

Faculty Meeting

March 11, 2019



SCOTT ENGINEERING RENOVATION & LINK REPLACEMENT

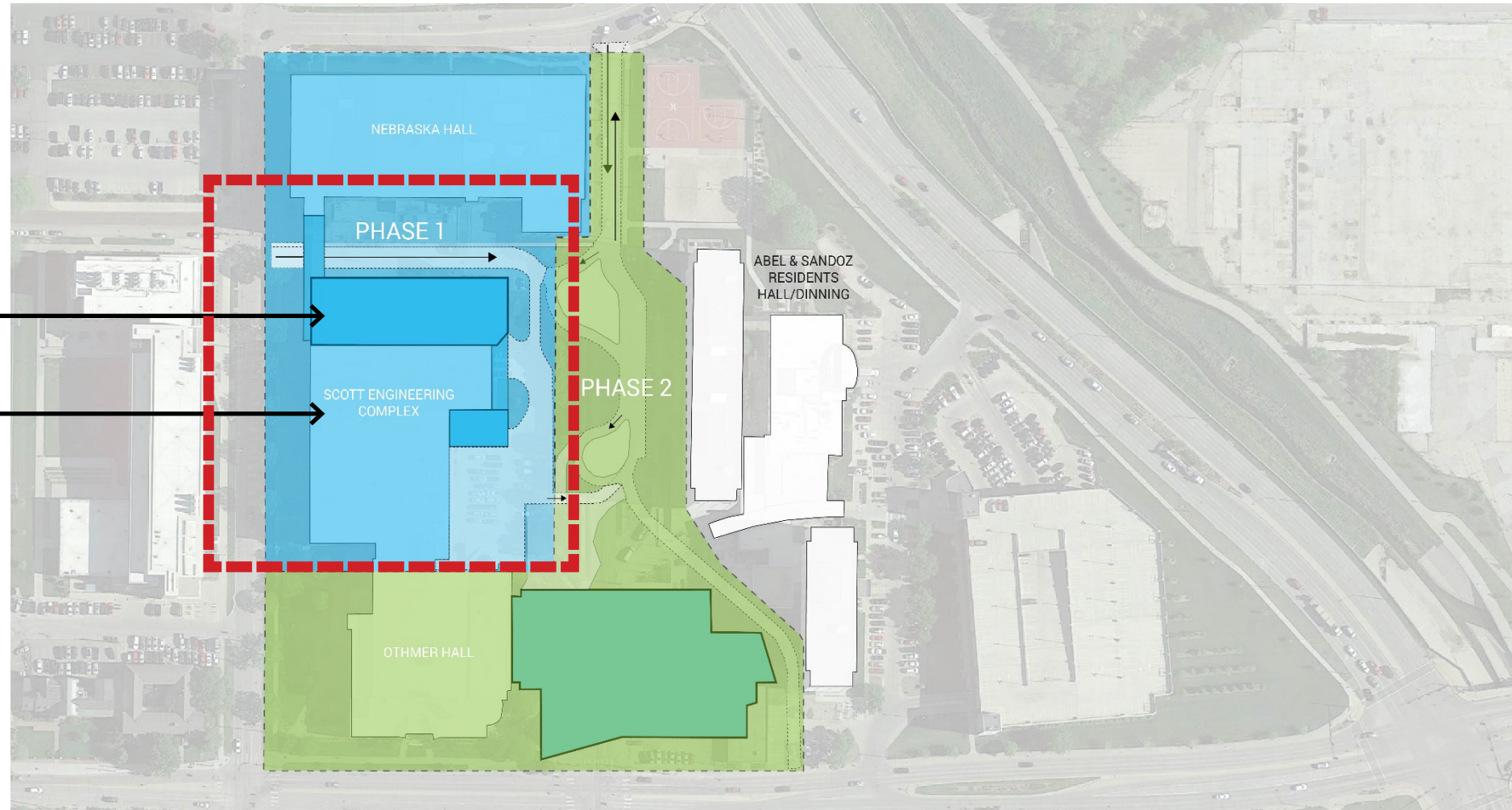


PROJECT SCOPE

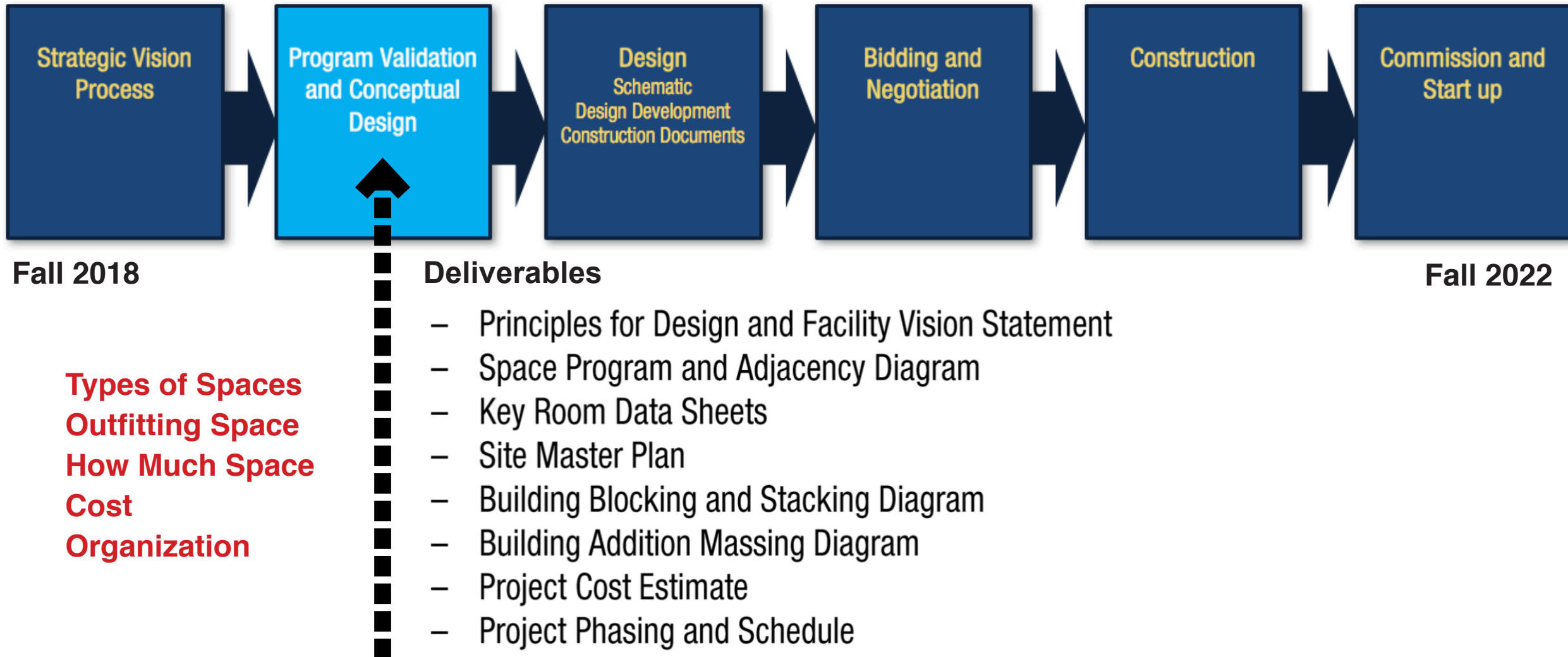
PHASE I Project

LINK replacement

Scott Engineering (SEC)
renovation

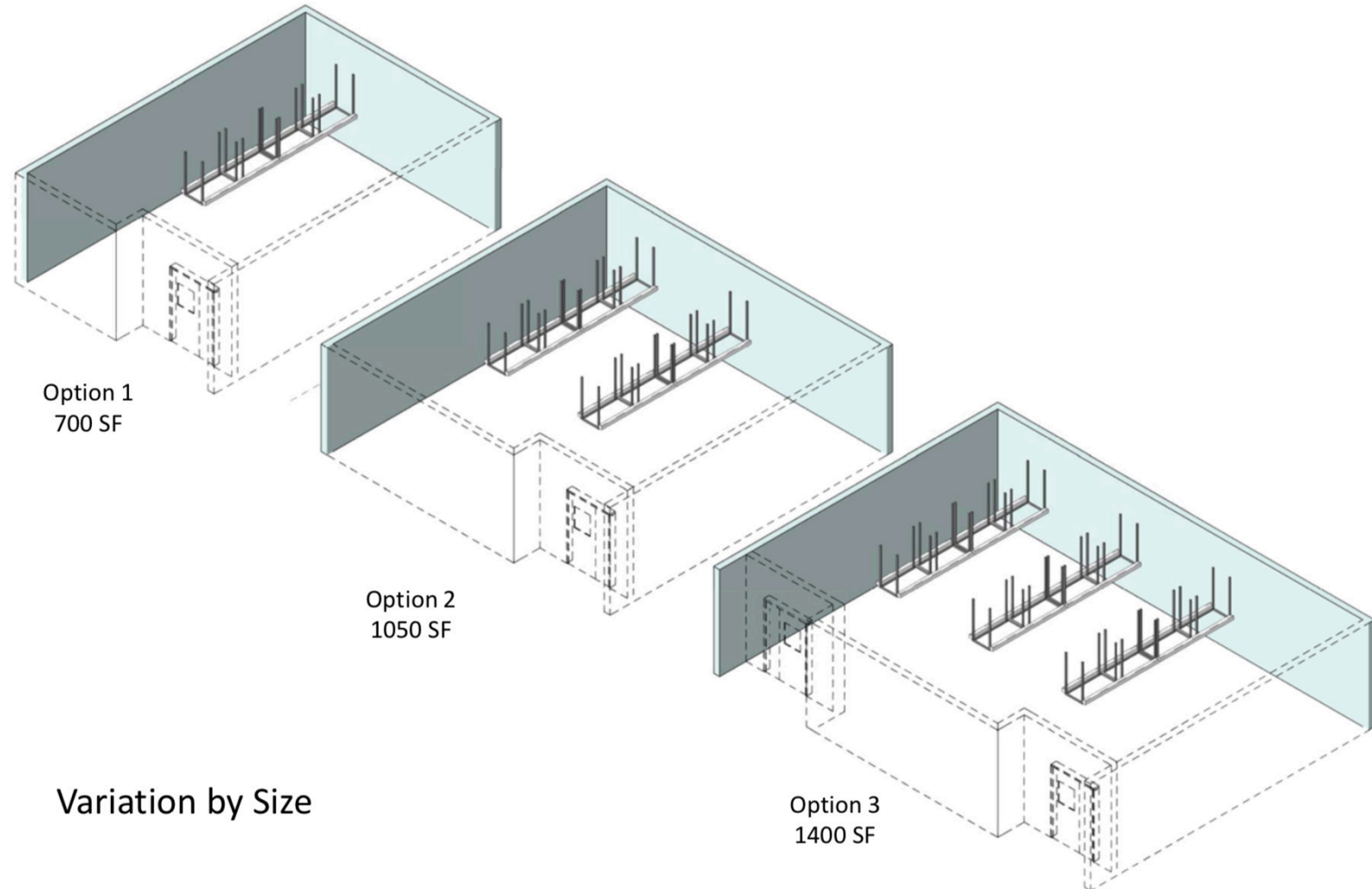


PROCESS AND SCHEDULE



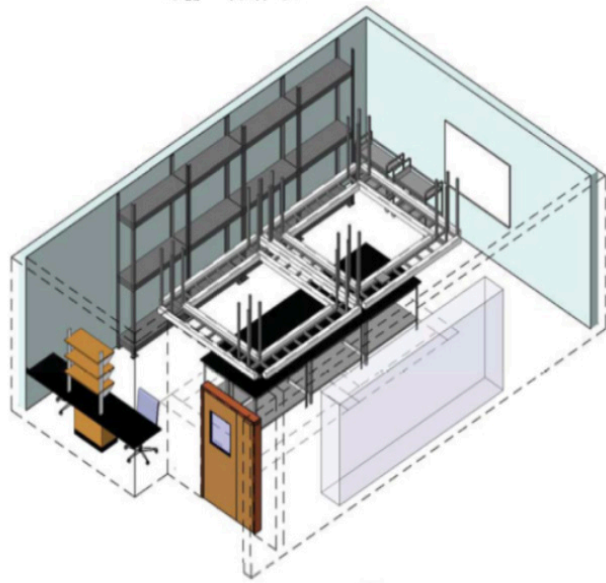
PROGRAM VALIDATION AND CONCEPTUAL DESIGN

Lab Typologies and Modules

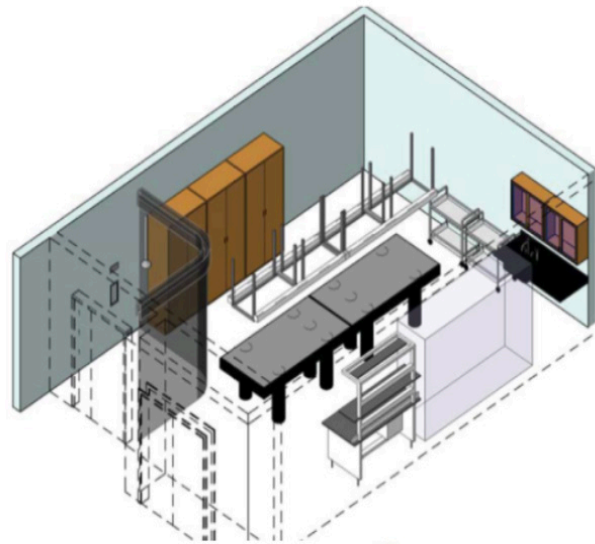


