



THE UNIVERSITY OF  
**MEMPHIS**

# Robert F. & Avron B. Fogelman Business Complex

Programming Study Update 2024

## THE UNIVERSITY OF MEMPHIS

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## BENCHMARKING VISITS

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 DR. KEN TROSKE, PROFESSOR OF ECONOMICS - UKY, Gatton College  
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# 01

## EXECUTIVE SUMMARY

ROBERT AND AVRON FOGELMAN BUSINESS COMPLEX

*Programming Study Update 2024*

## PROJECT INTRODUCTION

The University of Memphis and the Fogelman College of Business (FCBE) have experienced growth & success over the recent years and have begun to explore the exciting opportunities for expansion of their current facilities. The Fogelman College of Business is one of the largest colleges at the University of Memphis, and presently enrolls over 3800 students with significant growth projected over the next 5-10 years. The FCBE is home to six departments offering undergraduate, graduate, & doctorate programs and the possibility of developing a new department in the near future has been discussed. These departments included Accounting; Economics; Finance, Insurance & Real Estate; Management; Management Information Systems; and Marketing & Supply Chain Management. With so many unique skillsets, the College has partnered with many local businesses to support the broader Memphis area and to provide opportunity for their students. The ongoing success and strategic growth of the FCBE are critical to the University of Memphis.

To support this mission, this programming endeavor was started to better understand and define the needs of Fogelman College of Business. The scope of this programming effort is outlined in this document. A summary of the programming process is outlined below:

**Project Visioning & Goals** - Kickoff meetings were conducted with FCBE core stakeholders to identify the vision & values of the project. Existing facilities and assessments were also reviewed at this time, as well as current trends in peer business schools.

**Programming Meetings & Questionnaires** - A series of programming meetings were conducted with user groups to better understand needs and space requirements. A questionnaire was also distributed at this time to broadly collect information from students and faculty.

**Benchmarking Visits** - At the conclusion of the initial programming meetings, a series of benchmarking visits were conducted to peer facilities to further identify key programs and strategies implemented in contemporary business school design. Metrics for comparison were also identified. At the conclusion of the visits, a debrief form was completed to document the critical findings and preferences.

**Space Program Development & Conceptual Planning** - Based on the findings of the stakeholder meetings and peer facility benchmarking, as well as space utilization analysis per THEC standards, a space program was developed for review and refinement. Once the space program was well understood, conceptual plans and renderings were developed to visualize the execution of the space program. Several meetings were conducted at this phase with different stakeholder groups to solicit broad input and feedback.

**Conceptual Narratives & Cost Estimating** - After the space program had been reviewed and accepted, a meeting was conducted on campus with engineers to evaluate and document the scope of the project. This has been outlined in a conceptual design narrative, which was shared with a professional cost estimator for preliminary evaluation of the construction cost. After receipt of the cost estimate, several strategies were developed for possible cost reductions and cost management strategies.

## VISION & VALUES

### To create a space that...

- Is student-centered and filled with students 24/7.
- Enhances student engagement.
- Attracts and retains students and faculty.
- Is an inclusive, collaborative, and engaging environment
- Reflects the modern business workplace within the campus context.
- Transforms the traditional model for teaching and learning with a more collaborative, open, and flexible model.

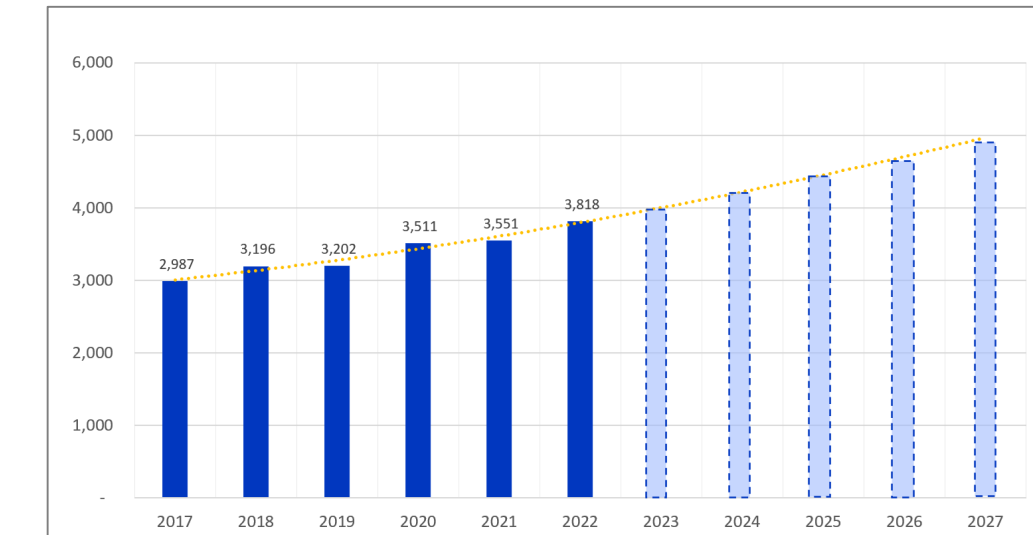
### Using design elements which...

- Capitalize on daylight, enhancing creativity & innovation.
- Allow for flexible instruction & research spaces for active and collaborative learning.
- Unifies and integrates the College through common spaces and clear circulation.
- Enhances the College's identity and prominence on the campus and nationwide.
- Offers a timeless and functional form, prepares the college for coming decades.

## ENROLLMENT PROJECTIONS

**Current Enrollment** - 3818 Students (28% Growth over prior 5 Years)

**Projected (5-YR) Enrollment** - 5000 Students (31% Growth over next 5 Years)



## PROGRAM FINDINGS & BENCHMARKING

The current Fogelman College of Business & Economics programs are spread across two buildings; a four-story administrative building and a three-story classroom building, designed in 1969. Limited renovations over the last 50 years and changing instructional models have made these buildings largely antiquated. The space program describes renovation of both buildings while providing new instructional space in an addition that also unifies the two separate facilities.

**Peer Facility Benchmarking** - The following institutions were toured:

Clemson University - Powers College of Business

Auburn University - Mell Classroom Building & Horton Hardgrave Hall (Harbert CoB)

University of Alabama Birmingham - Collat School of Business

University of Kentucky - Gatton College of Business and Economics

The questionnaire and programming interviews identified the critical instructional spaces and admin / faculty needs, as well as the desire for a vibrant central common space to encourage student engagement and collaboration.

## SPACE PROGRAM RECAP

A recap of the proposed space program is provided below.

PROGRAM	EXISTING AREA (NSF)	PHASE 1	PHASE 2
CLASSROOM & LECTURE	26,990 NSF	22,332 NSF	13,340 NSF
INSTRUCTIONAL LABS	7,680 NSF	3,730 NSF	2,900 NSF
PHDs & RESEARCH	4,130 NSF	5,270 NSF	0 NSF
DEAN'S SUITE	2,505 NSF	2,479 NSF	0 NSF
FACULTY & STAFF SPACES	17,755 NSF	16,384 NSF	2,650 NSF
STUDENT SERVICES	4,300 NSF	6,593 NSF	0 NSF
CAREER DEVELOPMENT	2,150 NSF	3,618 NSF	0 NSF
STUDY FACILITIES/COMMONS	2,020 NSF	9,390 NSF	9,400 NSF
TOTAL (NSF)	68,620 NSF	69,796 NSF	28,300 NSF
TOTAL (GSF)	126,000 GSF	128,200 GSF	58,090 GSF

The space program above was used to develop a conceptual plan, renderings (see the following page) and design narrative, which was used to develop a preliminary cost estimate.

## COST ESTIMATE (PRELIMINARY)

A probable cost estimate was separately prepared for the renovation scope (Phase 1) and the addition scope (Phase 2). Additionally, cost alternates were considered for the Phase 1 scope of work, which are outlined in detail in the cost section.

<b>Phase 1 - Project Cost Estimate</b>	\$29,131,750
<i>Phase 1A - Project Cost Estimate w/ Alternates</i>	\$37,091,090

<b>Phase 2 - Project Cost Estimate</b>	\$47,908,910
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<b>Total Project Cost (Both Phases)</b>	<b>\$85,000,000</b>
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CONCEPT RENDERINGS

CONCEPT RENDERINGS



VIEW FROM FOGELMAN DRIVE - PHASE 1



CONCEPTUAL PERSPECTIVE STUDENT COMMONS - PHASE 1

CONCEPT RENDERINGS

CONCEPT RENDERINGS



VIEW FROM CORNER OF CENTRAL AVENUE & PATTERSON STREET - PHASE 2

CONCEPTUAL PERSPECTIVE STUDENT COMMONS - PHASE 2

## PROGRAM INTRODUCTION

The University of Memphis and the Fogelman College of Business (FCBE) have experienced growth & success over the recent years and have begun to explore the exciting opportunities for their future educational environments. The Fogelman College of Business presently enrolls over 3800 students (~17% of the overall University) and projects to grow significantly over the next 5-10 years. The FCBE is home to six departments offering undergraduate, graduate, & doctorate programs and the possibility of developing a new department in the near future has been discussed. These departments included Accounting; Economics; Finance, Insurance & Real Estate; Management; Management Information Systems; and Marketing & Supply Chain Management. With so many unique skillsets, the College has partnered with many local businesses to support the broader Memphis area and to provide opportunity for their students. The ongoing success and strategic growth of the FCBE are critical to the University of Memphis.

To support this mission, this programming endeavor was started to better understand and define the needs of Fogelman College of Business. The scope of this programming effort is outlined in this document.

The study began with visioning process to identify project goals and define parameters. The initial visioning discussions were expanded upon through a series of questionnaires, focus group meetings and a series of benchmarking trips to peer institutions. This process helped solidify the guiding principles for the study, from which a detailed space program, room data sheets, and concept design / test fits were developed.

## VISION & VALUES

To create a space that...

- Is student-centered and filled with students 24/7.
- Enhances student engagement.
- Attracts and retains students and faculty.
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- Reflects the modern business workplace within the campus context.
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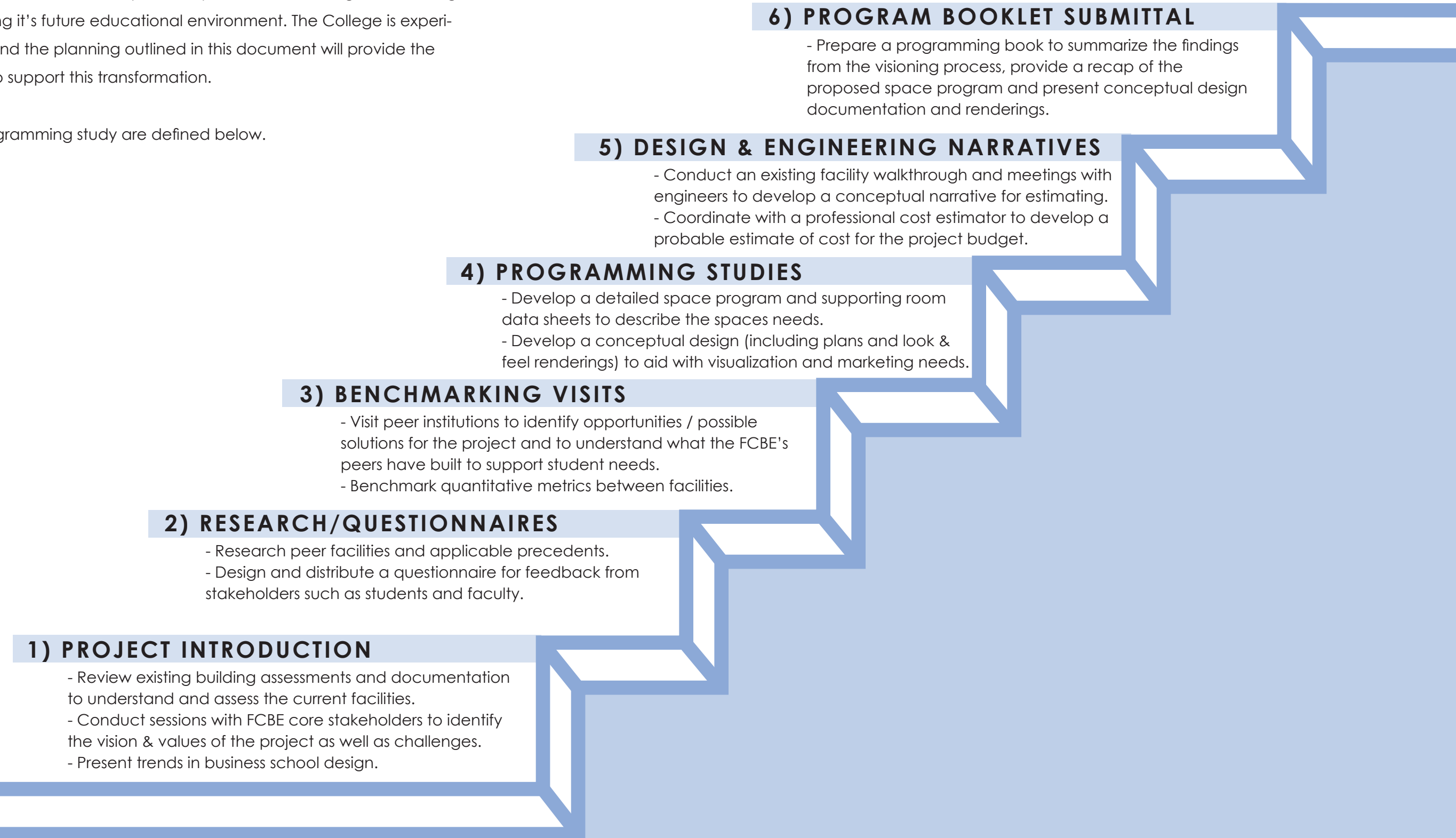
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- Offers a timeless and functional form, prepares the college for coming decades.

## PURPOSE STATEMENT

Williams Blackstock Architects and our consultants are excited to provide this programming and masterplan document to the University of Memphis to assist the Fogelman College of Business with envisioning its future educational environment. The College is experiencing exciting growth and the planning outlined in this document will provide the University with the tools to support this transformation.

The core tasks of this programming study are defined below.

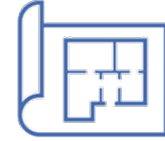


# ENROLLMENT DATA

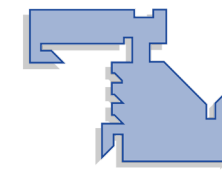
## Current Enrollment & Facilities



**3,818** Enrolled Students



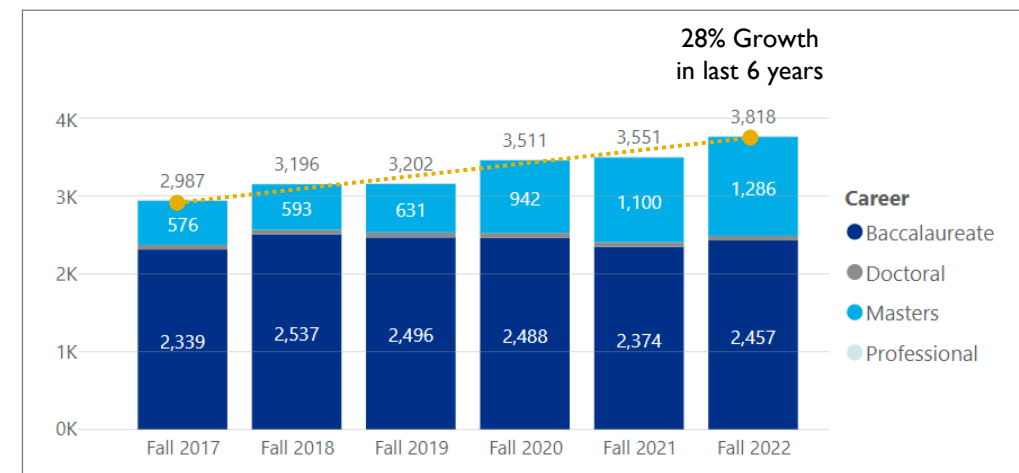
**30** Teaching Spaces Classrooms, Lectures, Labs  
**97** Faculty Offices  
**4** Team Rooms



**126,000** GSF  
**34,300** Teaching Spaces NSF  
**2,900** Commons Areas NSF

**28%** Growth in past 5 Years

PREVIOUS 5-YEARS: ENROLLMENT NUMBERS

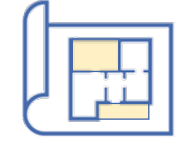


Source: [https://www.memphis.edu/oir/data/public\\_student\\_demographics.php](https://www.memphis.edu/oir/data/public_student_demographics.php)

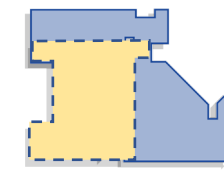
## 5-Year Projected Growth: 31%



**5,000** Enrolled Students



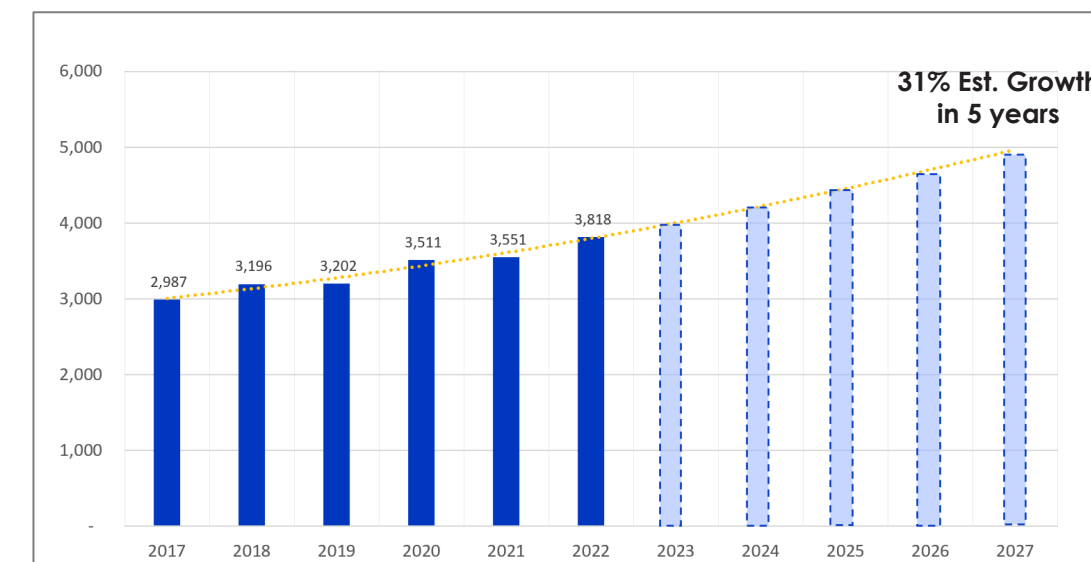
**28** Teaching Spaces Classrooms, Lectures, Labs  
**165** Faculty Offices  
**36** Team Rooms



**186,290** GSF  
**42,300** Teaching Spaces NSF  
**18,800** Commons Areas NSF

**28%** Growth in past 5 Years  
**31%** Projected Growth in 5 Years

PROJECTED 5-YEAR ENROLLMENT:

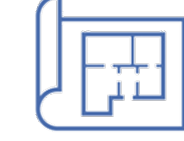


# ENROLLMENT DATA

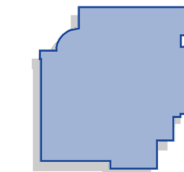
## UKY: Gatton College of Business - Current



**4,600** Enrolled Students



**30** Teaching Spaces  
**180** Faculty Offices  
**40** Team Rooms



**212,513** GSF  
**39,000** Teaching Spaces NSF  
**12,000** Commons Areas NSF

**21%** Growth in past 5 Years

## UM: 10-20 Year Growth Notes

A new, attractive building will make it more desirable for large number of **on-line students to return to campus**

**12,000 SF of additional classroom space** accommodates substantial growth.

Renovated classrooms and new classrooms are **larger and more efficient** and will accommodate more students.

Some low classroom utilization will be eliminated with larger more **flexible and efficient classrooms**.

Long range classrooms can be **dedicated to solely business school** and more efficiently utilized throughout the day.

While desire is to attract students back to campus, **online / hybrid** remains a way to **accommodate more enrollment** over time by leveraging technology.



# 02

## OBSERVATIONS

ROBERT AND AVRON FOGELMAN BUSINESS COMPLEX  
*Programming Study Update 2024*

## OVERVIEW

The current Fogelman College of Business & Economics programs are spread across two buildings; a four-story administrative building and a three-story classroom building, designed in 1969. While both facilities were cutting edge for their time, limited renovations over the last 50 years and changing instructional models have made these buildings largely antiquated. A brief description of the challenges faced by these facilities is outlined below.

