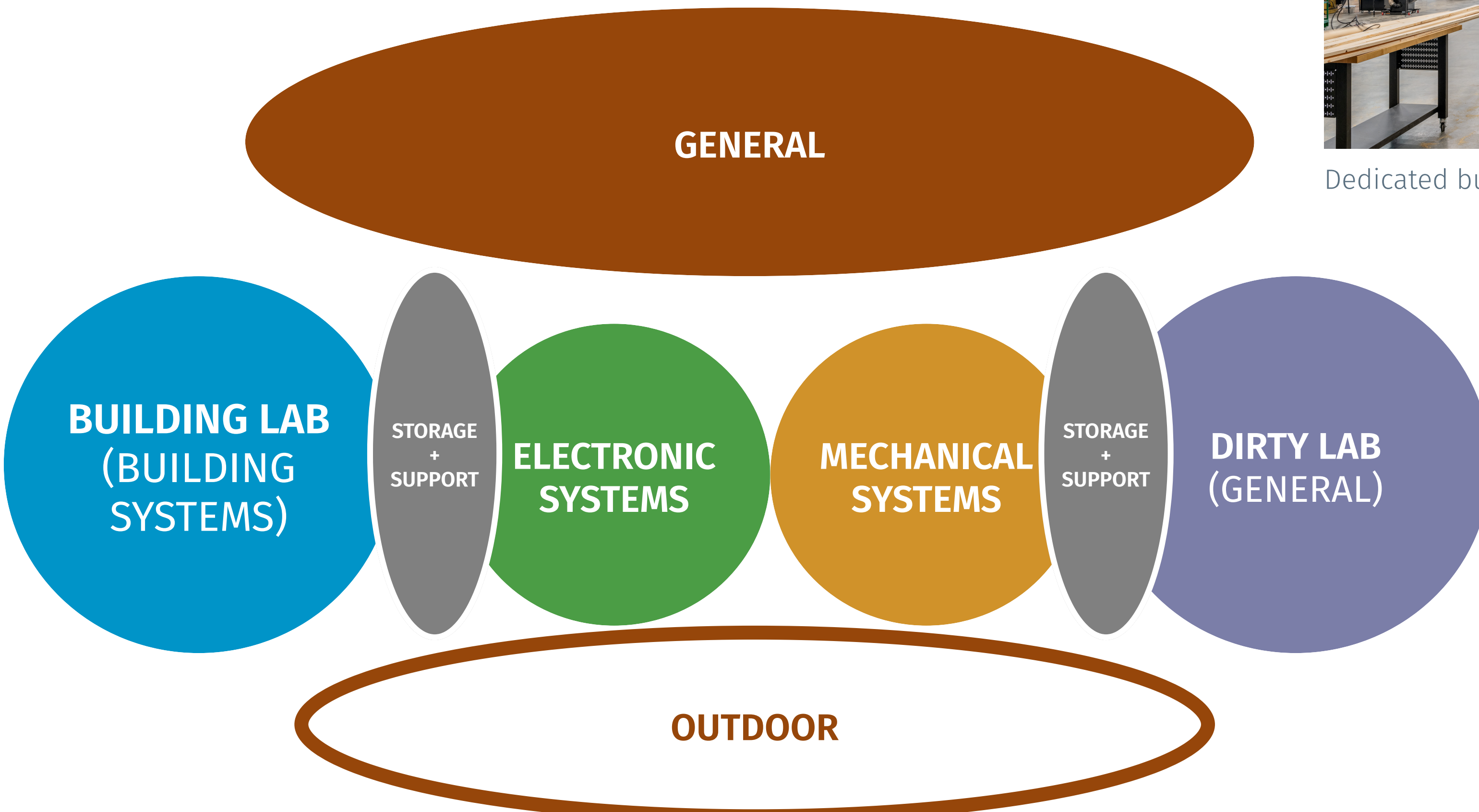
+5,000sf = 30% grossing factor

21,675sf = total area

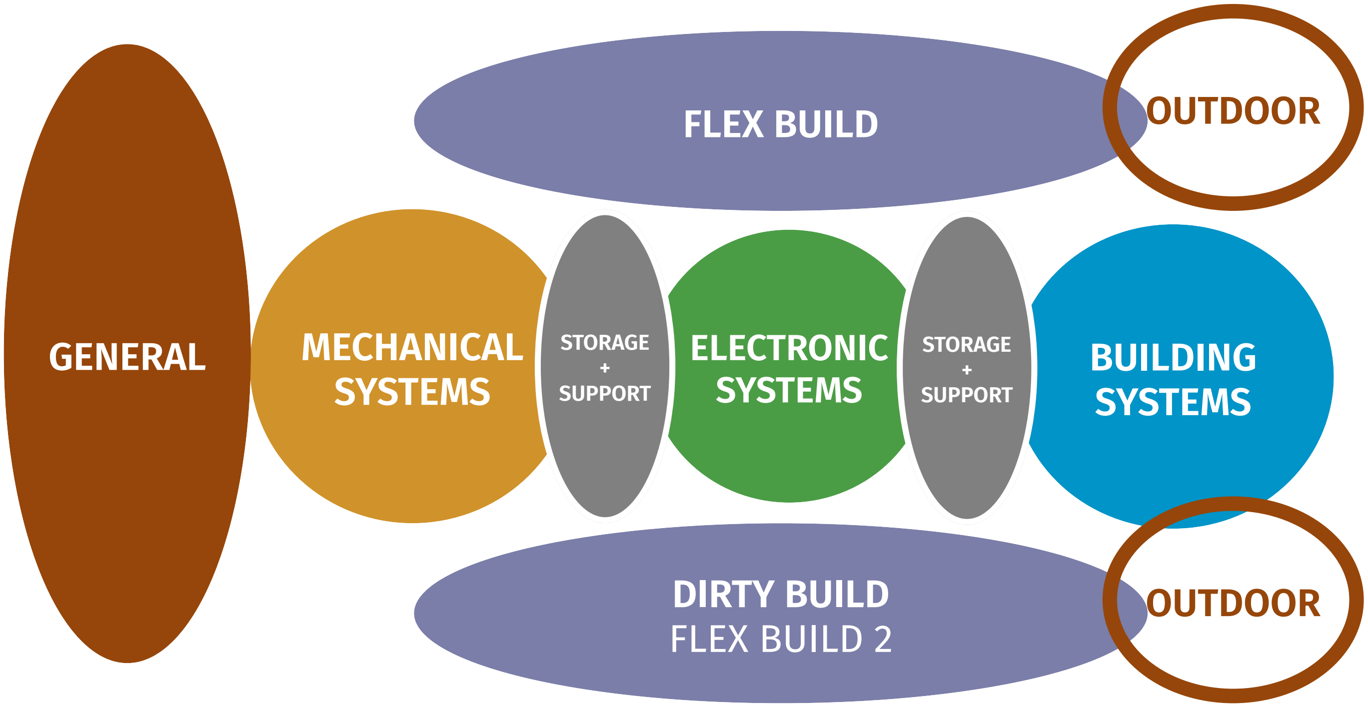
not including outdoor space

Program Adjacency Model A - Dedicated Build

Dedicated build space

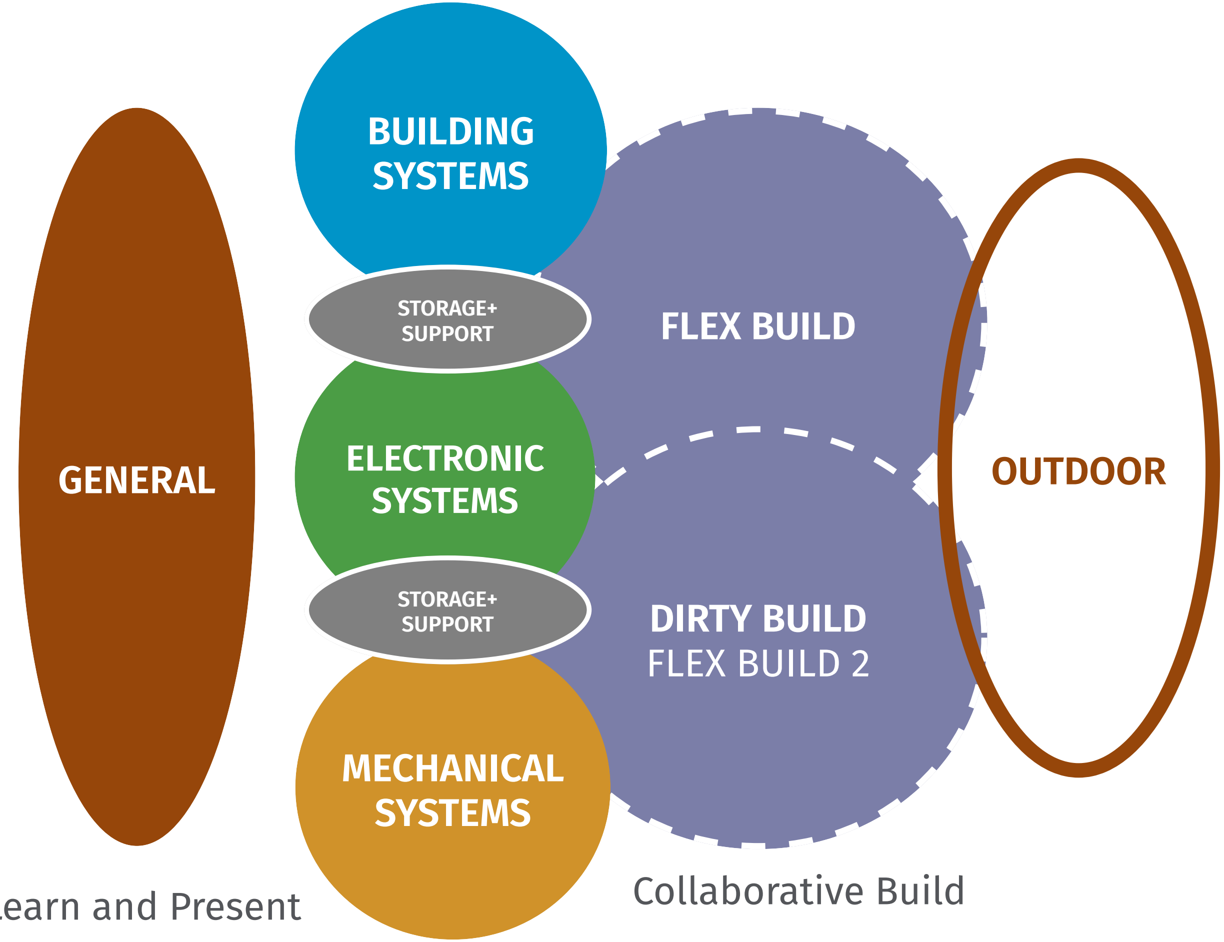


Program Adjacency Model B - Flexible Build



Flexible and connected build

Program Adjacency Model C - Paired Flex Build



Learn and Present

Skills/Prototype

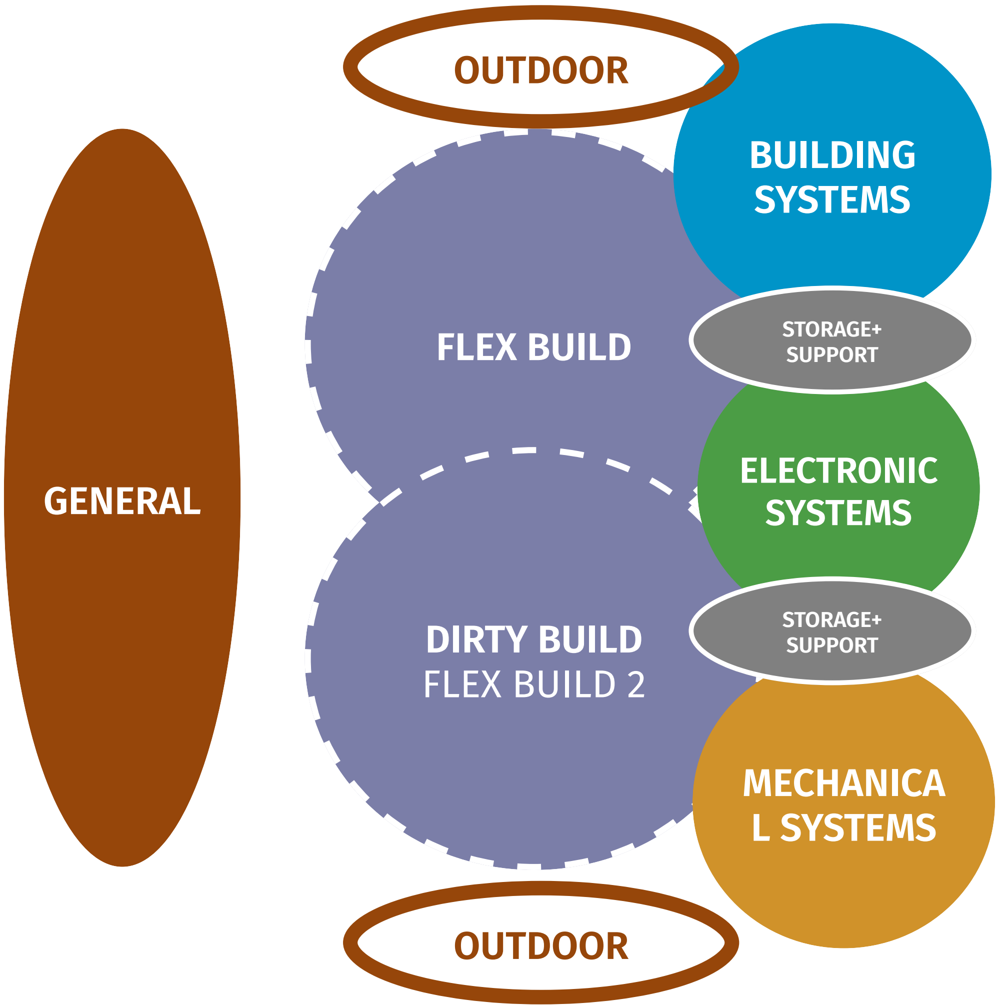
Collaborative Build

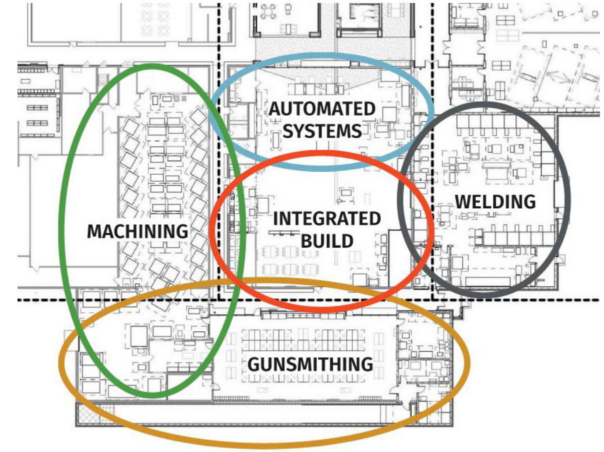
Learn / Present

Skills / Prototyping

Collaborative Build

Program Adjacency Model D - Internal Paired Flex Build





Central Hub

PCC OMIC

Next Steps

4-Week Look Ahead

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  - Spatial needs, program overlaps, etc.
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  - Lab Infrastructure Narratives
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- **Final Programming Document** — April 1