PROGRAM VALIDATION AND CONCEPTUAL DESIGN

Lab Typologies and Modules



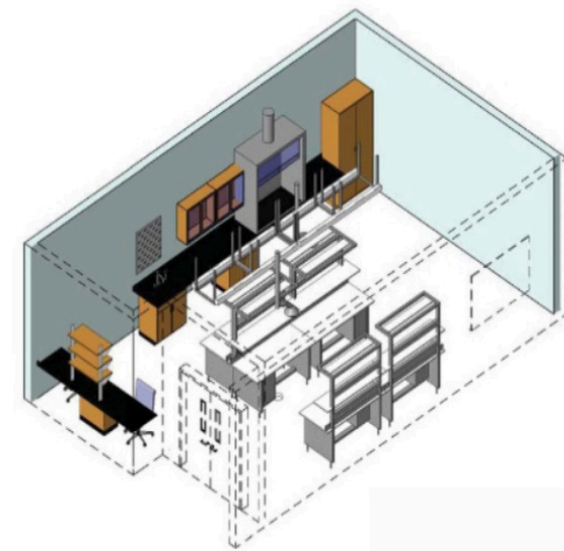
Electronics Lab



Laser Lab



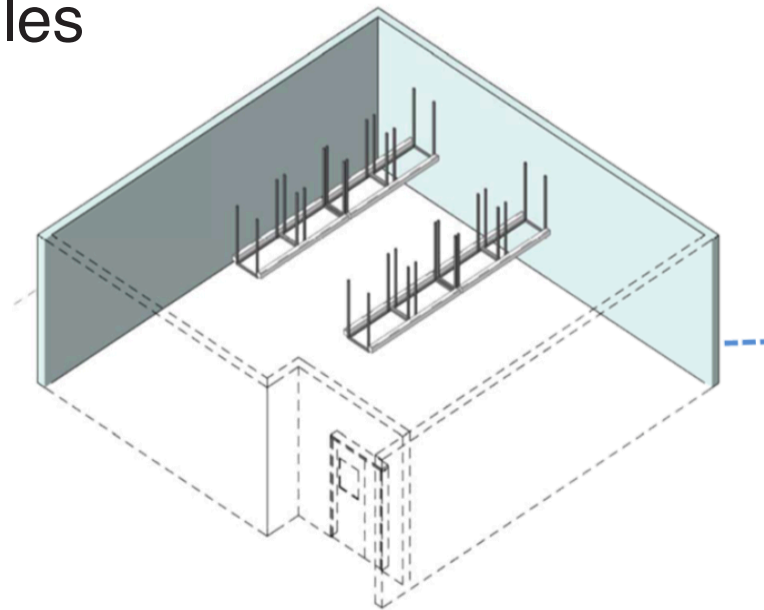
Bioscience & Gen Chemistry



Material Science

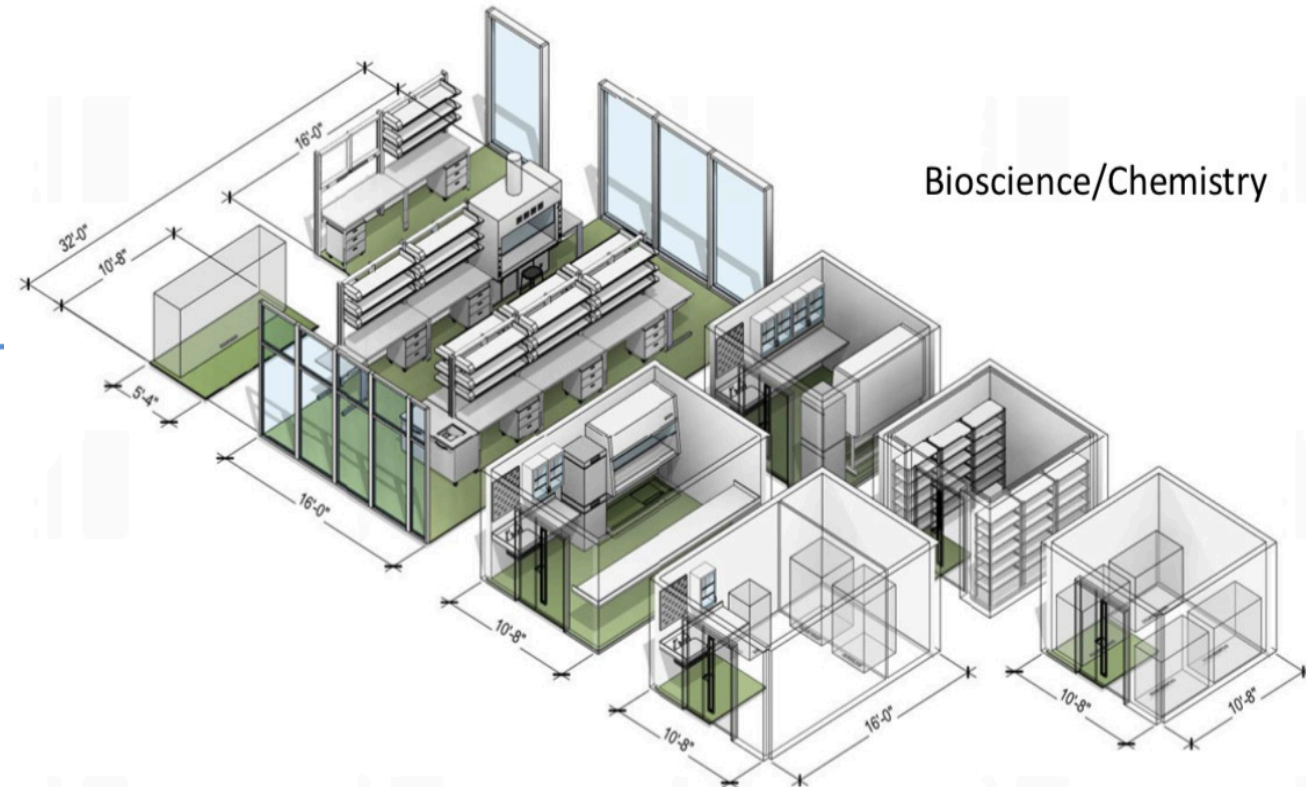
PROGRAM VALIDATION AND CONCEPTUAL DESIGN

Lab Typologies and Modules



Option 2A
800 SF + 400SF

Basic Lab Module



Bioscience/Chemistry

PROGRAM VALIDATION AND CONCEPTUAL DESIGN