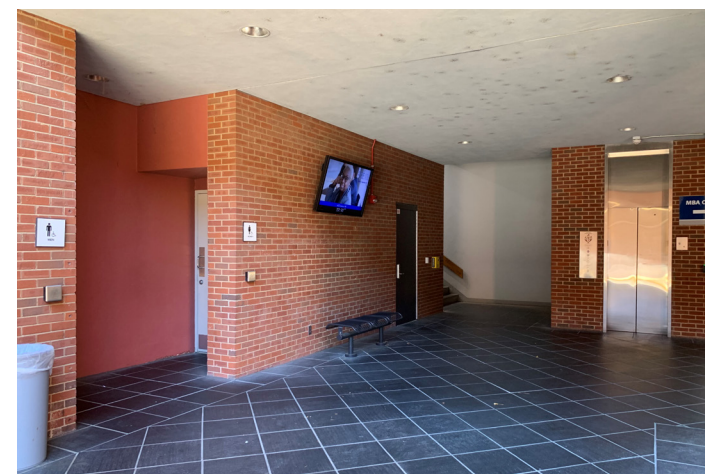
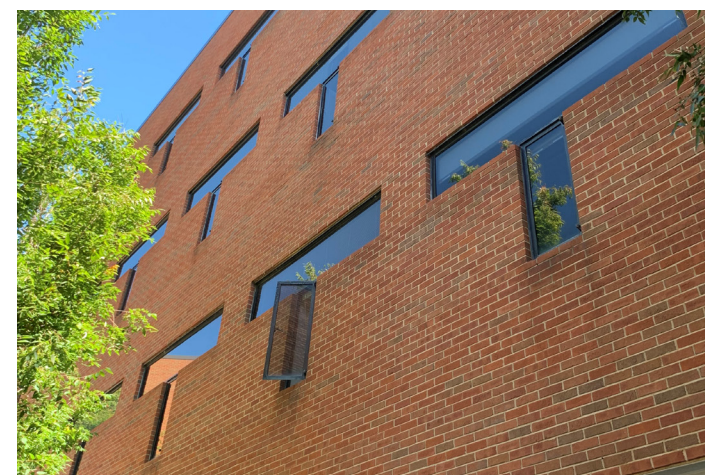
## EXTERIOR / MEP

- The existing buildings are over 50 years old with limited renovation or updates.
- Aged mechanical and electrical infrastructure require complete replacement.
- The current restroom provisions fall short of contemporary code requirements and are located on the opposite end of the building from the key instructional spaces.
- The current elevators are prone to getting stuck and are too small to properly serve the building.
- Stairwells, restrooms and elevators are accessed from outside, which presents safety & security challenges and disconnects the building.
- Lack of compliance with ADA standards for accessibility.
- The separation between the buildings prevents the facilities from feeling like one cohesive College of Business.

## INTERIOR

- The antiquated instructional environments and classrooms are inconsistent with today's modern teaching methodologies and pedagogies.
- Student services are not logically placed in the building and are not visible or accessible to students.
- Lack of study and collaborative spaces for learning outside the classroom.
- The current interiors are visually dark and foreboding.
- Lack of daylight or exterior views throughout the building and classrooms.
- The "T" shaped exterior windows are not functional.
- Lack of student / faculty interaction and collaboration space.

### Exterior Images



### Interior Images



## 1. CLEMSON UNIVERSITY

*POWERS COLLEGE OF BUSINESS*

## 2. AUBURN UNIVERSITY

*MELL CLASSROOM BUILDING  
HARBERT COLLEGE OF BUSINESS - HORTON HARDGRAVE HALL*

## 3. UAB

*COLLAT SCHOOL OF BUSINESS*

## 4. UNIVERSITY OF KENTUCKY

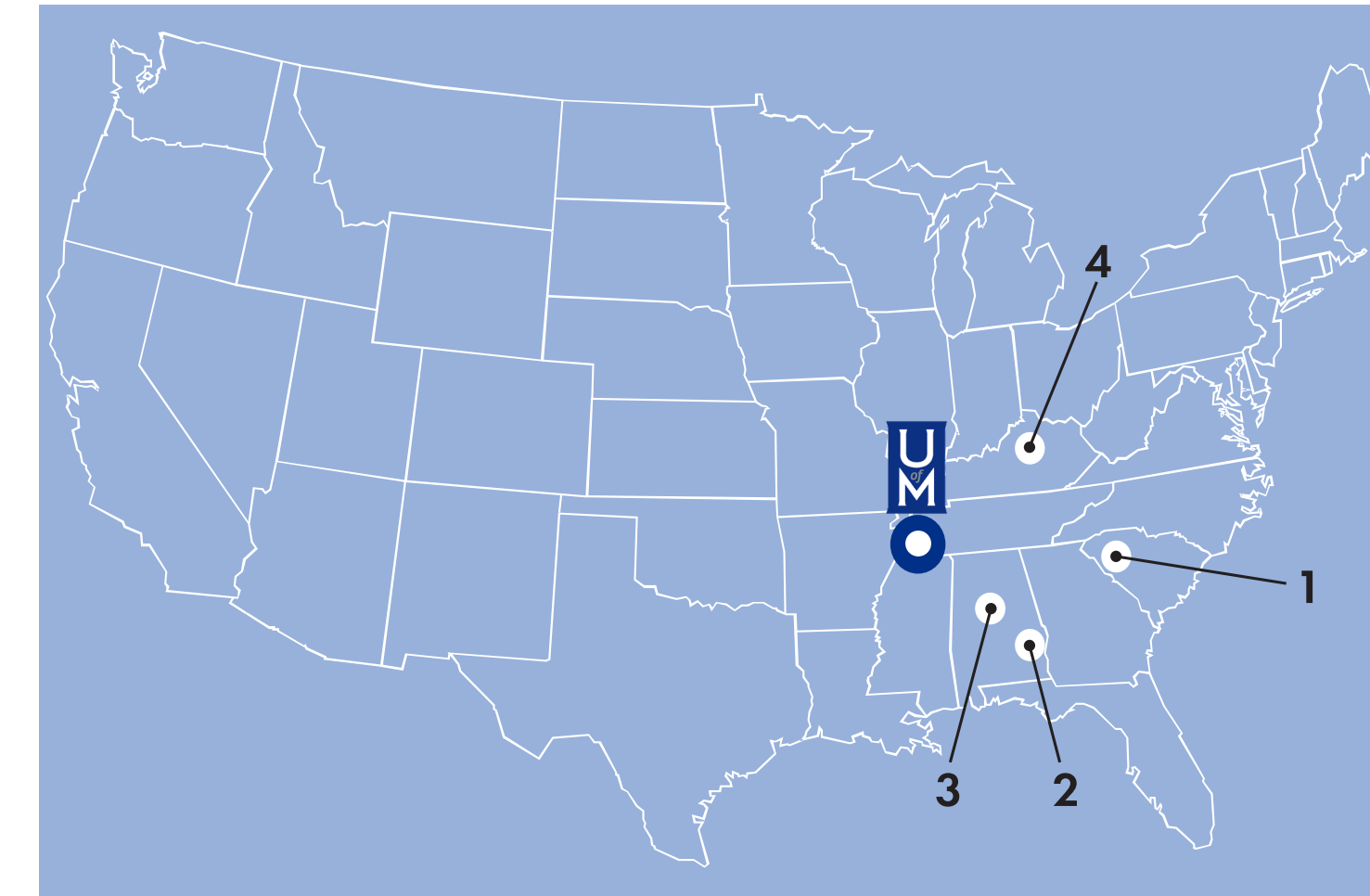
*GATTON COLLEGE OF BUSINESS AND ECONOMICS*

## TOUR SUMMARY

Members of the Fogelman College of Business and the design team conducted several benchmarking tours to peer facilities throughout the Southeast. The overarching goal of these visits was to identify the critical elements of contemporary business school design and understand how these elements could be incorporated into renovated and new facilities at the University of Memphis.

Benchmarking Visit Goals:

- Understand trends in successful peer institutions and how the architectural solution helps guide and reinforce their principles.
- Understand what modern institutions are using to aid in student and program development, and consider how to integrate these strengths.
- Identify the critical spaces, such as student commons and innovation labs, that will help drive student success and serve as recruiting tools for the University of Memphis.



A brief summary of the successful aspects of each peer facility (and opportunities for improvement) are outlined on the following pages as identified by FCBE core stakeholder team.

## CLEMSON UNIVERSITY - POWERS COLLEGE OF BUSINESS

### Strengths:

- Light and openness** throughout
- Welcoming, comfortable** student spaces
- Technology integration throughout**, from building systems to classroom and conference scheduling
- Smaller, more efficient offices** with plenty of glass that overlooked student space
- Student commons – **central gathering space** for students and faculty
- Re-use of wood in interior from oak trees on site

### Opportunities for Improvement:

- Complete separation** of students and faculty
- “Sterile” aesthetic**, too many white materials, also presents cleaning concerns



## AUBURN UNIVERSITY - MELL CLASSROOM BUILDING

### Liked:

- Light and openness** throughout.
- Central Stair and Study Balconies provide **multi-functional circulation spaces**
- Warmth of wood and light**, balance of materials and colors
- Flexible classrooms** with movable partitions
- Subtle connection** to existing building

### Disliked:

- Pastel colors used in the classrooms



## AUBURN UNIVERSITY - HORTON-HARDGRAVE HALL

### Liked:

- Student-centered spaces** were highly utilized, felt that students had **ownership** of the building
- Comfortable** “Living Room” commons
- Variety of study areas** throughout building
- Rooftop Terrace**
- Flexible Event Theater** with retractable seating
- Warmth of wood and light**, balance of materials and colors
- Light and openness** throughout.

### Disliked:

- Café located away from main living room



## UAB - COLLAT SCHOOL OF BUSINESS

### Liked:

- Bright, Spacious** Living Room/Commons
- Sculptural **Staircase**
- Student Services** easily accessed on first floor, near commons
- Café** located near commons

### Disliked:

- Secluded Offices** located away from main commons



# BENCHMARKING VISITS

## UNIVERSITY OF KENTUCKY - GATTON COLLEGE OF BUSINESS AND ECONOMICS

### Liked:

Seamless integration of an existing building with the new.

Open, airy student living room with great seating and adjacent café

Abundance of Team Rooms facilitated communication between students and faculty

Technology integration throughout

Warm wood tones in materials and furniture felt inviting

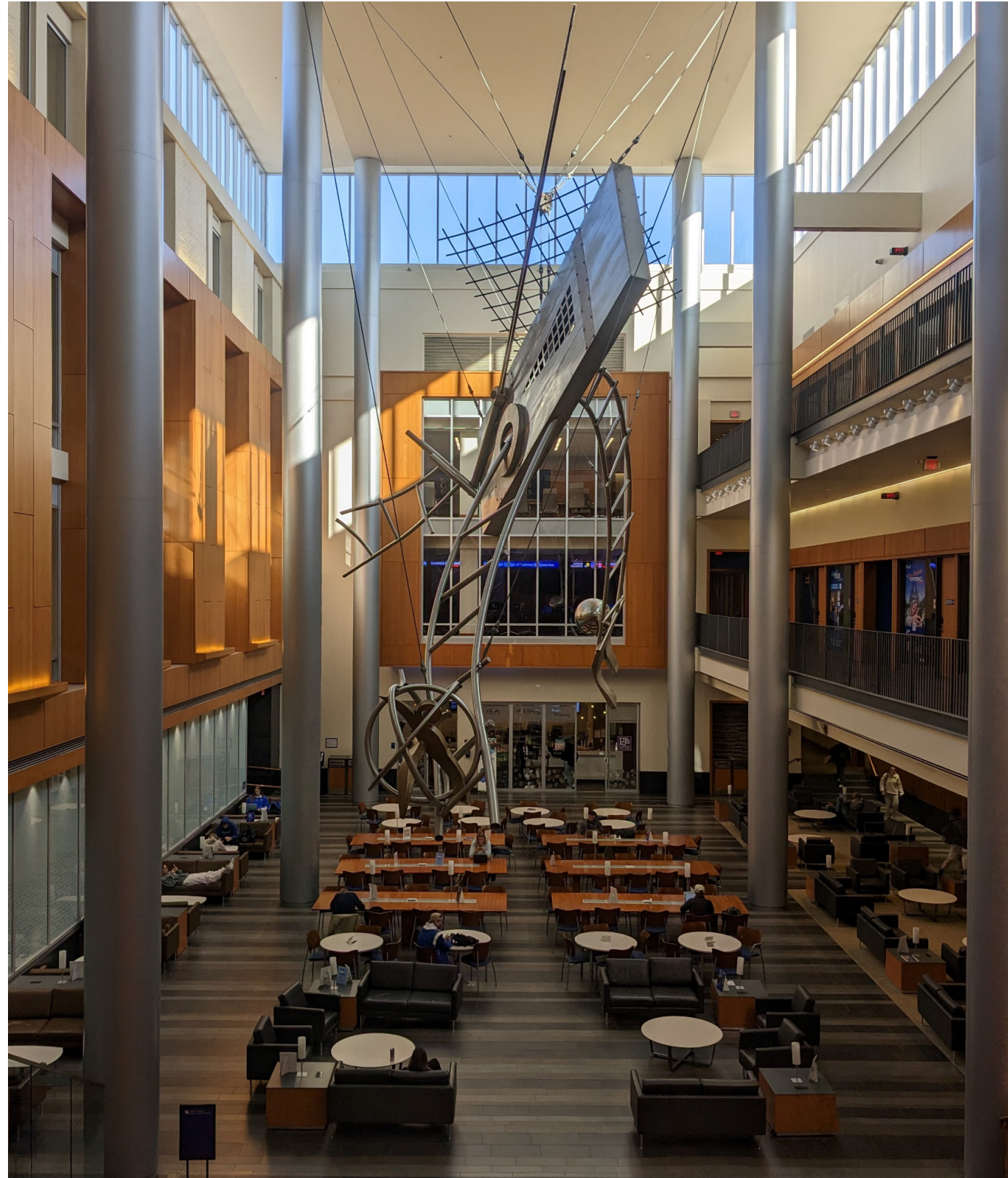
Central Student Commons – was filled with students

Display of colorful, bold art throughout the building

### Disliked:

Event Space feels too small

Too much dark wood and other materials



# 03

## SPACE PROGRAM

ROBERT AND AVRON FOGELMAN BUSINESS COMPLEX

*Programming Study Update 2024*

## SITE OBSERVATIONS

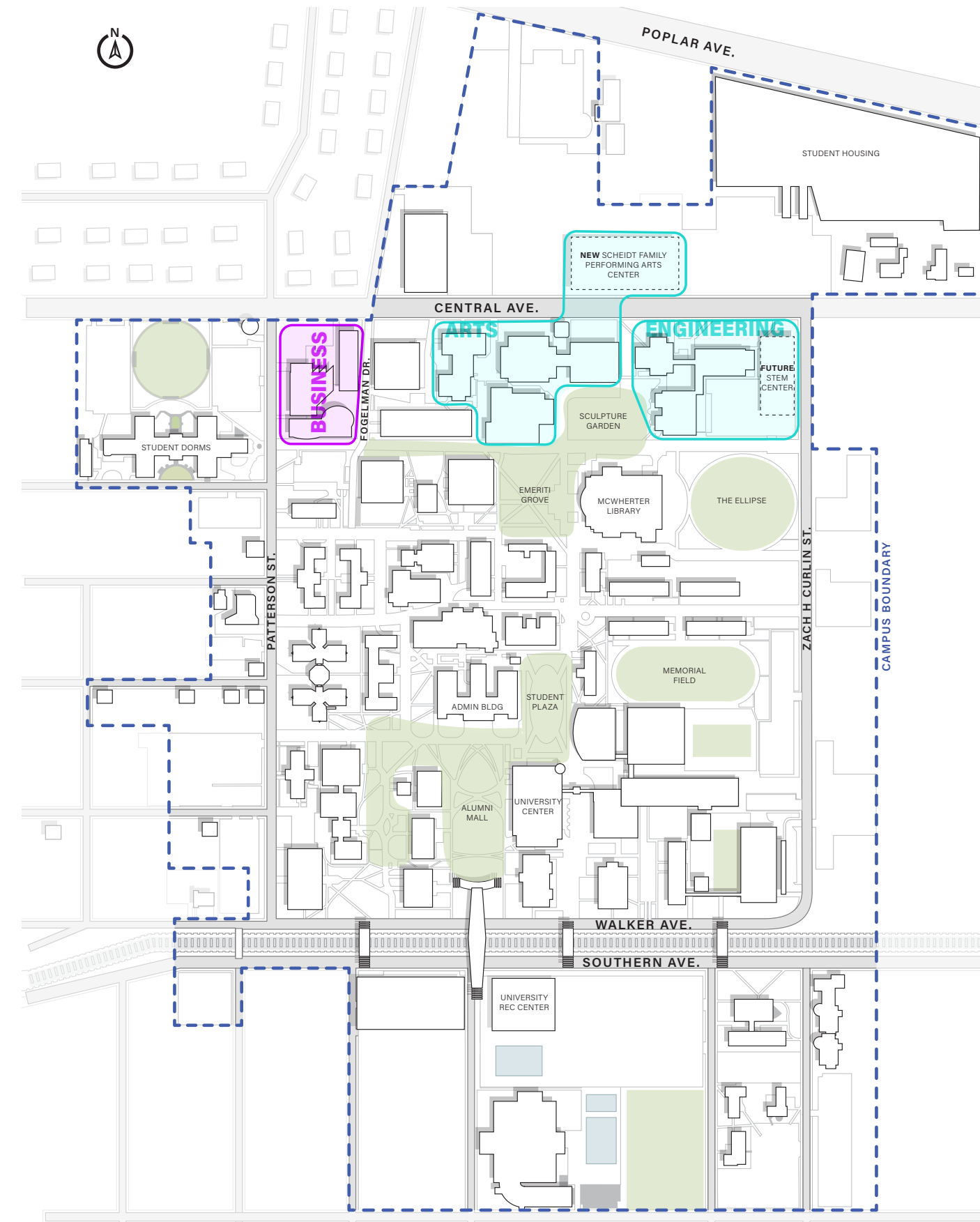
### Campus Gateway, "Front Porch"

The College of Business occupies a prominent position in the campus, positioned as the northwest cornerstone and gateway to the university. Located just off of Central Avenue, a major arterial road, the College of Business building will be a landmark of the University both in the public eye and the student identity. Other buildings along this roadway are the new Performing Arts Center and the future STEM Research and Classroom Building. These modern buildings help to elevate the campus' identity, while still tying back to the campus history and tradition, setting a strong anchor for the north-east gateway to campus. By renovating and adding to the north end of the College of Business, this gateway can also provide a strong welcoming message to the public and prospective students.

### Green Space

Many of the pedestrian paths on campus follow green ways which are rich with mature trees and landscaped plants. This brings a richness to campus that is highly valued and also allows for moments of rest and pockets of student activity. The addition to the business complex aims to align to this campus culture by providing a courtyard space on the north side of the site. Some of the large, mature trees along Central Ave should be able to be kept through construction and protected as much as possible. New trees and greenery should be added into the new courtyard to provide shade, privacy, and promote outdoor activity that will be a visible public presence from Central Ave.

- University Campus Boundary
- Green Space
- Adjacent Colleges along Central Ave.
- Fogelman College of Business Education



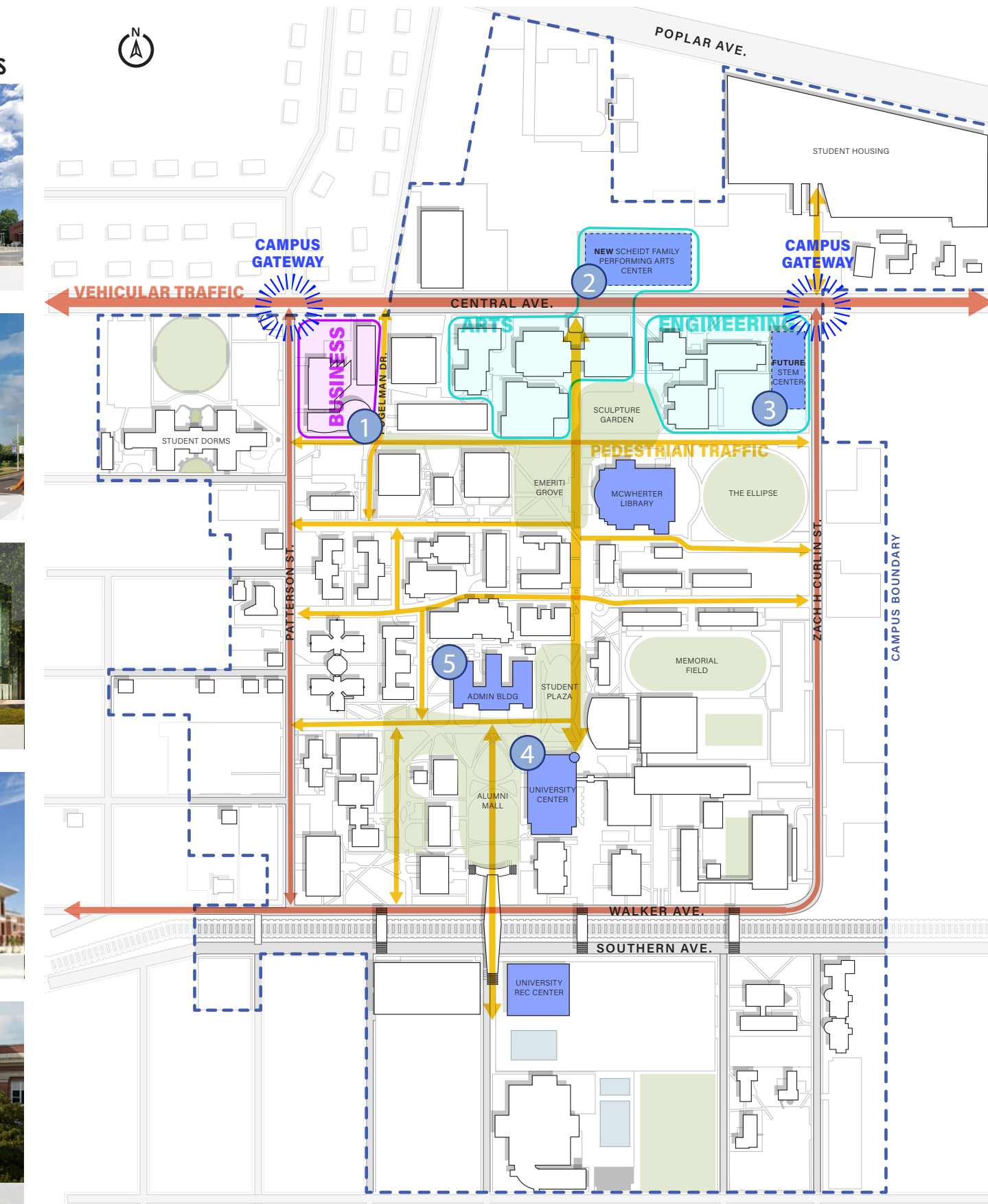
## SITE OBSERVATIONS

### Site Accessibility

The University of Memphis boasts a very pedestrian-friendly campus, with many green ways and walking paths. The whole campus only takes about 15 minutes to walk from NW to SE corner. Being in the NW corner of campus, most on-campus students will access the building from the east side. There is also a large parking lot to the west of the business college, that many visitors or off-campus students could use, then access the building from the north entry. It is important to use the ample space on this north side to create a courtyard that invites guests and gives a welcoming presence towards the Central Ave. public way. Currently, the only ADA accessible entrance is the east side portal entry, which has an uncovered ramp and a single elevator that is accessed from an open-air portal. This presents problems for ADA users and would need to be updated during renovation.