III	Buildings and structures that: • Have large numbers of occupants (e.g., high-rise office buildings, sports arenas, and large theaters), • Shelter persons with limited mobility (e.g., jails, schools, and some healthcare facilities); • Support lifelines and utilities important to a community's welfare; or • Contain materials that pose some risk to the public if released.	Reduced risk of earthquake-induced collapse relative to Occupancy Category II structures. Reduced risk of shaking-imposed damage to nonstructural components relative to Occupancy Category II structures. Low risk of release of hazardous materials or loss of function of critical lifelines and utilities.
IV	Buildings and structures that: • Are essential to post-earthquake response (e.g., hospitals, police stations, fire stations, and emergency communications centers) or • House very large quantities of hazardous materials.	Very low risk of earthquake induced-collapse. Low risk that the building or structure will be damaged sufficiently to impair use in post-earthquake response and recovery efforts. Very low risk of release of hazardous materials.

AG to provide written feedback by 3/18 on each adjacency option, sustainability goals and resilience goals for the project.

Sustainability Options:
1. No Goals
2. Common Sense Sustainability (design and specifications will achieve a greener building but will not drive cost increases to do so).
4. Pursue a higher level of sustainability that could drive higher cost,
3. Pursue a certification - specifics TBD

Structural Resilience Options:
1. Seismic Category III
2. Seismic Category IV

Power Resilience Options:
1. No back up generator
2. backup generator for critical systems
3. Backup generator for critical and some convenience systems

Backup Power Duration?
72 hours max is typical

OCCC OCATT Programming

Meeting Participants

Name	Organization	Kickoff 1/24/2025	Focus Group 2/12/2025	Programming 2/27/2025	Instructors 3/3/2025	Programming 3/13/2025	Draft Review 3/27/2025	Draft Comments 3/31/2025
Randy Smith II	Aboveboard Electric and Plumbing		x					