Lab Typologies and Modules

Typology
Bioscience lab
Laser lab
Mech / Electrical
Computational
Total
Sub-components
Teaching lab modules
Teaching + Research lab modules
Shops
Research only modules
Total

	A	B	C	D	E	F	G	H	I	J	K
79	Typology	Sq ft (lab pr 1,	HOK modules Total	COE modules total	Current sq ft	Proposed sq ft	Randy's File (RESEARCH ONLY)				
80	Bioscience lab	852	9	11	8,307	9,377	16,074				
81	Laser lab	875	20	14	12,264	12,250	7,000				
82	Mech / Electrical	700	33	79.1	58,136	55,342	40,600				
83	Computational	250	2	7.3	1,394	1,813	-				
84	Total		64	111.4	80,101	78,782	63,674				
85											
86	Sub-components										
87	Teaching lab modules		11	12.3	1,705	3,705	3,850	Dedicated TL			
88	Teaching + Research lab modules (incl High Bay)			21.5	1,041	1,686	7,000	Shops			
89	Shops			8	8,53	1,600					
90	Research only modules		53	69.6	51,113	50,791	4,524				
91	Total				80,102	78,782					
92											
93	Module size										
94	Electrical/Electronics - Small	700									
95	Electrical/Electronics - Medium	1050									
96	Electrical/Electronics - Large	1400									
97											
98											
99	Laser Lab Prep	350									
100	Laser Lab Small	875									
101	Laser Lab Large	1050									
102											
103											
104	Instrumentation/Material Science	700									
105	Instrumentation/Material Science	1050									
106	Instrumentation/Material Science	1400									