- University Campus Boundary
- Green Space
- Adjacent Colleges along Central Ave.
- Fogelman College of Business Education
- Vehicular Traffic
- Pedestrian Traffic
- Buildings with strong Campus Identity

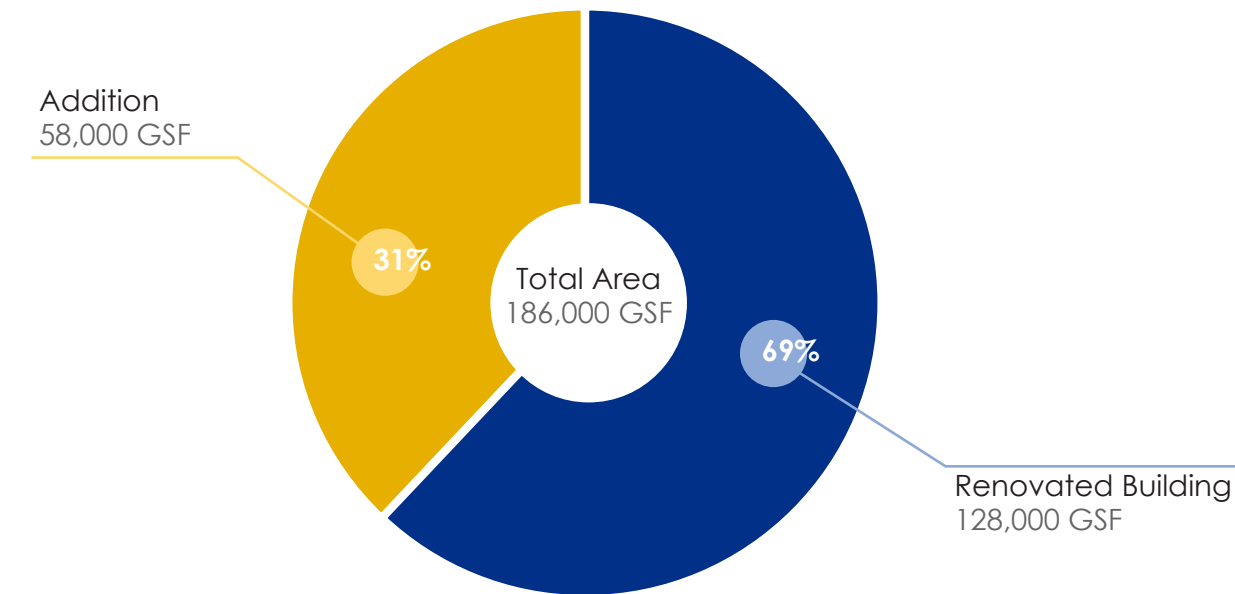
## CAMPUS IDENTITY EXAMPLES



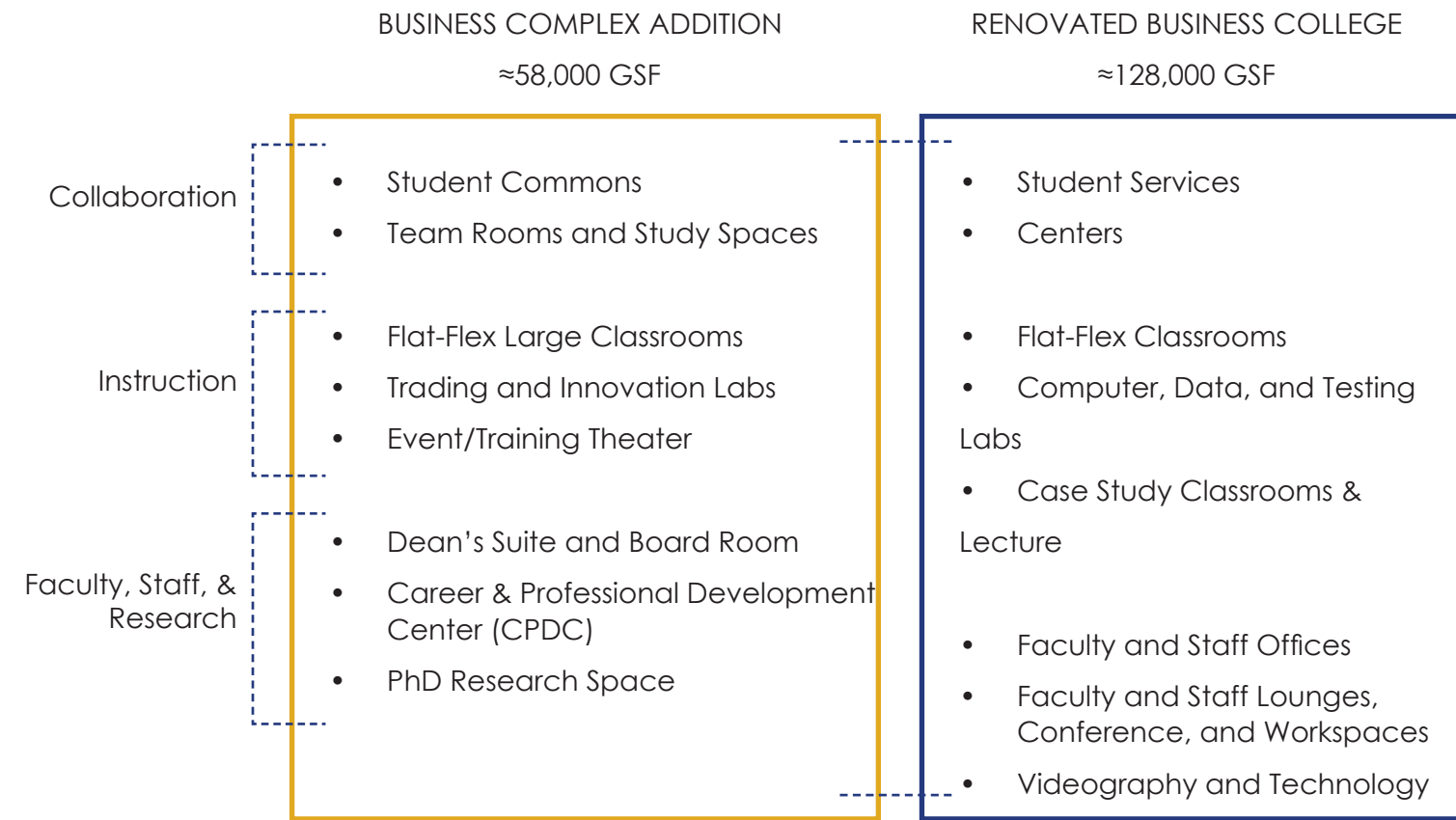
## PROGRAM SUMMARY

The proposed program strategically balances the renovation of existing spaces and the addition of new spaces to enhance current space adjacencies, while considering space needs against existing constraints. The core goal of this space program is to unify the many programs of the Fogelman College of Business, by clustering a diversity of active spaces around a central business commons which promotes student and faculty engagement. The addition to the existing structure offers an opportunity to provide a new, exciting identity for the FCBE by showcasing the activities of the College at a highly visible corner of campus.

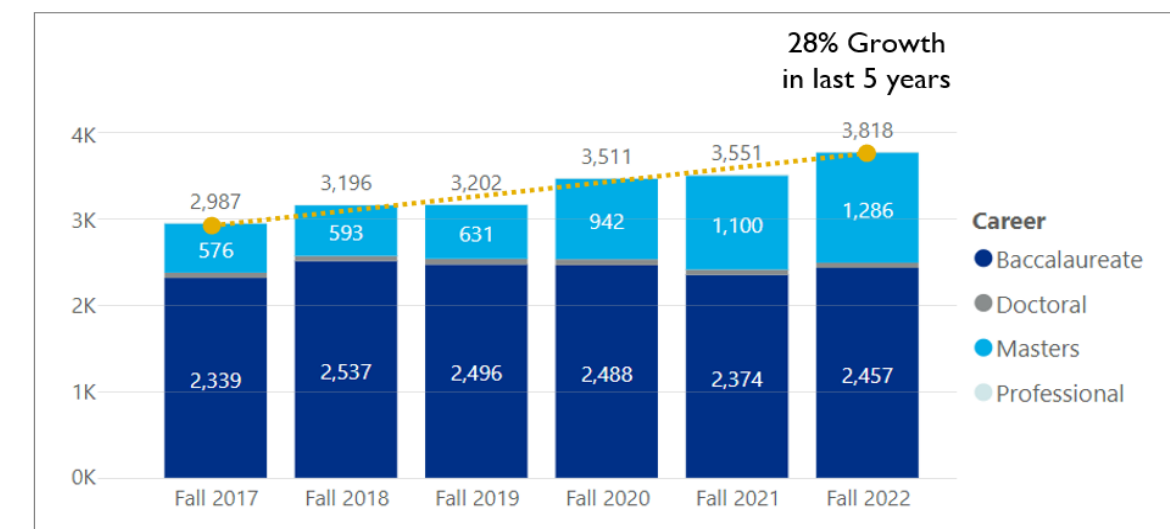
The space program includes enhanced and expanded instructional facilities, as well as extensive student common spaces to align with contemporary business school design practices which encourage students to stay immersed in a multi-layered learning environment. These common spaces include study facilities, teaming areas, and room for student organization activities. The administrative spaces have been closely engaged with the heart of the building to drive engagement. In particular, the student resources provided by the centers have been located in highly visible thoroughfares to ensure that these valuable assets are available to all.



## PROPOSED PROGRAM:



PREVIOUS 5-YEARS: ENROLLMENT NUMBERS



Source: [https://www.memphis.edu/oir/data/public\\_student\\_demographics.php](https://www.memphis.edu/oir/data/public_student_demographics.php)

## PROGRAM SUMMARY

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<b>TOTAL (NSF)</b>	<b>68,620</b> NSF	<b>69,796</b> NSF	<b>28,300</b> NSF
<b>TOTAL (GSF)</b>	<b>126,000</b> GSF	<b>128,200</b> GSF	<b>58,090</b> GSF

UNIVERSITY OF MEMPHIS FCBE - OVERALL SPACE PROGRAM																															
CAT	SPACE	EXISTING					PHASE 1 RENOVATION (\$30M)					PHASE 2 ADDITION (\$55M)					LEVEL 1?	HIGH BAY?	NOTES												
		OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF	OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF	OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF															
<b>100 CLASSROOM FACILITIES</b>																															
110	Lecture Hall, (Existing - Level 1)	300	9.0	2,690	1	2,690	150	17.9	2,690	1	2,690								Convert from 300-seats to 150-seats with tables and chairs, similar to adjacent lecture hall.												
110	Lecture Hall, (Existing - Level 1)	150	17.6	2,640	1	2,640	150	17.6	2,640	1	2,640								Existing layout to remain, replace furniture.												
110	Tiered Classroom (Existing - Level 1)	84	13.1	1,100	5	5,500	40	27.8	1,110	2	2,220								Convert from 84-seats (chairs with task arms) to 40-seats with table and chairs. One room converted to a restroom for Level 1 of the classroom wing. Two rooms remain as-is.												
110	Triangle Flat Flex Classrooms (Existing)	49	18.4	900	6	5,400	40	22.5	900	2	1,800								Existing, triangle shape on all three floors. Level 1 to be repurposed into trading lab addition. Levels 2 & 3 to be repurposed for student services and classrooms.												
110	Flat Flex Classroom (Existing - Level 2)	42	26.2	1,100	4	4,400	42	26.2	1,100	5	5,500								Light finish upgrades, new furniture and AV. Located on Level-2, west façade.												
110	Small Flat Classroom (Existing - Level 2)	32	16.9	540	4	2,160													Existing undersized classrooms in the middle of the second floor (262-268). Demo and repurpose.												
110	Flat Flex Classroom (Existing - Level 3)	70	20.9	1,460	2	2,920	70	20.9	1,460	2	2,920								Existing room 369, 381. Different layouts, but renovated to a typical flat flex classroom.												
110	Small Flat Classroom (Existing - Level 3)	32	20.0	640	2	1,280													Existing undersized classrooms in the middle of the third floor (360, 370). Demo and repurpose.												
110	Flat Flex Classroom (New, 48-Seats)											48	29.2	1,400	4	5,600															
110	Flat Flex Classroom (New, 80-Seats)											80	28.0	2,240	3	6,720															
110	Event/Training Theater											250	16.0	4,000	1	4,000			New Space - "Black box theater" similar to concept at AU Horton Hargrave, but larger stage area. (Incl. storage / AV / catering, ~600 SF)												
<b>SUBTOTAL</b>		<b>25</b>					<b>26,990</b>					<b>13</b>					<b>17,770</b>					<b>8</b>					<b>16,320</b>				
<b>200 CLASS LAB / STUDIO &amp; COMPUTER LABS</b>																															
	Trading Lab (Existing - Level 1)	12	75.0	900	1	900	12	75.0	900	2	1,800								Maintain room 123, convert room 121 to same.												
	Computer Lab (Testing)	80	30.0	2,400	1	2,400	80	25.0	2,000	1	2,000								Existing room 100. Slightly reconfigure, smaller.												
	Executive Programs Conference Room	40	31.5	1,260	1	1,260	40	31.5	1,260	1	1,260								Existing room 385.												
	Exec. Program Break Room	1	200.0	200	1	200			200	1	200								Existing room 385A, adjacent to exec. programs.												
	Computer Lab (General)	54	27.0	1,460	1	1,460	60	24.3	1,460	1	1,460								Existing room 377. Seats 50-60 students.												
	Computer Lab (Data Analytics Lab)	50	29.2	1,460	1	1,460	60	24.3	1,460	1	1,460								Existing room 373. Seats 50-60 students.												
	Flex Computer Lab (New, 50-Seats)											50	27.0	1,350	1	1,350															
<b>SUBTOTAL</b>		<b>6</b>					<b>7,680</b>					<b>7</b>					<b>8,180</b>					<b>1</b>					<b>1,350</b>				

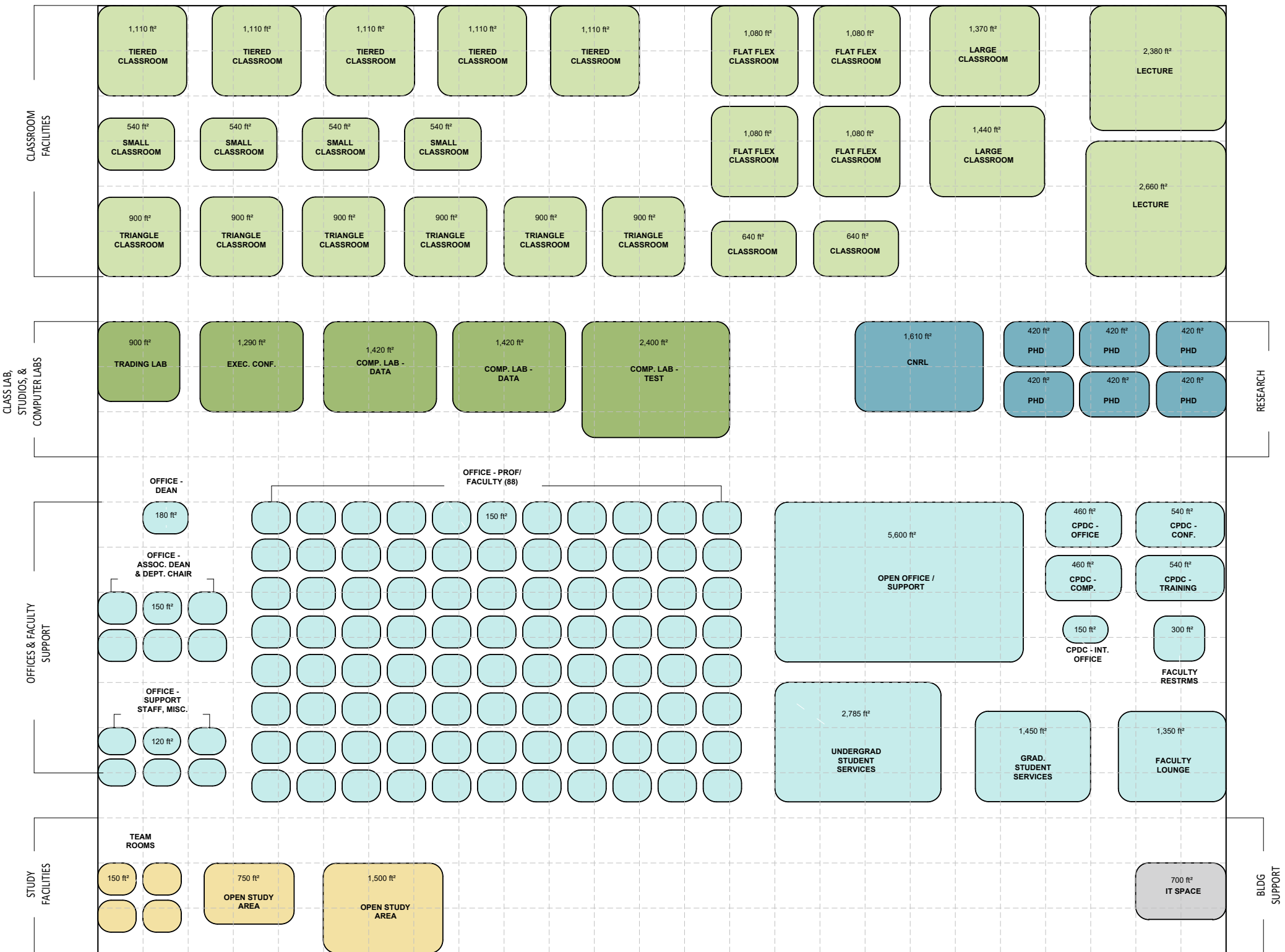
UNIVERSITY OF MEMPHIS FCBE - OVERALL SPACE PROGRAM																					
CAT	SPACE	EXISTING					PHASE 1 RENOVATION (\$30M)					PHASE 2 ADDITION (\$55M)					LEVEL 1?	HIGH BAY?	NOTES		
		OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF	OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF	OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF					
<b>250 RESEARCH</b>																					
250	Behavioral Lab Suite (CNRL)	-	-	1,610	1	1,610	-	-	1,950	1	1,950									Rooms 366, 366A, 366B, 366C, 366E, 362, 368A. Renovated space to be similar to UK space.	
250	PHD Research Space	8	52.5	420	6	2,520	60	50.3	3,020	1	3,020								Target growth to 7 concentrations / 12 students each and consolidate into one large space.		
250	PHD Breakout Rooms						4	25.0	100	3	300								Future: 20-25 student, PHD breakout rooms.		
<b>SUBTOTAL</b>							<b>4,130</b>					<b>5,270</b>					<b>0</b>				
<b>300 OFFICES</b>																					
310	(Dean's Suite) Dean's Office	1	365.0	365	1	365	1	365.0	365	1	365										
	Associate Deans' Offices	1		190	4	760	1	185.0	185	4	740										
	Dean's Suite Reception Area / Open Office			920	1	920			820	1	820										
	FCBE Admin/Marketing Offices																				
	Large Conference/Board Room	20	23.0	460	1	460	20	23.0	460	1	460										
<b>SUBTOTAL (DEAN'S SUITE)</b>							<b>2,505</b>					<b>2,385</b>					<b>0</b>				
310	Faculty Single Offices (Exterior)	1	115.0	115	72	8,280	1	115.0	115	83	9,545										
	Faculty Single Offices (Interior)						1	95.0	95	46	4,370										
	Faculty Large / Double Offices	2	95.0	190	25	4,750															
	Reception (Departmental) / Shared Work Areas			525	3	1,575			500	2	1,000								Two departments share one reception space per floor. Includes student worker space. Level 4 reception is shared with Dean's suite, accounted for in section above.		
	Workrooms / Misc. Office Support					400			100	3	300								Distributed on Levels 2-4.		
	Small Conference Rooms	6	31.7	190	3	570	10	19.0	190	3	570								Need to be larger than existing.		
	Faculty Restrooms	-	-	75	4	300			75	4	300								Existing: (2) on L3 near classrooms, (2) on L4 FAB.		
	Faculty Lounge	-	-	1,880	1	1,880					0								Existing Level 2, highly underutilized. Provide smaller faculty lounges shared between departments.		
	Large Conference (New)						20	20.0	400	3	1,200								New large conference rooms near admin wing in addition. Flex use for smaller classes / seminars.		
<b>SUBTOTAL (FACULTY OFFICES)</b>							<b>17,755</b>					<b>16,085</b>					<b>1,200</b>				