Tyler Whitehead	BNDRY	x	x	x	x	x	x	
Paul Schuytema	Economic Development Alliance		x					
Mark Carden	Geargia-Pacific		x					
Andrea Formo	Georgia-Pacific		x					
Dustin Appling	Georgia-Pacific		x					
Chris Walkup	GLAS	x	x	x	x	x	x	x
Jesse Grant	GLAS	x						
Corey Martin	Hacker	x			x			
Sarah Weber	Hacker	x	x	x	x	x	x	
Robert Westerman	IBEW 932/Pacific Inside JATC		x					
Chris Giggy	IMS	x	x	x	x	x	x	x
Nancy Giggy	IMS	x	x	x		x	x	x
Leo Newberg	Inn at Otter Crest		x					
Tony Bixler	Local Ocean Seafoods		x					
Ben Kaufmann	OCCC	x						
Bruce Clemetsen	OCCC	x		x		x	x	x
Chris Rogers	OCCC	x		x		x	x	x
Craig Watkins-Brandt	OCCC		x	x	x	x	x	x
Daniel Lara	OCCC	x	x	x		x	x	x
Dave Price	OCCC	x	x	x		x	x	
Gage Boone	OCCC				x			
Larry Boles	OCCC	x		x		x	x	x
Marshall Roache	OCCC	x		x		x	x	
Robin Gintner	OCCC	x	x			x		
Sharon Hahn	OCCC	x						
Spencer Smith	OCCC	x						
Jordan Drummond	OSU HMSC iLab		x					
Drew Roslund	Overleaf Lodge // Fireside Motal		x					
Jeremy Cordahan	Three Rocks Electrict & Plumbing		x					