PROGRAM VALIDATION AND CONCEPTUAL DESIGN

Lower Level SEC
and LINK



PROGRAM VALIDATION AND CONCEPTUAL DESIGN

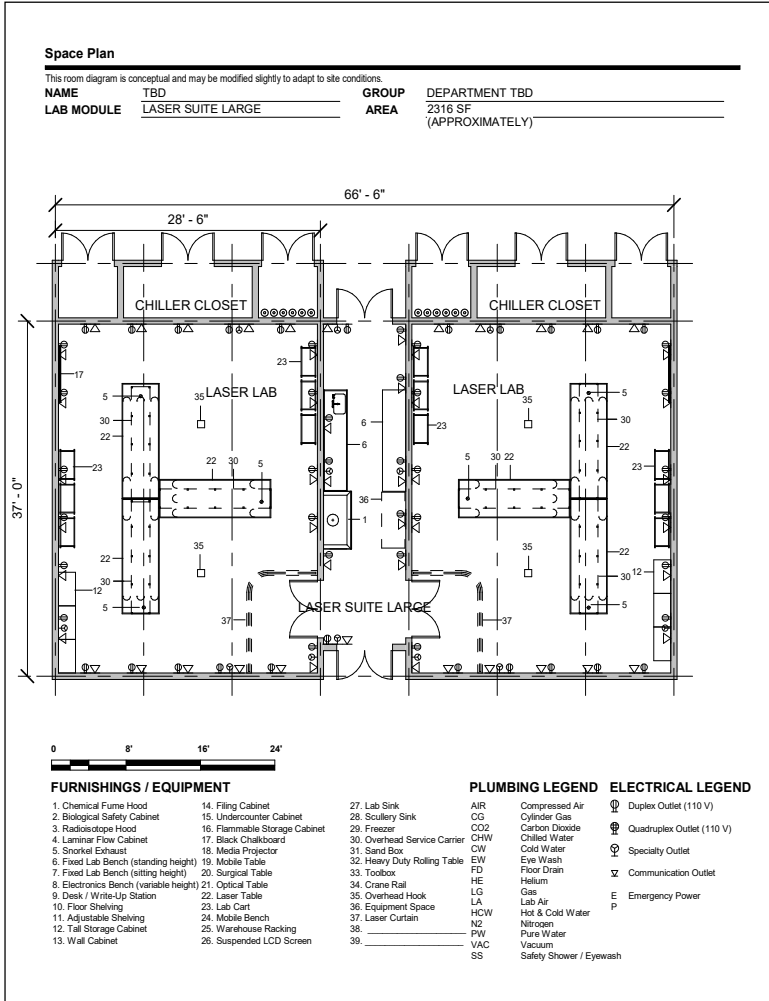
SCHEDULE

March 13	Faculty Interviews - Lab Data Sheets
March 14	Faculty Interviews - Lab Data Sheets
March 25	Faculty Interviews - Lab Data Sheets
March 26	Faculty Interviews - Lab Data Sheets
March 27	Faculty Interviews - Lab Data Sheets
March 27	Preliminary Architectural Design Review

April 3 Program Validation and Conceptual Design
Update - Steering Committee

April / May Faculty Interviews - Lab Data Sht. Review
Staff Interviews - Office Data Sheets