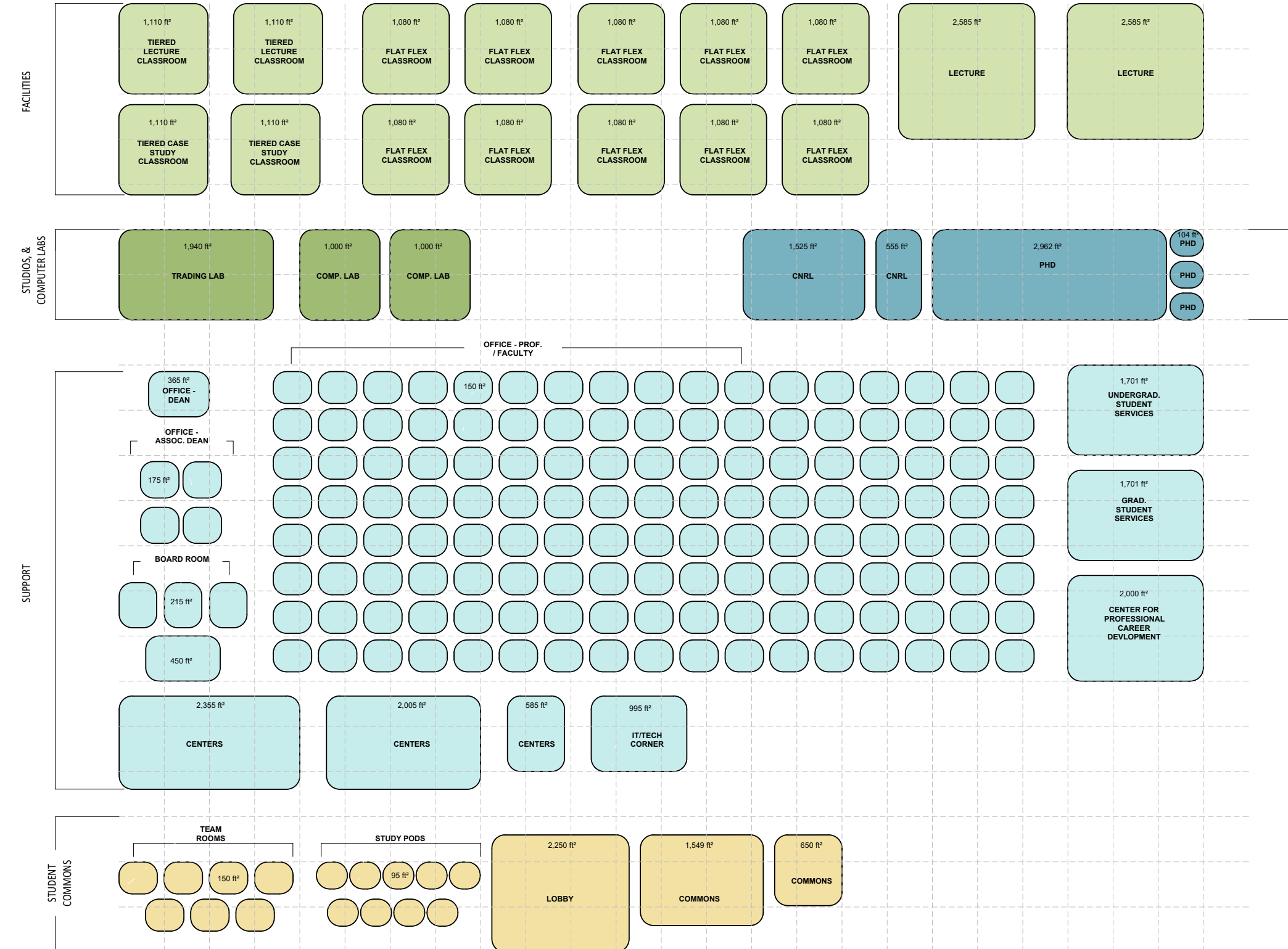
UNIVERSITY OF MEMPHIS FCBE - OVERALL SPACE PROGRAM																			
CAT	SPACE	EXISTING					PHASE 1 RENOVATION (\$30M)					PHASE 2 ADDITION (\$55M)					LEVEL 1?	HIGH BAY?	NOTES
		OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF	OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF	OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF			
<b>300</b>	<b>OFFICES</b>																		
310	Undergraduate Student Services Suite	-	-	2,850	1	2,850			2,800	1	2,800								
	Undergrad Program Advising								100	7									
	Undergrad Program Admin								100	1									
	Undergrad Program Student Worker								100	1									
310	Graduate Student Services Suite	-	-	1,450	1	1,450			1,500	1	1,500								
	Grad Program Advisors								100	6									
	Grad Program Admin								100	1									
	Grad Program Student Worker								100	1									
	MBA/Exec Ed Programs Dir. / MILE Office								520	1	520								Small waiting area and offices
	<b>SUBTOTAL (STUDENT SERVICES)</b>					<b>4,300</b>					<b>4,820</b>								<b>0</b>
310	CPDC (Center for Professional Dev.) Office	3	153.3	460	1	460	1	85.0	85	6	510								Room 272
	CPDC Computer Space	-	-	460	1	460	10	53.0	530	1	530								Room 274
	CPDC Training Lab	-	-	540	1	540													Room 271
	CPDC Conference Room	-	-	540	1	540	20	20.0	400	1	400								Room 273
	CPDC Internship Office	1	150.0	150	1	150	1	140.0	140	1	140								Repurposed team room space. 299I
	<b>SUBTOTAL (CPDC)</b>					<b>2,150</b>					<b>1,580</b>								<b>0</b>
310	Centers (Office)						1	100.0	100	12	1,200			2400	1	2,400			6 Existing Centers and 3 Future Centers, 2 Offices for each Center (Average) (Arts Integration, Supply Chain Mgt, Financial Literacy, Healthcare Econ, Workplace Diversity & Inclusion, Crews Center Enterprise (x2))
	Centers (Collaborative Room)																		Centers to utilize adjacent team rooms.
	Centers (Open Collaboration)								800	1	800			in above					Shared, open collaboration area for centers. One on each level that centers are located.
	Centers (Shared Conference Room)													in above					Share with CPDC, Level 3.
	<b>SUBTOTAL (CENTERS)</b>					<b>0</b>					<b>2,000</b>					<b>2,400</b>			
310	Video Recording Room	1	250.0	250	1	250			375	1	375								Current room is too small; either increase size or have two rooms
310	Technology Group	4	-	700	1	700	5	106.0	530	1	530								Existing room 372. Can be one large "bullpen" style with a customer counter and 5 seats/desk spaces
	Videographers Workstations								60	2									In above.
	Facilities Director						1	100.0	100	1	100								
	Facilities Specialist						1	100.0	100	1	100								
	<b>SUBTOTAL (VIDEO &amp; TECH)</b>					<b>950</b>					<b>1,105</b>					<b>0</b>			
	<b>SUBTOTAL</b>			<b>104</b>		<b>27,660</b>			<b>175</b>		<b>27,975</b>					<b>3,600</b>			

UNIVERSITY OF MEMPHIS FCBE - OVERALL SPACE PROGRAM																			
CAT	SPACE	EXISTING					PHASE 1 RENOVATION (\$30M)					PHASE 2 ADDITION (\$55M)					LEVEL 1?	HIGH BAY?	NOTES
		OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF	OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF	OCC.	AREA / OCC	AREA (NSF)	QTY.	TOTAL NSF			
<b>400</b>	<b>STUDY FACILITIES &amp; COMMONS</b>																		
410	Study Rooms (1-2 Students)								2	25.0	50	9	450	2	25.0	50	8	400	Existing, (3) on Level 2, (1) on Level 3. Revised layout with expanded team rooms.
410	Team Rooms (4-6 Students)	8	18.8	150	4	600	4	30.0	120	13	1,560	4	30.0	120	8	960		Existing, (3) on Level 2, (1) on Level 3. Revised layout with expanded team rooms.	
410	Open Study Areas	24	15.4	370	2	740													Open study areas within corridors on Level 2 & 3. Approximately 370 SF adjacent to center commons on each level.
410	Central Triangle Commons / Study Area	34	20.0	680	1	680	34	20.0	680	2	1,360								Central commons, open study area at Level 1. Infill Level 2 triangle to create more teaming space.
	Business Commons Atrium															2,100	1	2,100	New central learning commons, "heart" of the addition. Classroom spaces and teaming rooms organized around this central node. Benchmarked against UK Gatton SoB. Incorporate a central, impressive staircase similar to UAB Collat.
	Café															1,000	1	1,000	
	Pre-Function Space															400	1	400	Shared between event space / café.
	<b>SUBTOTAL</b>					<b>2,020</b>					<b>4,570</b>					<b>7,660</b>			
<b>700</b>	<b>BUILDING SUPPORT</b>																		
	Mother's Room						1	80.0	80	1	80	1	100.0	100	1	100			For every major group. Factoring 7 departments (including future), 9 centers (6 + 3 future), Dean's Suite, Undergrad SS, Graduate SS, Facilities / Tech Group.
	General Building Storage (Dispersed)										140			500	1	500			
	Penthouse / Attic Storage (General)															750	1	750	Level 4, adjacent to mechanical penthouse.
	<b>SUBTOTAL</b>					<b>140</b>					<b>580</b>					<b>1,100</b>			
	<b>SUBTOTAL NSF</b>					<i>Actual: 68,620</i>					<b>68,620</b>					<b>64,345</b>			<b>30,030</b>
	<b>TOTAL GSF</b>					<i>Actual: 126,000</i>					<b>126,000</b>			<i>Lobby: (+2200)</i>		<b>128,200</b>			<b>45,000</b>
	<i>Efficiency Factor</i>										<i>Calc: 54.5%</i>					<i>Target: 50%</i>			<i>Calc: 66.7%</i>
																			<i>Phase 1 includes small lobby enclosure addition.</i>