PROGRAM VALIDATION AND CONCEPTUAL DESIGN



Space Data			
This room diagram is conceptual and may be modified slightly to adapt to site conditions.			
NAME	TBD	GROUP	DEPARTMENT TBD
LAB MODULE	LASER SUITE LARGE	AREA	2316 SF (APPROXIMATELY)
UTILIZATION		PLUMBING	CHEMICALS
Hours of Use _____		Laboratory Gas (G) _____	Bases _____ X
8 hours/day _____		Laboratory Vacuum (VAC) _____ X	Acids _____ X
14 hours/day _____ X		Laboratory Air (LA) _____	Solvents _____ X
Hours of Operation _____		Compressed Air, 100 psi (AIR) _____ X	Chemical Waste Storage _____
8 hours/day _____		Hot Water (HW) _____ X	Other _____
14 hours/day _____ X		Cold Water (CW) _____ X	LABORATORY EQUIPMENT
Temperature _____		Pure Water (PW) _____	Vibration Sensitive _____ X
72°F ± 2°F _____		Chilled Water (CHW) _____ X	Light Sensitive _____ X
68°-75° ± 2°F _____		Carbon Dioxide (CO2) _____	Vibration Producing _____
Temperature Stability _____ X		Oxygen (O2) _____	Heat Producing _____
Humidity _____		Other _____	Noise Producing _____
36% ± 9% _____		Floor Drain (FD) _____	Overhead Service _____ X
Uncontrolled _____		Floor Sink (FS) _____	ACOUSTIC PERFORMANCE
Other < 50% _____ **		Safety Shower/Eyewash (SS/EW) _____	NC 40-55 _____ X
15 Air Changes/Hour _____		Drench Hose (DH) _____	NC 35 -39 _____
10Air Changes/Hour _____		ELECTRICAL	Less than NC 35 _____
6 Air Changes/Hour _____ X		110V, 20A, 1 Phase _____ X	ARCHITECTURAL
Recirculated Air _____		208V, 30A, 1 Phase _____ X	Floor _____
Air Pressure Positive _____		208V, 30A, 3 Phase _____ X	VCT (SDT) _____ X
Air Pressure Negative _____ X		480V, 100A, 3 Phase _____ X	Sheet Vinyl _____
HEPA Supply _____		Isolated Ground Outlet _____	Epoxy _____
HEPA Exhaust _____		Emergency Power _____ X	Carpet _____
Air Movement _____		UPS (OFOI) _____	Sealed Concrete _____
Below 50fpm _____ X		Phone _____ X	Partitions _____
VIBRATION CRITERIA		Data _____ X	GWB, Epoxy Paint _____
VC-A (50microm/s 2000micron/in/s) _____		LIGHTING	GWB, Paint _____ X
VC-B (25microm/s 1000micron/in/s) _____ X		"In Use" Light _____ X	Base _____
VC-C (12.5microm/s 500micron/in/s) _____		Task Lighting _____	4" Vinyl _____ X
VC-D (6.25microm/s 250micron/in/s) _____		Lighting Level _____	Integral w/floor _____
VC-E (3.12microm/s 125micron/in/s) _____		100 ft at bench/desk _____ X	Ceiling _____
NIST-A1 (0.75microm/s 30micron/in/s) _____		60 ft at bench/desk _____	Open _____ X
EMI PERFORMANCE		Darkenable _____	Acoustic Tile _____
AC EMI _____		Zoned Lighting _____ X	Gyp Board, Epoxy Paint _____
Less than 0.2 mil/Gauss w/shielding _____		Indirect Lighting _____	Height _____ 12"
0.2 mil/Gauss - 0.5 mil/Gauss _____		Other _____	Doors _____
0.5 mil/Gauss - 1.0 mil/Gauss _____		HOODS	3'-6" x 7' _____
1.0 mil/Gauss - 5.0 mil/Gauss _____		Chemical Fume Hood _____ X	3' x 7' _____ DOUBLE
5 mil/Gauss - 10 mil/Gauss _____ X		Laminar Flow Hood _____	1'-6" x 7' _____
DC EMI		Biological Safety Cabinet _____	Vision Panel _____
Less than 0.2 mil/Gauss w/shielding _____		Snorkel _____ X	CLEAN ROOM CLASSIFICATION
0.2 mil/Gauss - 0.5 mil/Gauss _____		Canopy Hood _____	List 1K, 10K or 100K _____
0.5 mil/Gauss - 1.0 mil/Gauss _____		RFI PERFORMANCE	95% Filtration _____
1.0 mil/Gauss - 5.0 mil/Gauss _____		Less than 30MHz _____	
5 mil/Gauss - 10 mil/Gauss _____ X		More than 1GHz _____	
REMARKS:			
LASER CURTAIN, CHILLER CLOSET ADJACENT TO THE SPACE, * 72" ±1", ** HUMIDITY NEVER GREATER THAN 40% ±5%; FOUR - 1 TON CEILING HOOK			





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CONSTRUCTION CENTRAL



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Lance C. Pérez

DEAN, COLLEGE OF ENGINEERING

<https://engineering.unl.edu/construction-central/>