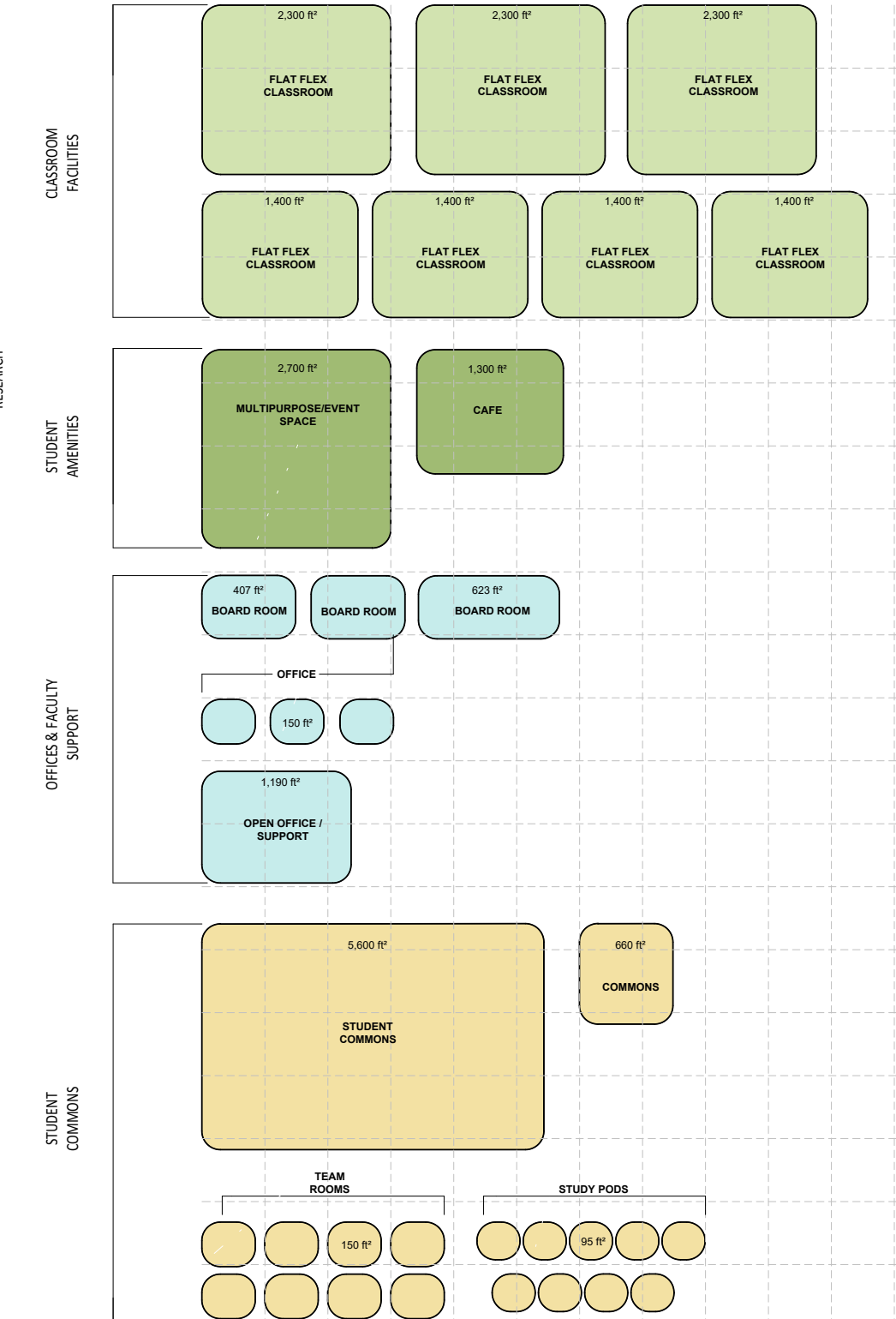
## EXISTING SPACE PROGRAM SUMMARY 69,500 NSF | 126,000 GSF



## PHASE 1 SPACE PROGRAM SUMMARY 70,000 NSF | 128,000 GSF



## PHASE 2 SPACE PROGRAM SUMMARY 28,300 NSF | 58,000 GSF



# 04

## CONCEPTUAL DESIGN

ROBERT AND AVRON FOGELMAN BUSINESS COMPLEX

*Programming Study Update 2024*

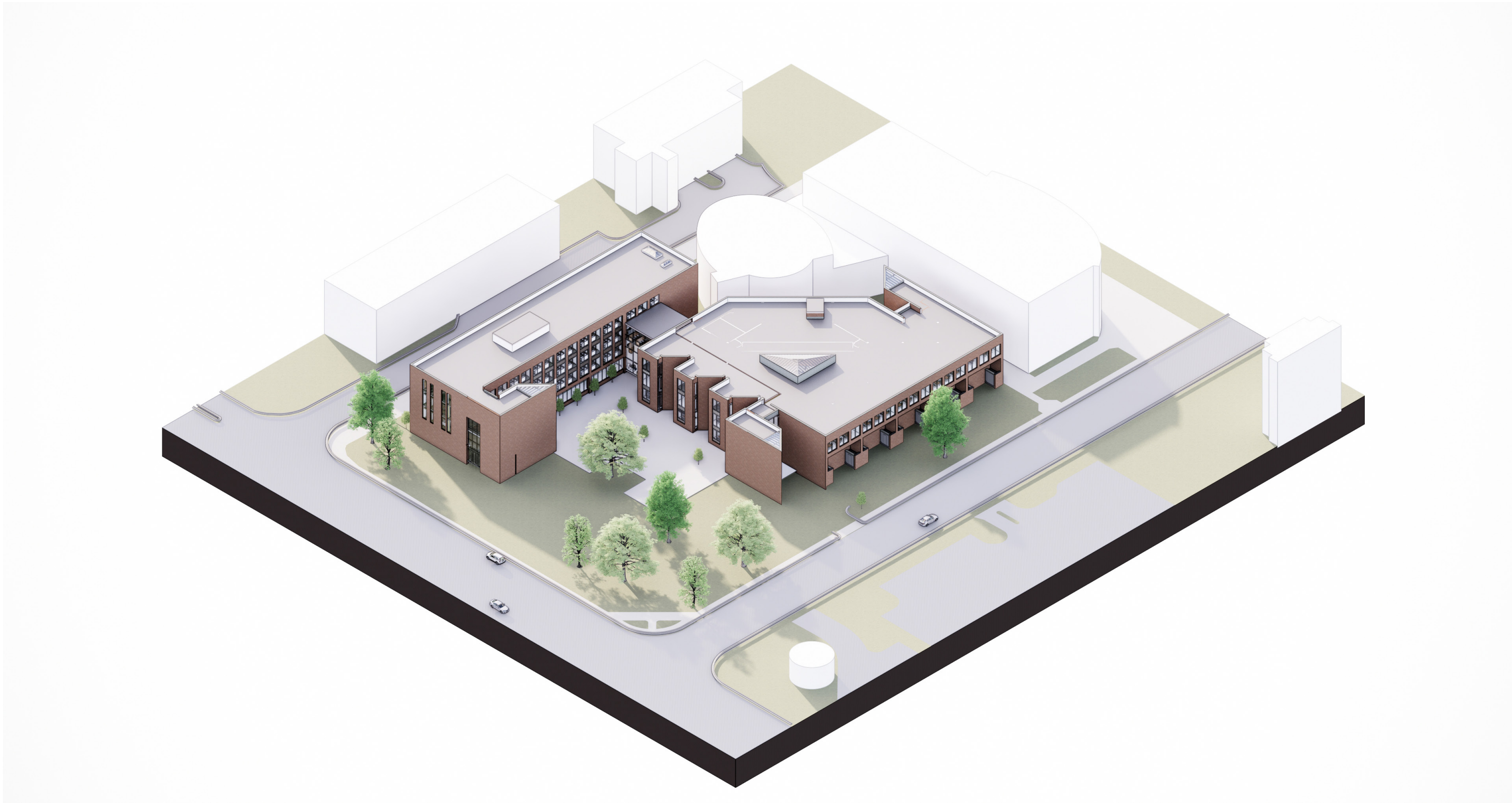
# PHASE 1 - RENOVATION

AXONOMETRIC - EXISTING

AXONOMETRIC - PHASE 1 RENOVATION

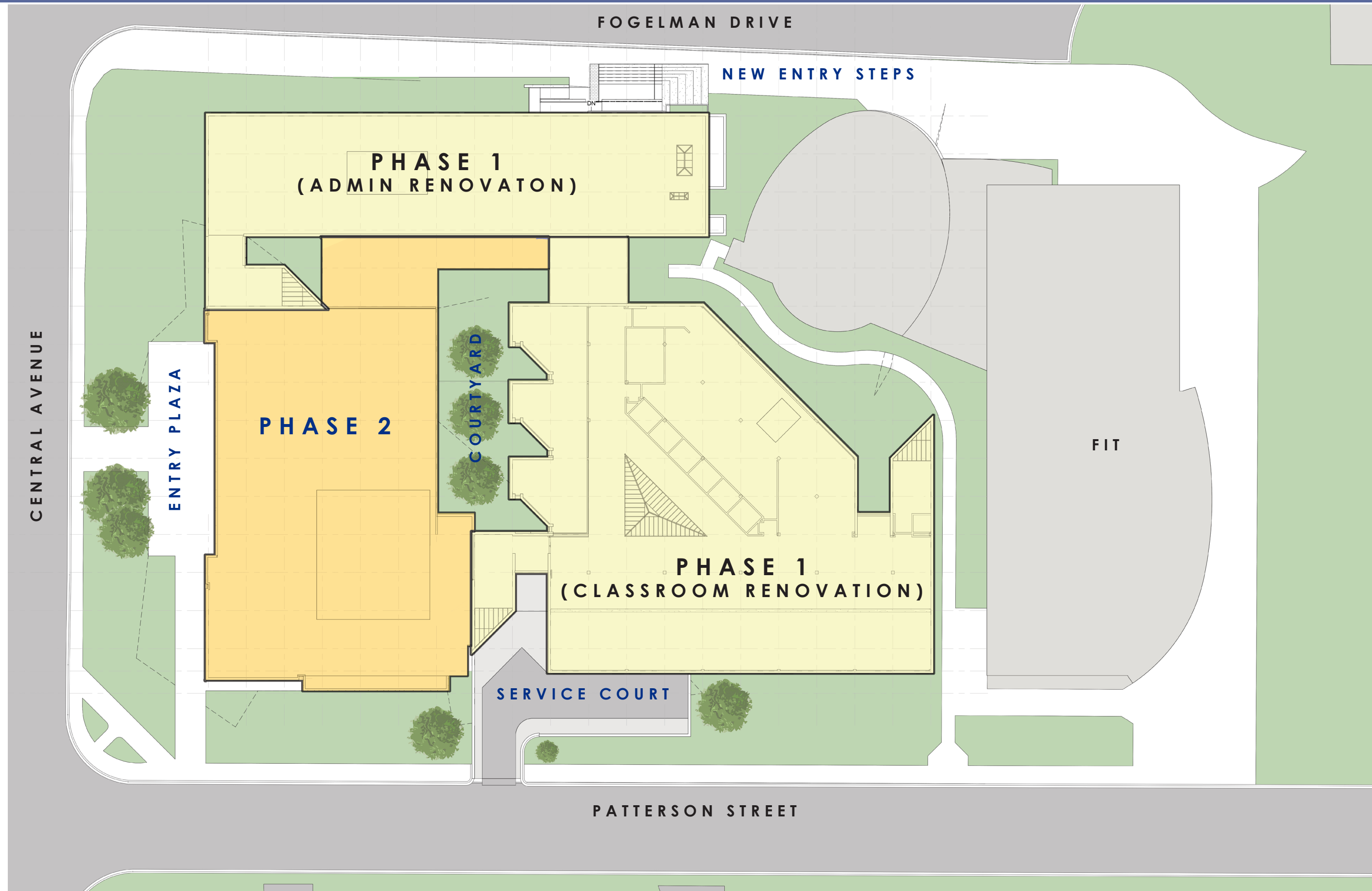


EXISTING BUILDING AERIAL VIEW

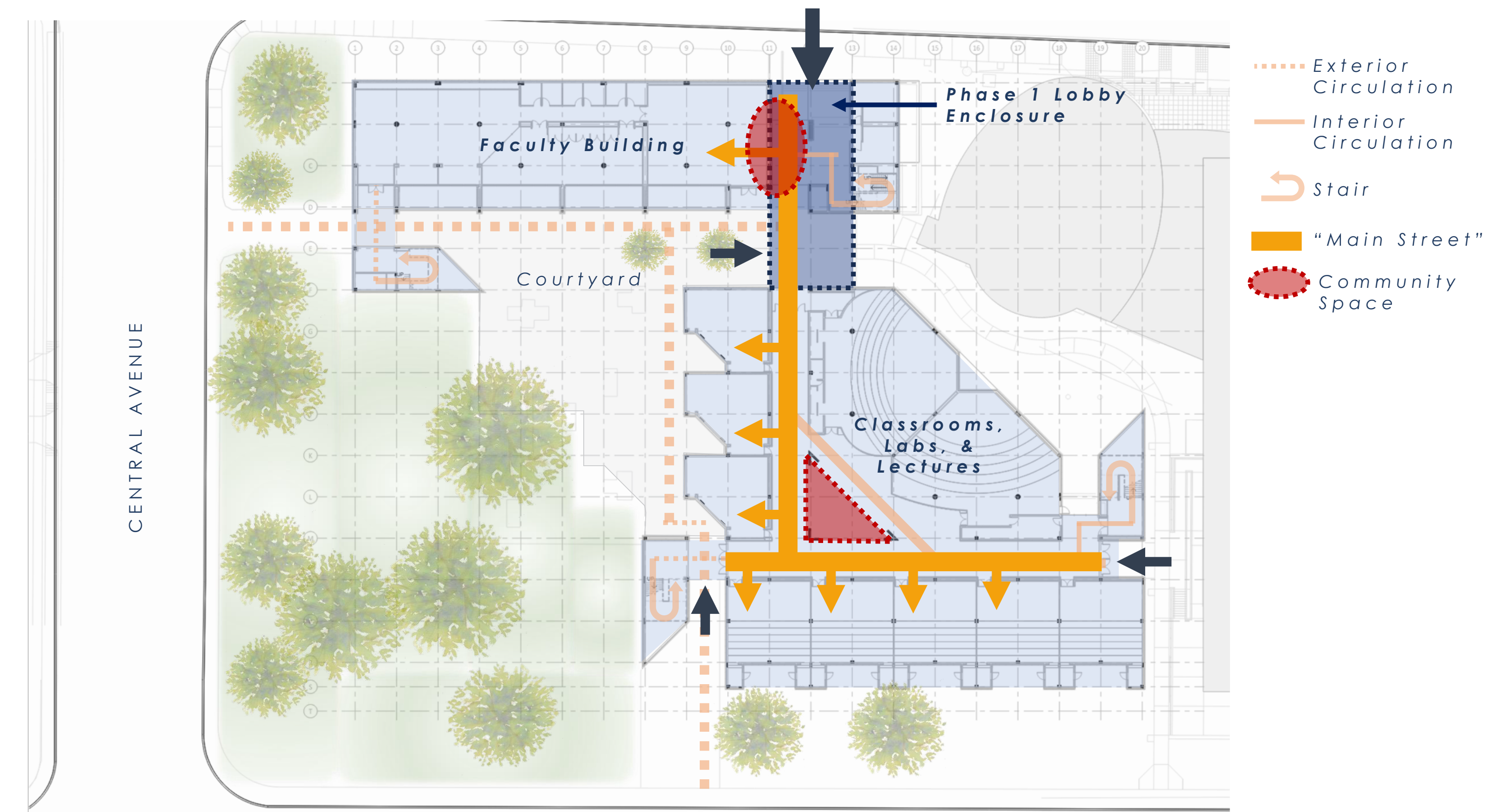


AERIAL VIEW OF PROPOSED PHASE 1 FACILITY

# MASTER PLAN



# CONCEPT PLAN - PHASE 1

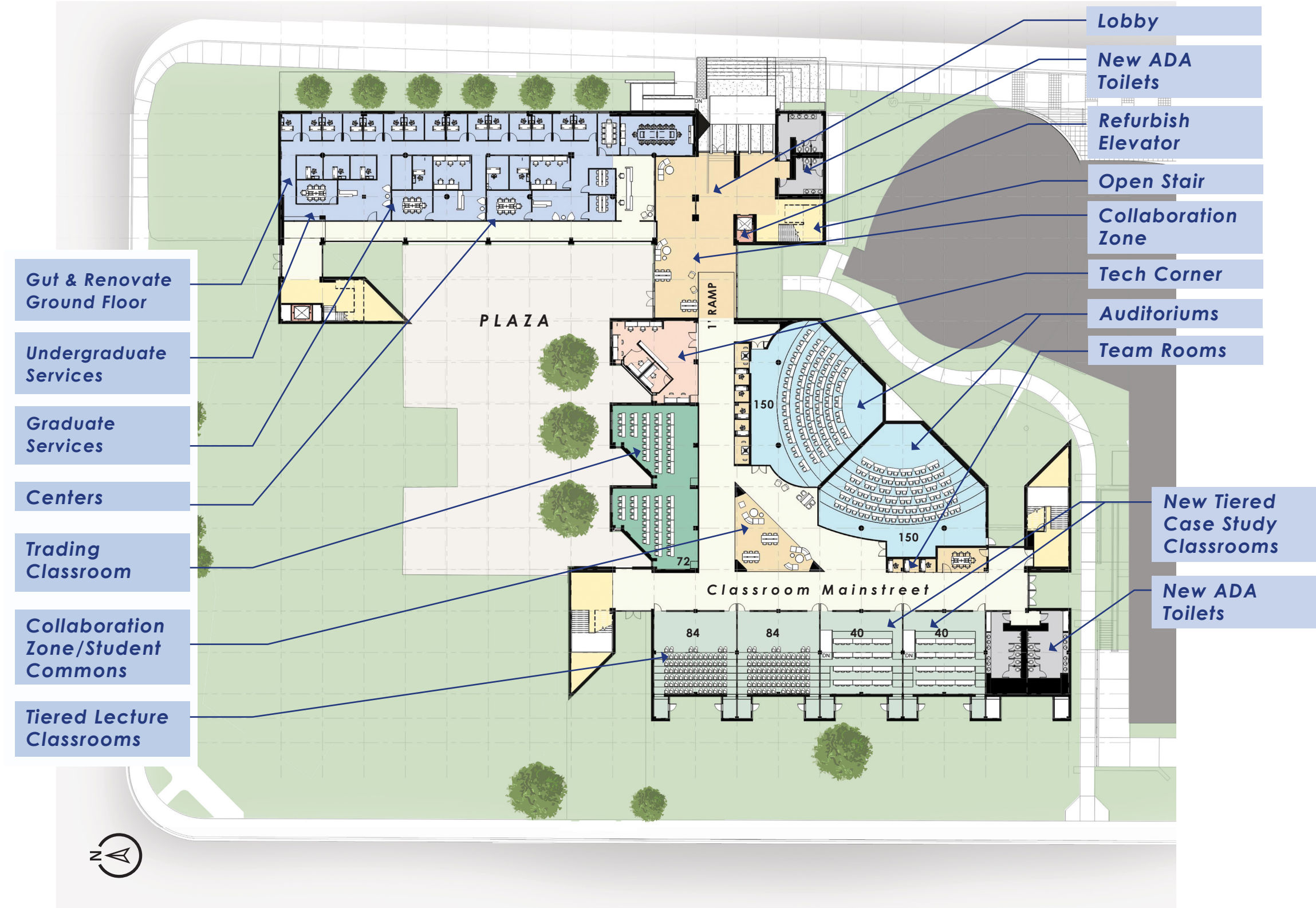


- Exterior Circulation
- Interior Circulation
- Stair
- "Main Street"
- Community Space

## FLOOR 1 PLAN

SCALE: 1"=50'-0"

- Circulation
- Classrooms/Lecture
- Teaching/Research Labs
- Administration
- Student Amenities
- Student Commons
- Vertical Circulation
- Building Service



- Gut & Renovate Ground Floor
- Undergraduate Services
- Graduate Services
- Centers
- Trading Classroom
- Collaboration Zone/Student Commons
- Tiered Lecture Classrooms

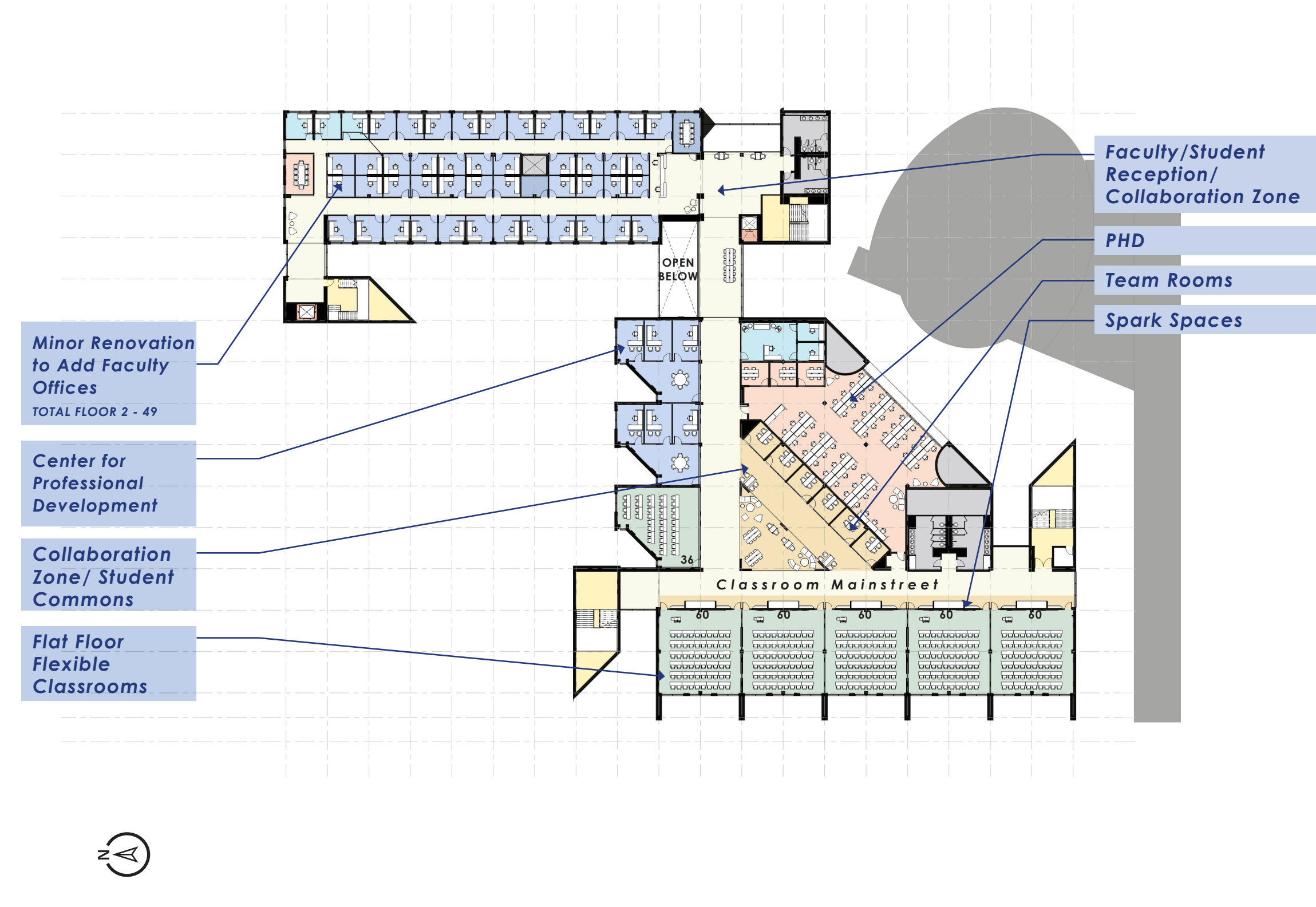
- Lobby
- New ADA Toilets
- Refurbish Elevator
- Open Stair
- Collaboration Zone
- Tech Corner
- Auditoriums
- Team Rooms

- New Tiered Case Study Classrooms
- New ADA Toilets

## FLOOR 2 PLAN

SCALE: 1"=50'-0"

- Circulation
- Classrooms/Lecture
- Teaching/Research Labs
- Administration
- Student Amenities
- Student Commons
- Vertical Circulation
- Building Service



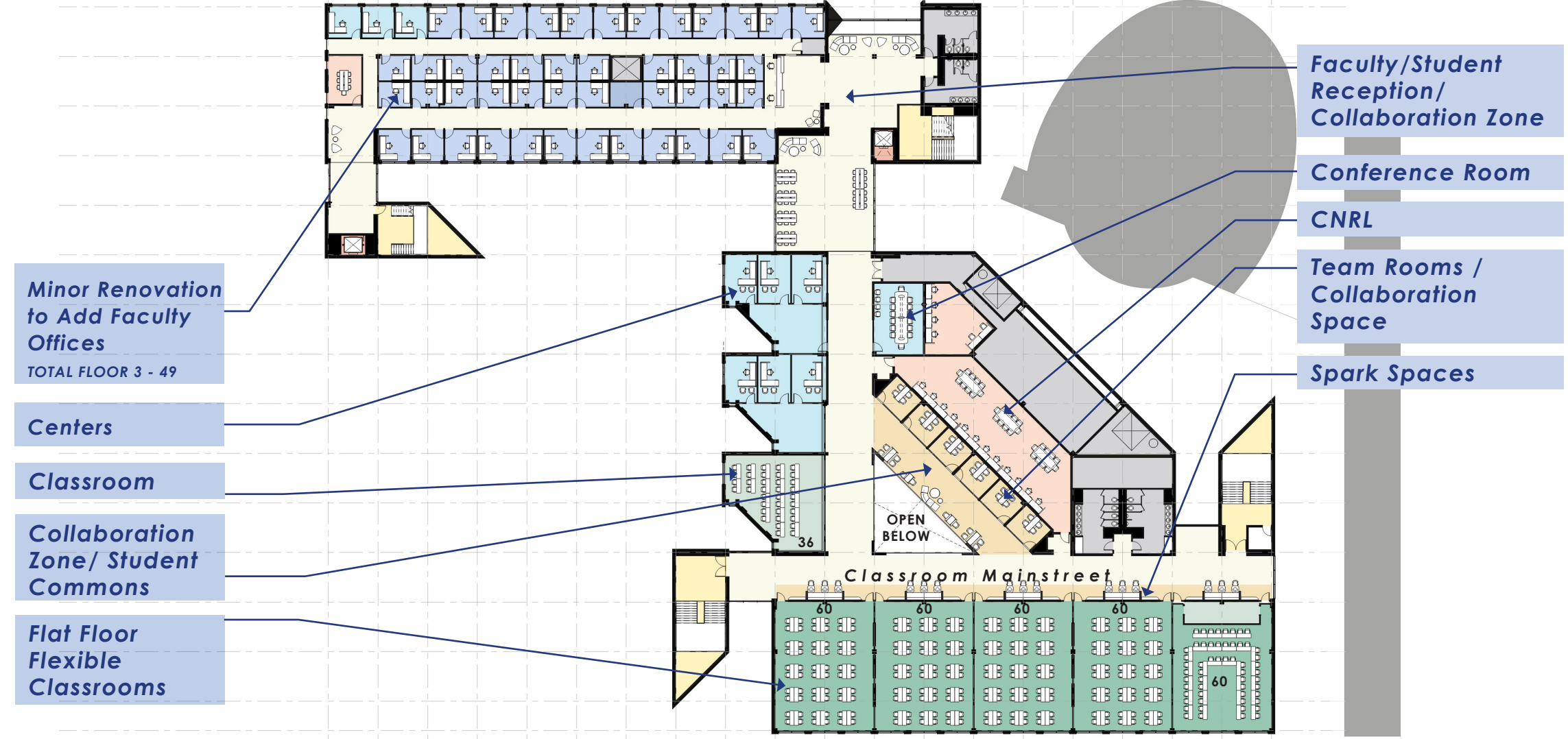
- Minor Renovation to Add Faculty Offices  
TOTAL FLOOR 2 - 49
- Center for Professional Development
- Collaboration Zone/ Student Commons
- Flat Floor Flexible Classrooms

- Faculty/Student Reception/Collaboration Zone
- PHD
- Team Rooms
- Spark Spaces

## FLOOR 3 PLAN

SCALE: 1"=50'-0"

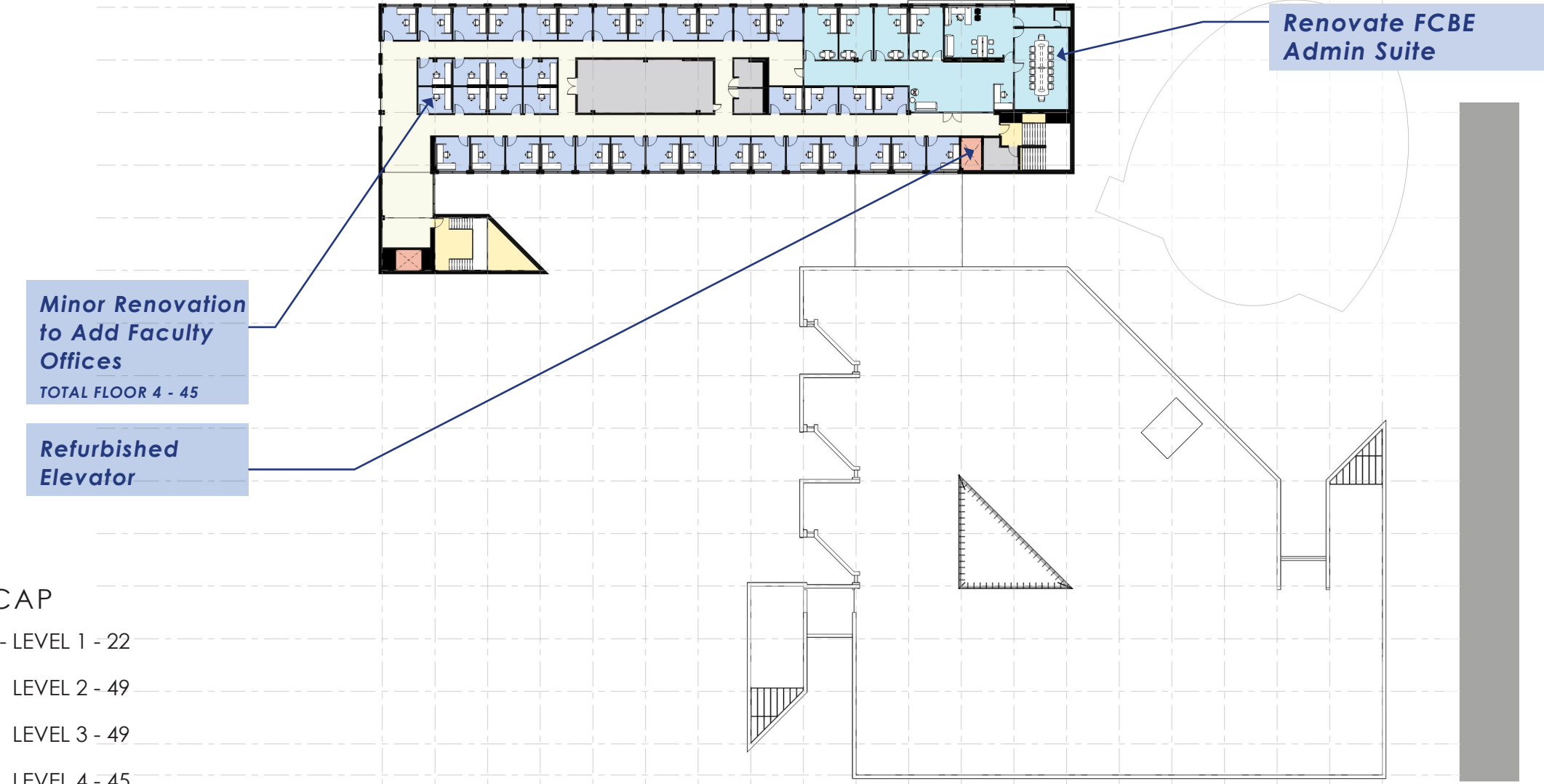
- Circulation
- Classrooms/Lecture
- Teaching/Research Labs
- Administration
- Student Amenities
- Student Commons
- Vertical Circulation
- Building Service



## FLOOR 4 PLAN

SCALE: 1"=50'-0"

- Circulation
- Classrooms/Lecture
- Teaching/Research Labs
- Administration
- Student Amenities
- Student Commons
- Vertical Circulation
- Building Service



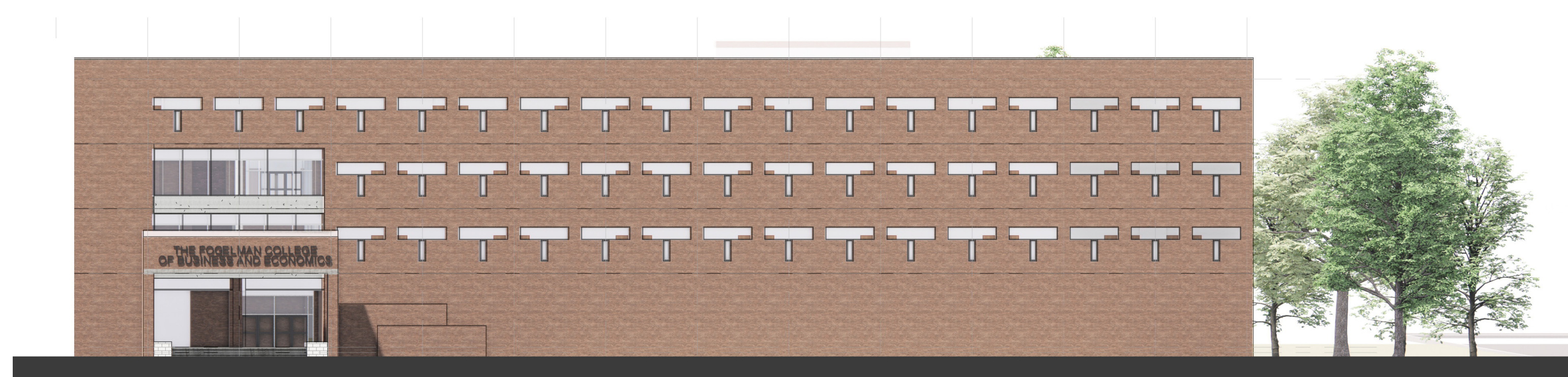
### FACULTY OFFICE RECAP

TOTAL # OF FACULTY OFFICES - LEVEL 1 - 22  
 LEVEL 2 - 49  
 LEVEL 3 - 49  
 LEVEL 4 - 45  
**TOTAL - 165**





VIEW FROM FOGELMAN DRIVE



EAST ELEVATION - BEFORE AND AFTER



VIEW OF COURTYARD - EXISTING



VIEW OF COURTYARD - PHASE 1 RENOVATION

# BUILDING RENDERINGS



NORTH ELEVATION - BEFORE AND AFTER PHASE 1 RENOVATION

# BUILDING RENDERINGS



WEST ELEVATION - BEFORE AND AFTER PHASE 1 RENOVATION



VIEW LOOKING AT ENTRANCE LOBBY FROM FOGELMAN DRIVE



VIEW OF ENTRANCE LOBBY AND STUDENT SERVICES CENTER



VIEW OF EXTERIOR BRIDGE ENCLOSURE LOOKING WEST



1ST FLOOR CORRIDOR VIEW LOOKING WEST

# INTERIOR RENDERINGS



1ST FLOOR COMMONS/COLLABORATION ZONE

# INTERIOR RENDERINGS



2ND FLOOR COMMONS/COLLABORATION ZONE



2ND FLOOR COMMONS LOOKING WEST



3RD FLOOR COMMONS/COLLABORATION ZONE



3RD FLOOR COMMONS/SPARK SPACES

PHASE 2 - ADDITION



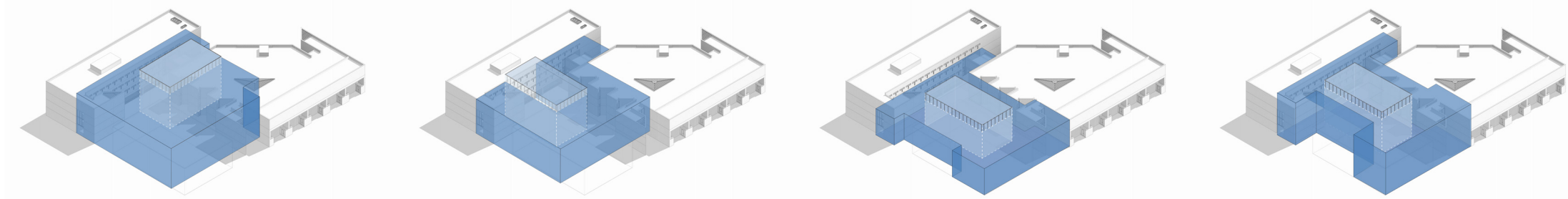
# MASSING STUDIES

## BUILDING MASSING

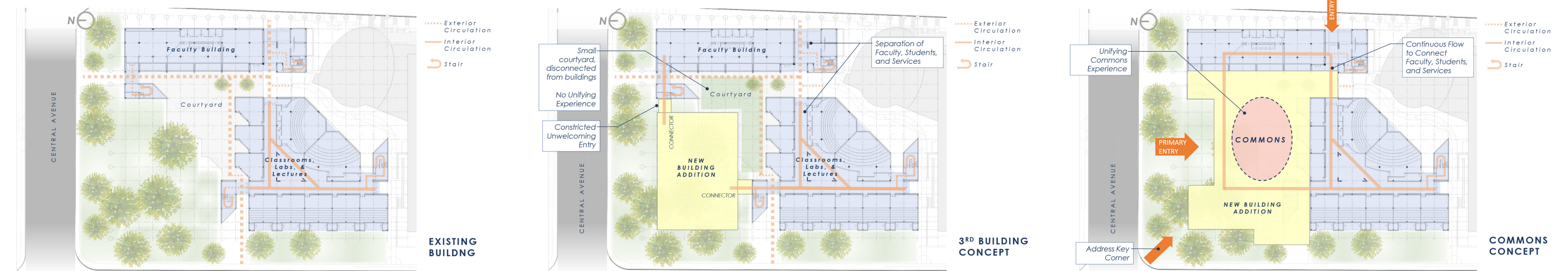
The intersection of Central Avenue and Patterson Street marks one of the key corners of the central portion of campus and presents an incredible opportunity for the Fogelman College of Business & Economics to showcase all it has to offer. Early massing concepts placed expanded instructional space in a third volume on the open portion of the site, but the need for a unified space was quickly understood as a key factor to success. With this "one building solution" in mind, the ideation of the building massing shifted to how a central common space could connect all spaces within the facility.

Numerous iterations were studied and an approach that balanced the interior space with an entry plaza was embraced. New instructional space, as well as the Dean's Suite occupies the new wing which acts as an extension of the instructional core in the existing building. To connect the administrative spaces to the new instructional areas facing the other end of the common space, a collaborative "bridge" was envisioned. This narrow, but highly active band of space completes the loop of circulation around the unified buildings and hosts a wide diversity of student common spaces.

## EARLY MASSING STUDIES



## CIRCULATION STUDIES



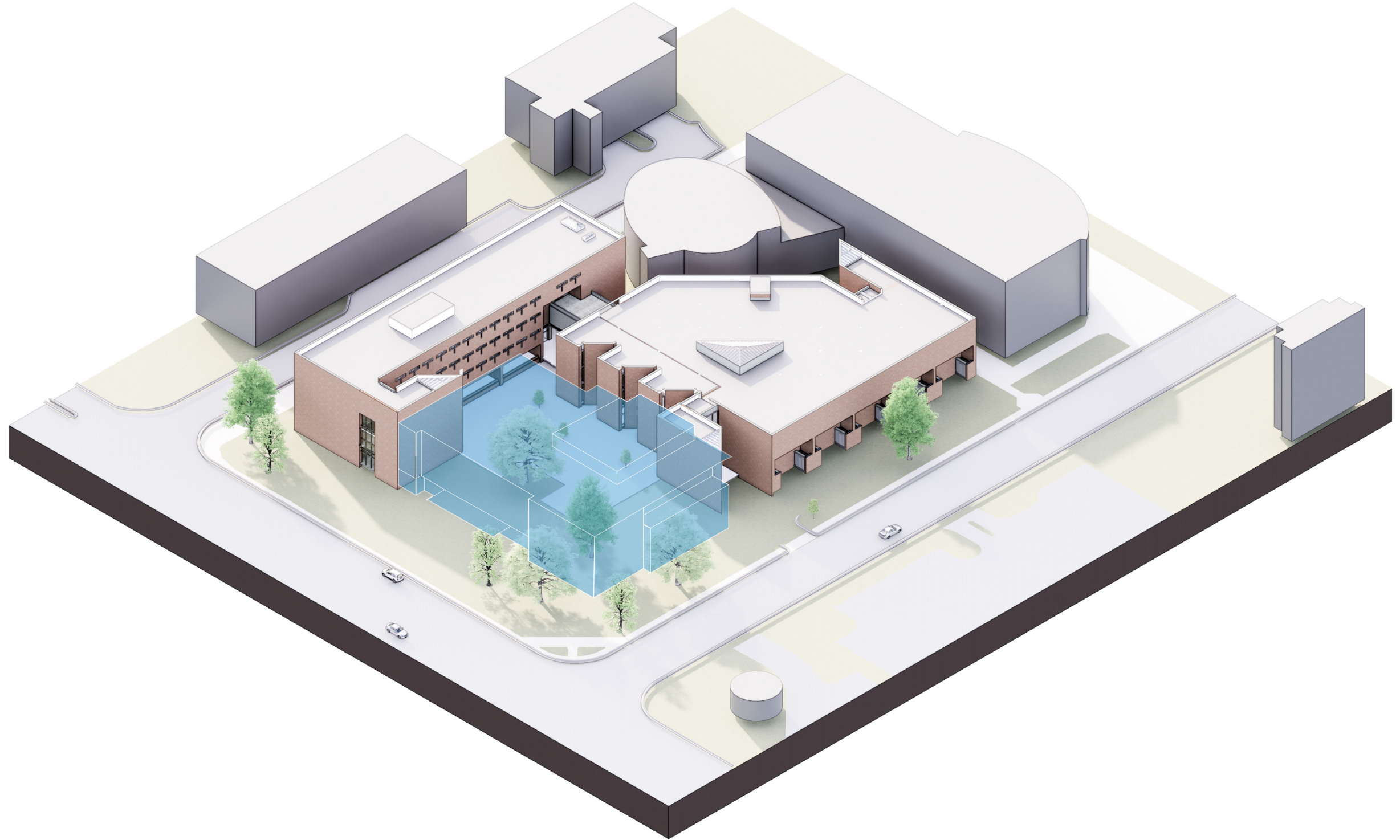
# AXONOMETRIC - EXISTING

# AXONOMETRIC - PHASE 1 RENOVATION

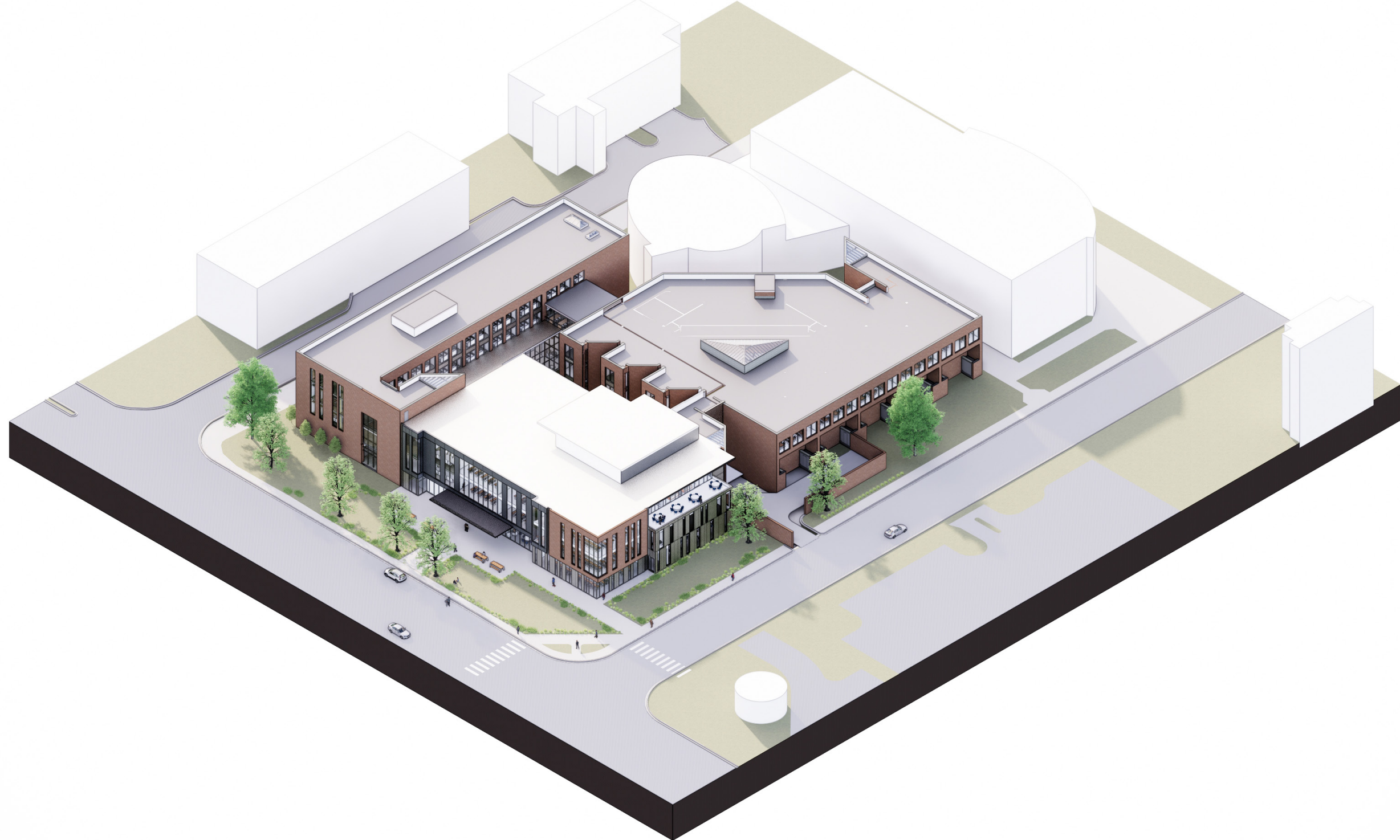


EXISTING BUILDING AERIAL VIEW

AERIAL VIEW OF PROPOSED PHASE 1 FACILITY

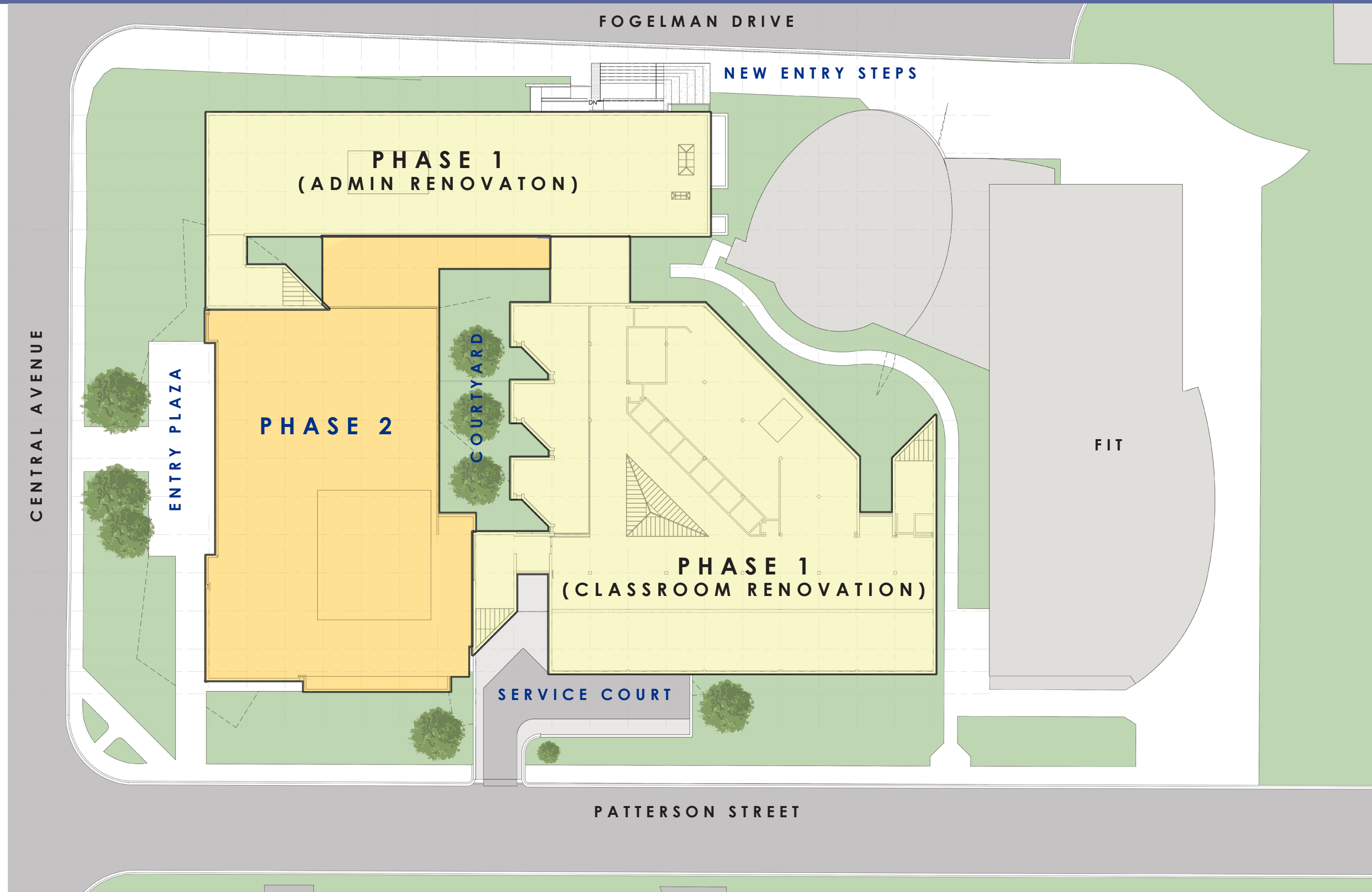


AERIAL VIEW OF PHASE 2 MASSING STUDY

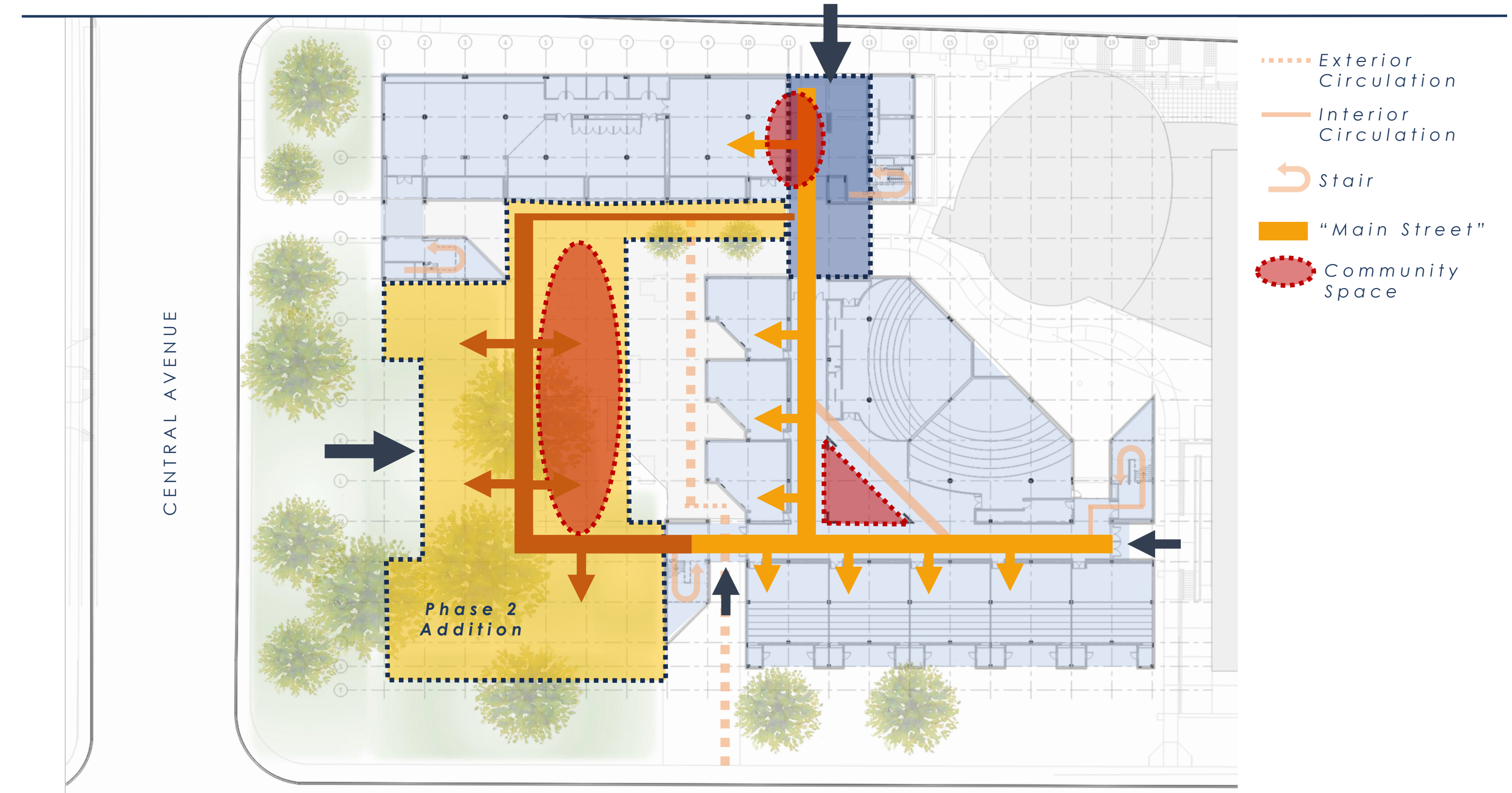


AERIAL VIEW OF PROPOSED PHASE 2 FACILITY

# MASTER PLAN



# CONCEPT PLAN - PHASE 2

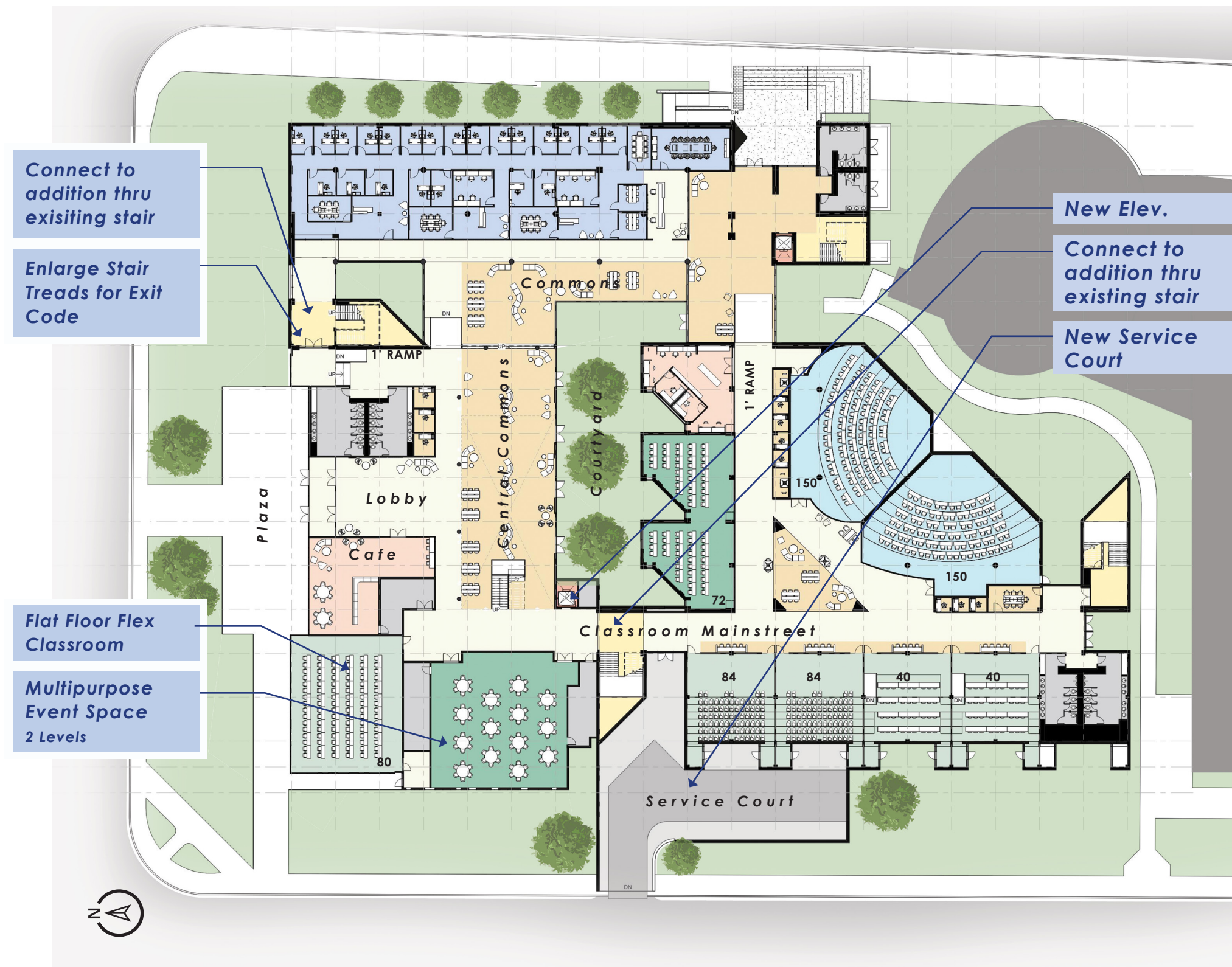


- - - Exterior Circulation
- Interior Circulation
- ↪ Stair
- "Main Street"
- Community Space

## FLOOR 1 PLAN

SCALE: 1"=50'-0"

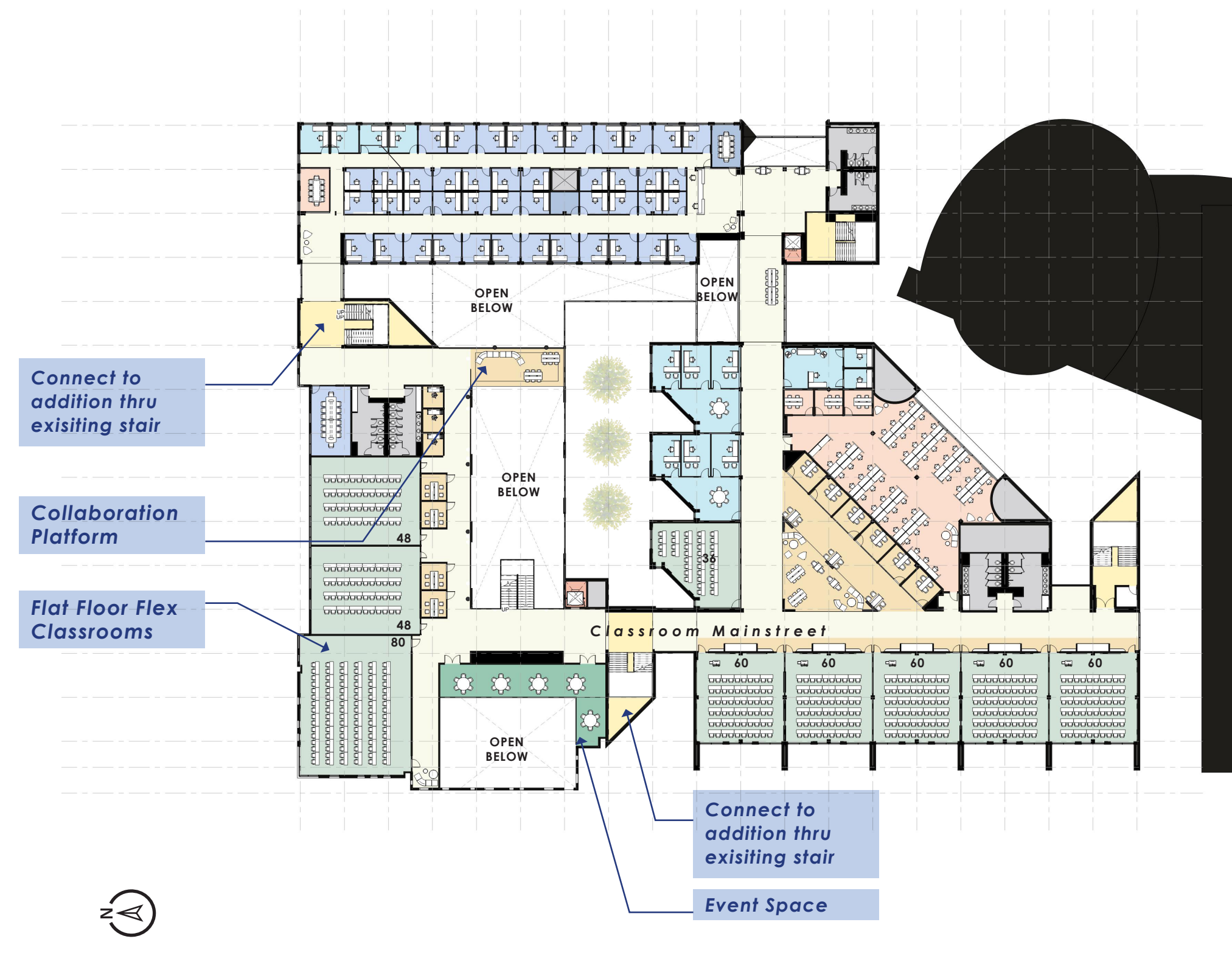
- Circulation
- Classrooms/Lecture
- Teaching/Research Labs
- Administration
- Student Amenities
- Student Commons
- Vertical Circulation
- Building Service



## FLOOR 2 PLAN

SCALE: 1"=50'-0"

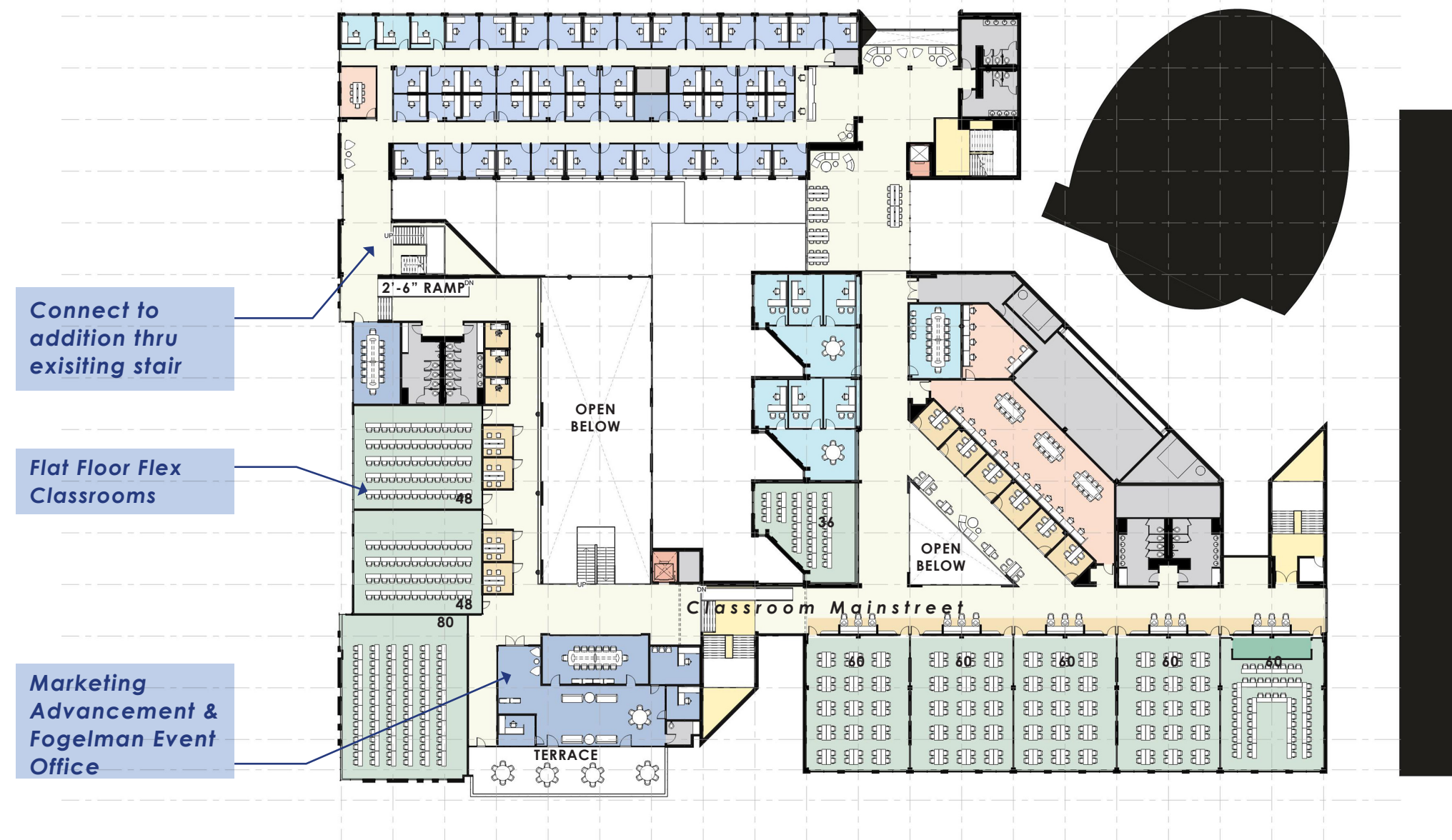
- Circulation
- Classrooms/Lecture
- Teaching/Research Labs
- Administration
- Student Amenities
- Student Commons
- Vertical Circulation
- Building Service



## FLOOR 3 PLAN

SCALE: 1"=50'-0"

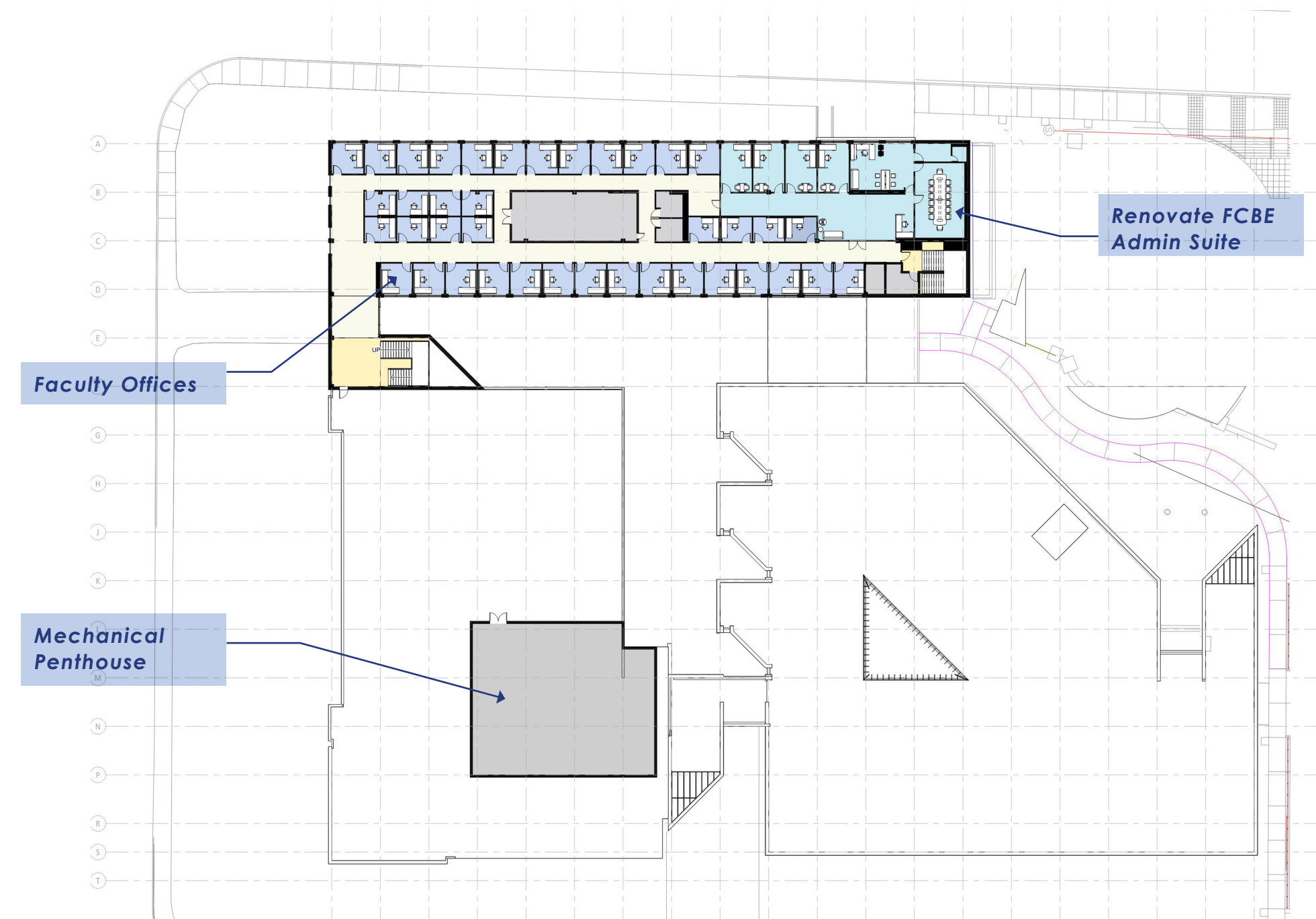
- Circulation
- Classrooms/Lecture
- Teaching/Research Labs
- Administration
- Student Amenities
- Student Commons
- Vertical Circulation
- Building Service



## FLOOR 4 PLAN

SCALE: 1"=50'-0"

- Circulation
- Classrooms/Lecture
- Teaching/Research Labs
- Administration
- Student Amenities
- Student Commons
- Vertical Circulation
- Building Service





VIEW FROM CORNER OF CENTRAL AVENUE & PATTERSON STREET



WEST FACADE FACING PATTERSON STREET



NORTH FACADE FACING CENTRAL AVENUE



STUDENT COMMONS LOOKING NORTH AT LOBBY





STUDENT COMMONS LOOKING WEST AT MONUMENTAL STAIR



STUDENT COMMONS LOOKING EAST AT COLLABORATION PLATFORM



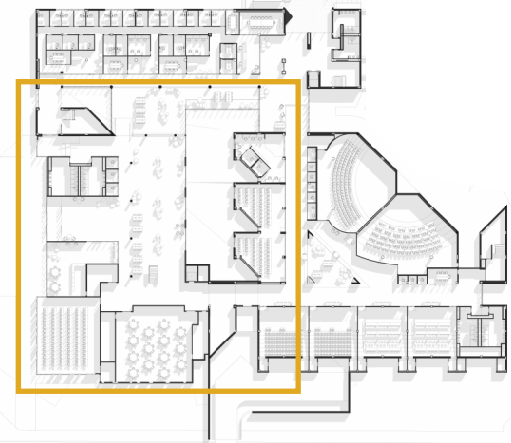
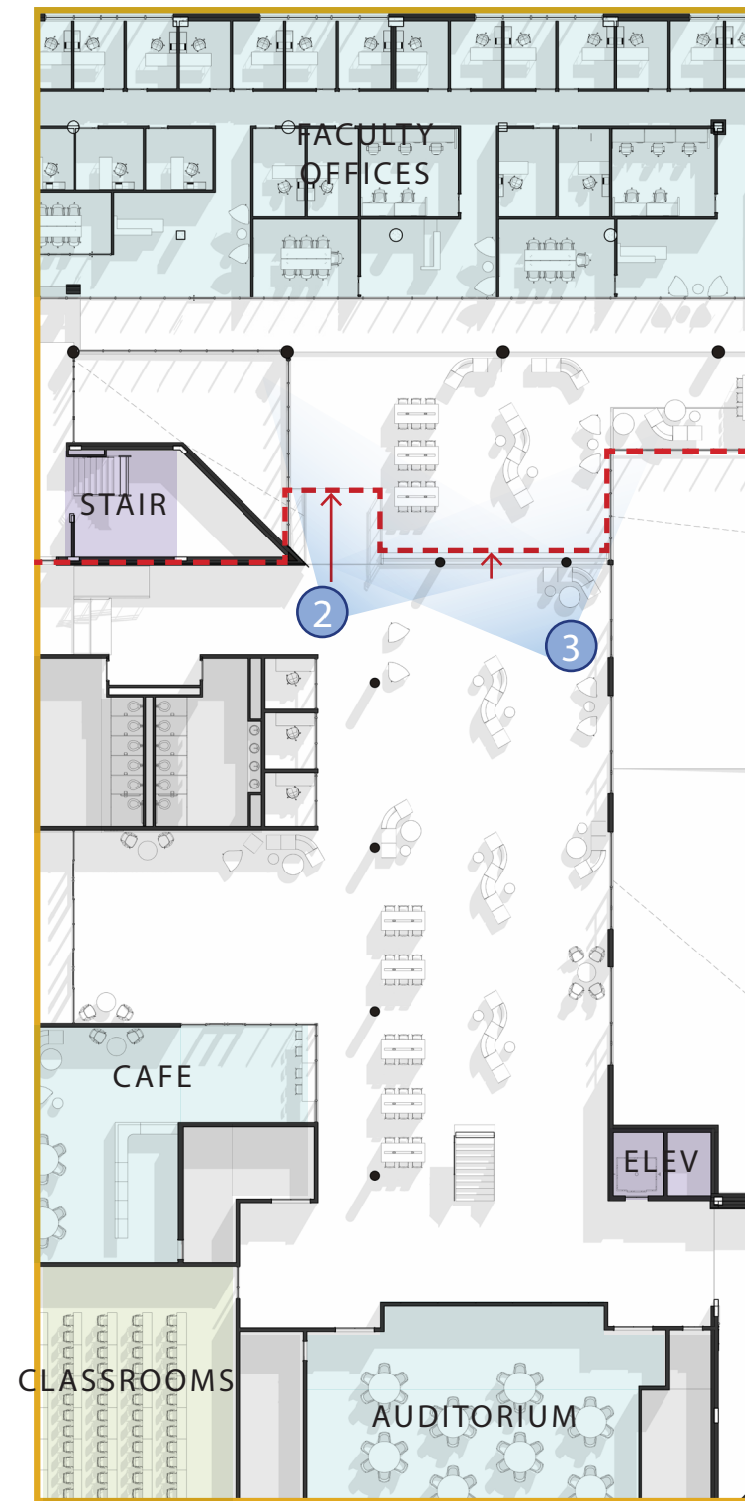
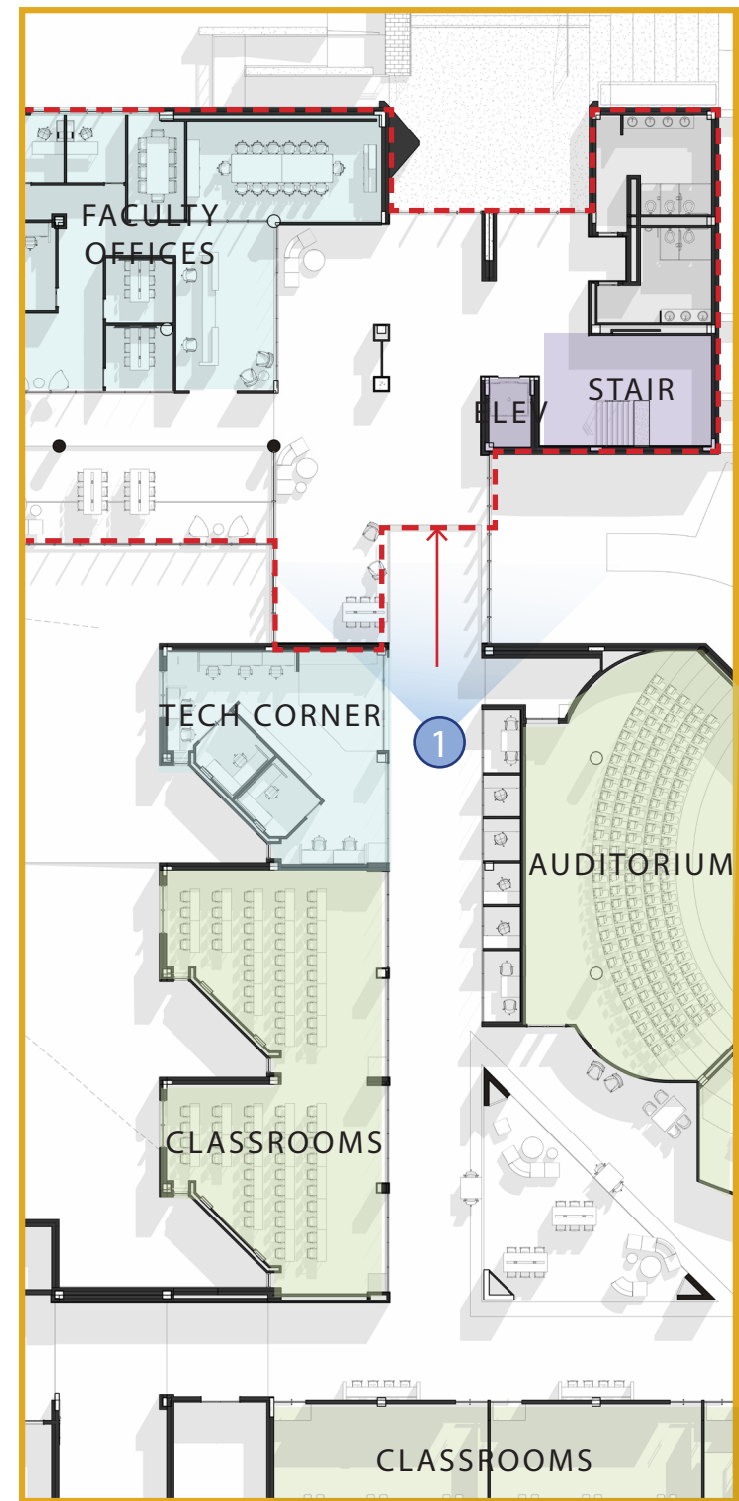
COMMONS ACCESS CORRIDOR LOOKING NORTH



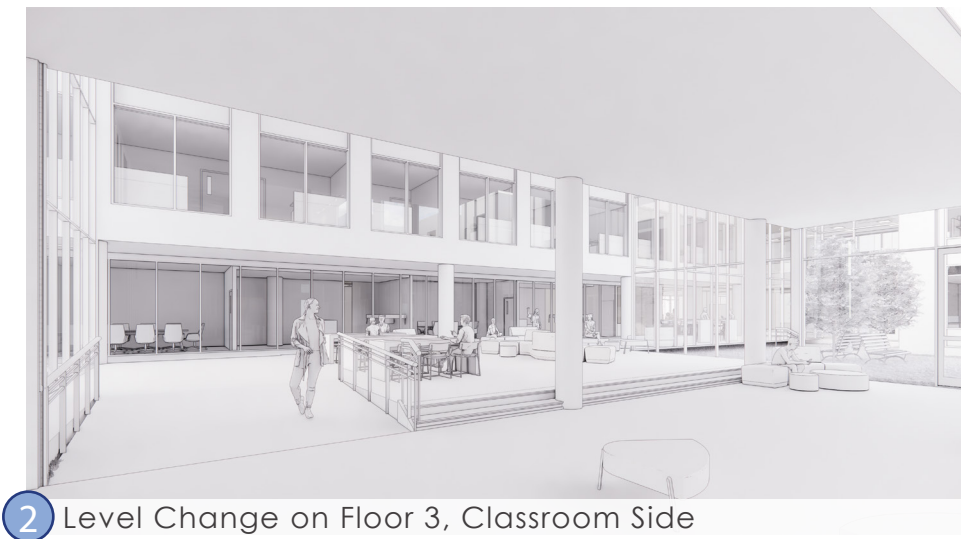
COMMONS ACCESS CORRIDOR LOOKING WEST AT STUDENT COMMONS



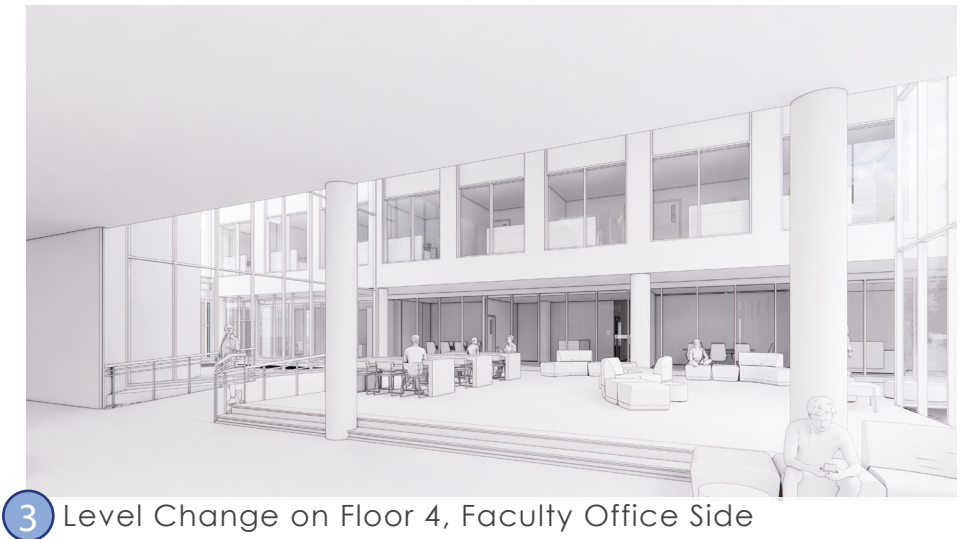
# FLOOR 1 LEVEL CHANGE



1 Ramp on Floor 3, Faculty Office Side

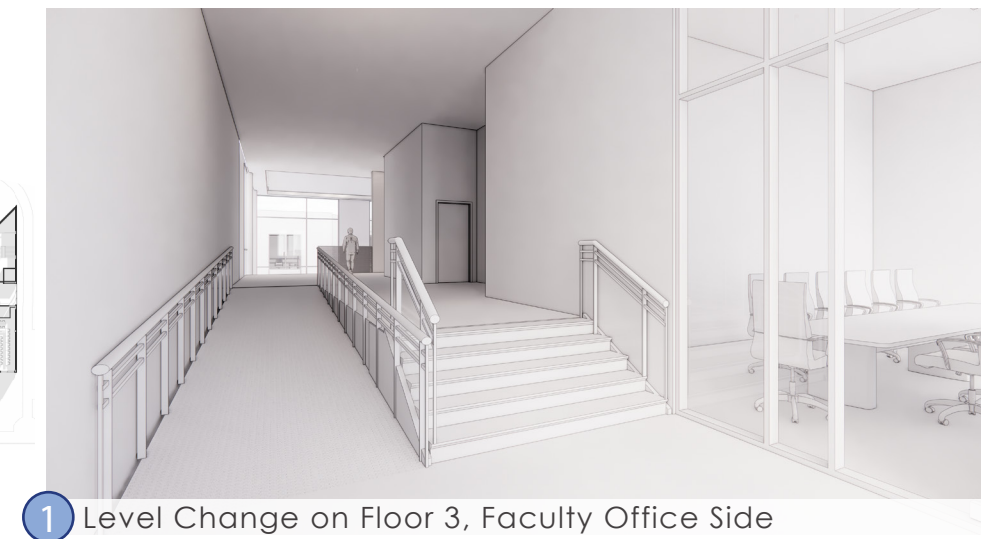
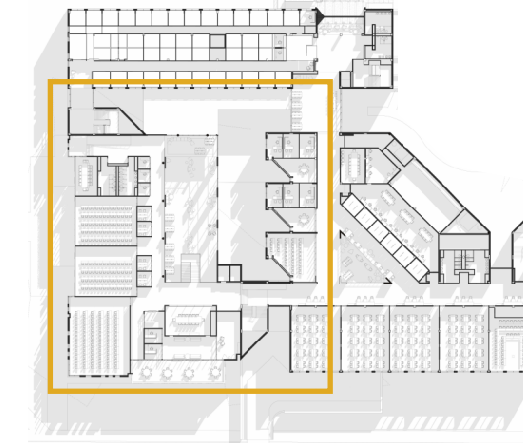
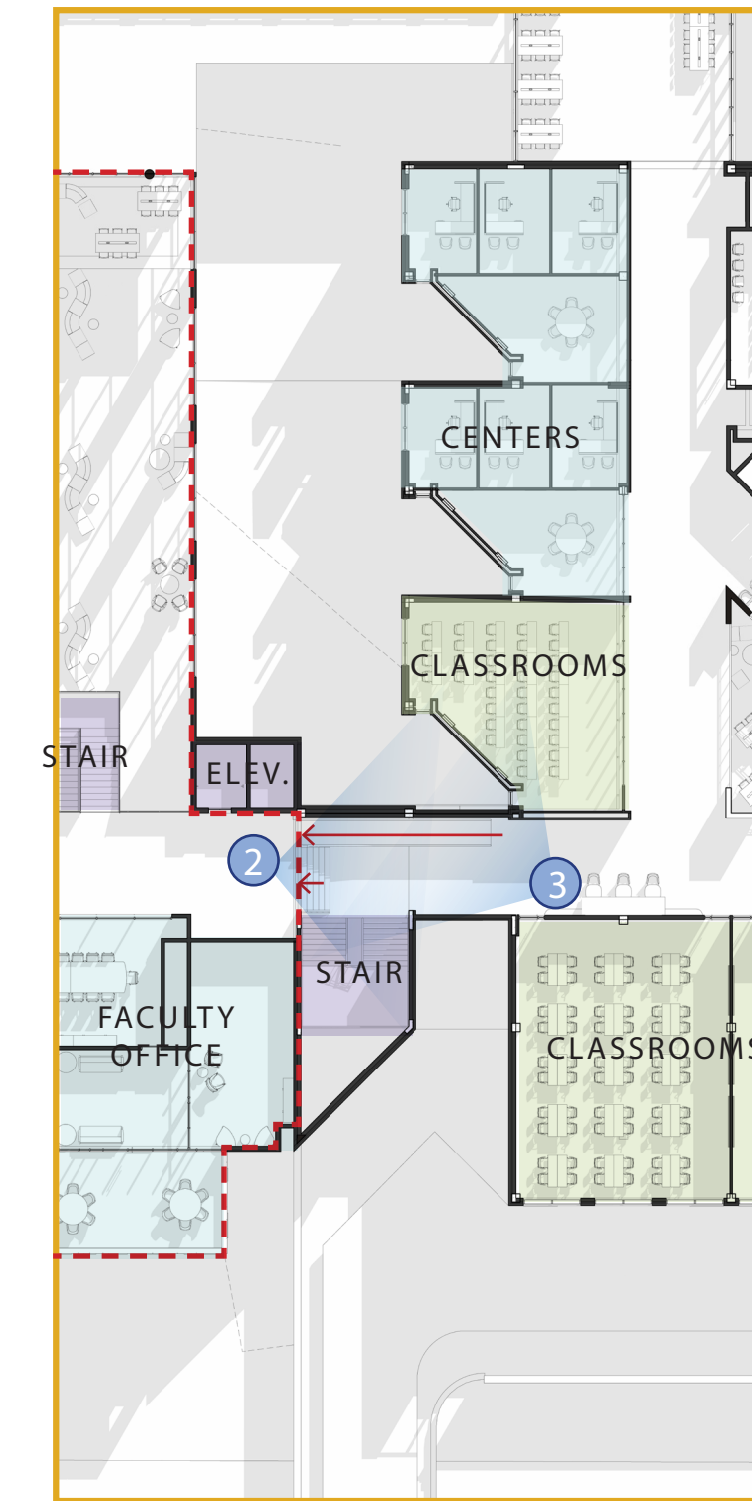
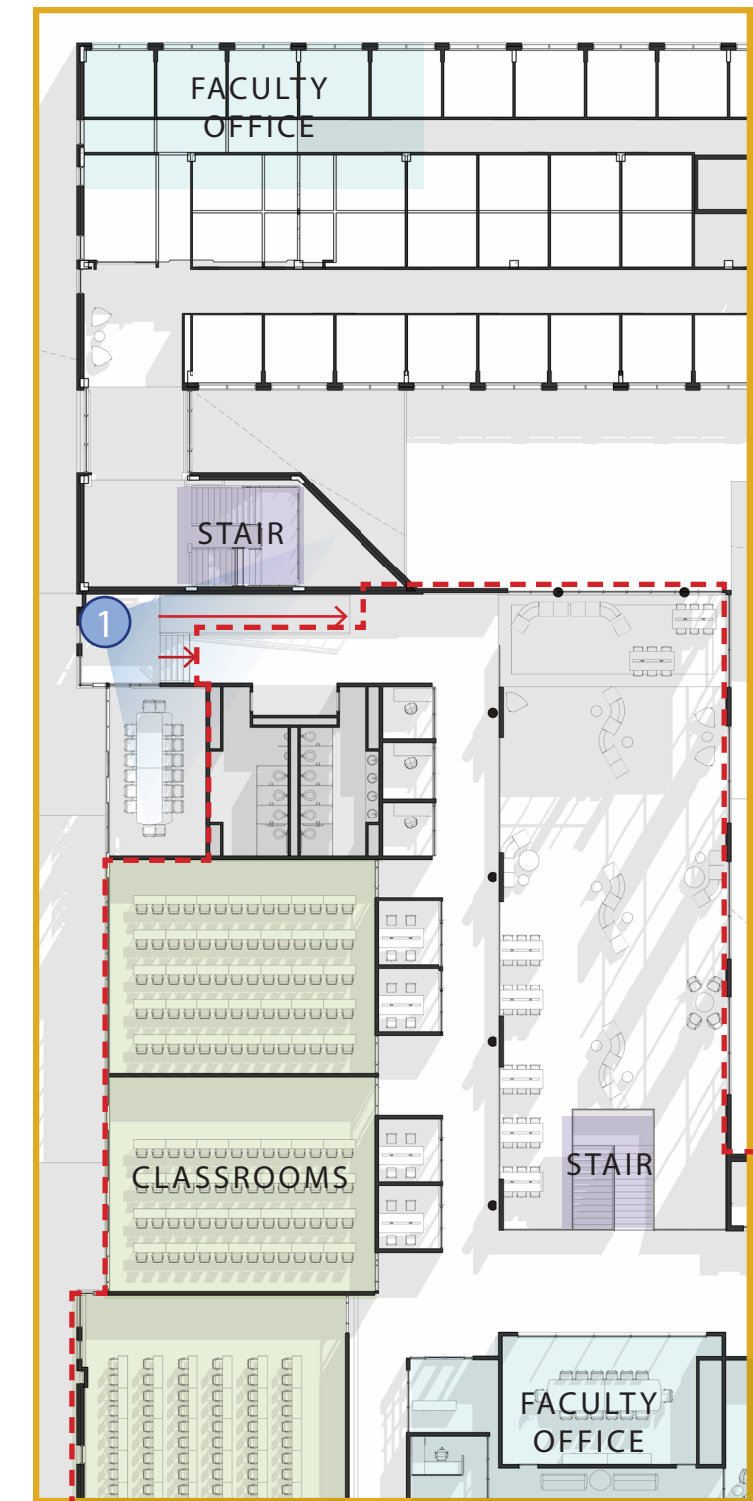


2 Level Change on Floor 3, Classroom Side



3 Level Change on Floor 4, Faculty Office Side

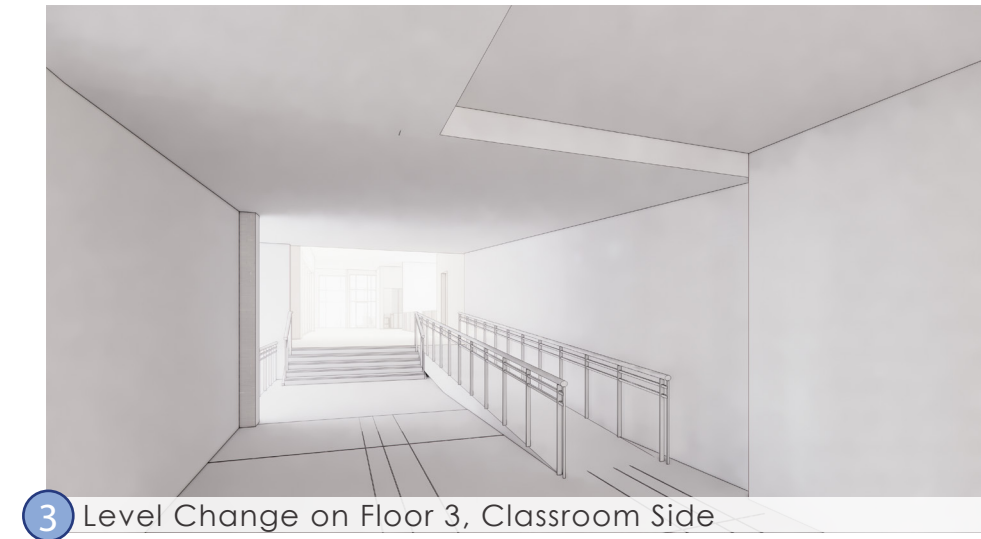
# FLOOR 3 LEVEL CHANGE



1 Level Change on Floor 3, Faculty Office Side



2 Level Change on Floor 3, Classroom Side



3 Level Change on Floor 3, Classroom Side

# 05

## COST ANALYSIS

ROBERT AND AVRON FOGELMAN BUSINESS COMPLEX

*Programming Study Update 2024*

# PRELIMINARY COST ESTIMATE

## COST ANALYSIS PROCESS

The conceptual floorplans, renderings, and design narratives presented in the previous sections (and appendix) were provided to a professional cost estimator to develop an opinion of probable cost for the construction cost. Several coordination meetings were conducted to clarify scope intent and review desing considerations as they related to cost.

Following the receipt of the programming cost estimate (provided in detail in the Appendix), the design team developed an overall project budget. An estimate recap is provided below.

<b>Phase 1 - Project Cost Estimate (Renovation)</b>	\$29,131,750
<i>Phase 1A - Project Cost Estimate w/ Alternates</i>	\$37,091,090
<hr/>	
<b>Phase 2 - Project Cost Estimate (Addition)</b>	\$47,908,910
<hr/>	
<b>Total Project Cost (Both Phases)</b>	<b>\$85,000,000</b>

A summary of itemized construction and project soft costs estimates are provided to the right. Construction costs are based on a May 2025 bid date, projecting 5% escalation from the time of the preliminary estimate (Q1 2024). Phase 1 FF&E costs (estimated ~\$4M) have been deferred into the Phase 2 project costs, hence the higher line item in the Phase 2 costs.

Phase 1 construction costs were seperated into base scope and additive alternates (Phase 1A) to achieve a target project cost of \$30,000,000 for the initial renovation. An outline of these alternates (construction cost) is provided on the opposite page. The first (3) items were incorporated into the base renovation cost and the last (3) items were deferred into the Phase 2 cost, as these scopes can be completed after the renovation with minimal impacts to occupancy.

## PRELIMINARY PROJECT BUDGET (SUMMARY)

Phase 1 - Renovation Basic Scope	WBA Estimate
Base Construction Cost	\$ 22,511,400
<i>Existing Restroom Renovations (2A)</i>	\$ 348,309
<i>New Restroom Core in Classroom Building (2B)</i>	\$ 843,862
<i>Existing Elevator Replacement (3)</i>	\$ 458,725
<b>Construction Cost (w/ Restrooms &amp; Elevator)</b>	<b>\$ 24,162,297</b>
<i>Construction Contingency - 10% Renovation</i>	\$ 2,416,230
<i>Design Fee - SBC-1 Calculation - (Multiplier = 1.25 Reno)</i>	\$ 1,853,223
<i>FF&amp;E + Precon + Cx + Misc.</i>	\$ 700,000
<b>Phase 1 - Project Cost</b>	<b>\$ 29,131,749.82</b>
<hr/>	
Phase 1A - Alternate Scopes	WBA Estimate
<i>Exterior Façade Enhancements (1)</i>	\$ 3,364,961
<i>Student Services Suite Recon / West Corridor Enclosure (5)</i>	\$ 654,402
<i>Tech Corner Renovation (6)</i>	\$ 55,620
<i>Lecture Hall Reno (8)</i>	\$ 587,400
<i>Office Renovations - Levels 2, 3, 4 (10)</i>	\$ 574,222
<i>Central Commons (11)</i>	\$ 1,433,391
<b>Construction Costs</b>	<b>\$ 6,669,997</b>
<i>Construction Contingency - 10% Renovation</i>	\$ 667,000
<i>Design Fee - SBC-1 Calculation - (Multiplier = 1.25 Reno)</i>	\$ 472,343
<i>FF&amp;E + Precon + Cx + Misc.</i>	\$ 150,000
<b>Phase 1A - Alternate Scopes Cost</b>	<b>\$ 7,959,340</b>
<b>Phase 1 + 1A - Project Cost</b>	<b>\$ 37,091,090</b>
<hr/>	
Phase 2	WBA Estimate
Base Construction Cost	\$ 33,984,000
<i>New Lobby Enclosure at Existing Breezeway (4)</i>	\$ 527,853
<i>Expand Existing Trading Lab (7)</i>	\$ 207,120
<i>Convert Tiered Classrooms to Case Classrooms (9)</i>	\$ 403,312
<b>Construction Cost (w/ Deferred Alternates)</b>	<b>\$ 35,122,286</b>
<i>Construction Contingency - 5% New Construction</i>	\$ 1,756,114
<i>Design Fee - SBC-1 Calculation - (Multiplier = 1.00 New)</i>	\$ 2,011,516
<i>FF&amp;E + Precon + Cx + Misc.</i>	\$ 9,018,994
<b>Phase 2 - Project Cost</b>	<b>47,908,909.98</b>
<hr/>	
<b>Total Cost - All Phases</b>	<b>\$ 85,000,000</b>

Additive Alternate / "Menu Item"	Estimate (Preliminary, Construction Cost)	
Existing Restroom Full Renovation	\$348,309 <i>(New finishes, fixtures, partitions)</i>	Phase 1
New Restroom Core in Classroom Wing	\$843,862 <i>(New finishes, fixtures, partitions in new restroom core)</i>	
Existing Elevator Replacement	\$458,725 <i>(New elevator in existing shaft)</i>	
Exterior Façade Enhancements	\$3,364,961 <i>(T-window renovations, classroom wing windows)</i>	Phase 1A - Alternates
Tech Corner Renovation	\$55,620 <i>(Convert triangle classroom to tech corner)</i>	
Student Services Suite	\$654,402 <i>(Reconfigure student services suite at level 1, enhance finishes at entry, enclose corridor at existing planters)</i>	
Lecture Hall Renovation	\$587,400 <i>(Convert existing lecture hall to deeper tiers, tables and chairs layout, acoustic finishes, more outlets)</i>	
Office Reconfigurations at Admin Wing	\$574,222 <i>(Split double offices, lobby / reception reconfiguration, Dean Suite reconfiguration)</i>	
Central Commons	\$1,433,391 <i>(New team rooms, slab infill, enhanced finishes)</i>	Phase 2
Lobby Enclosure at Breezeway	\$527,853 <i>(New entry lobby enclosure at Fogelman Drive)</i>	
Expand Existing Trading Lab	\$207,120 <i>(Convert triangle classroom to trading lab, enhanced AV, glass front)</i>	
Case Classroom Conversions	\$403,312 <i>(Convert (2) tiered classrooms to case classrooms – New layout, AV, more outlets, etc.)</i>	

# A1

## APPENDIX

ROBERT AND AVRON FOGELMAN BUSINESS COMPLEX  
*Programming Study Update 2024*

# DESIGN NARRATIVE - PHASE 1



## ARCHITECTURAL NARRATIVE

**Phase 1 Renovation – Base Scope**

The base renovation scope for Phase 1 is focused addressing the operational needs of the existing buildings and providing general enhancements to the appearance of the facility. Separate engineering narratives have been provided from the replacement of key building systems.

Major systems will be replaced as described in the engineering narratives, while utilizing existing mechanical rooms. This includes replacement of the existing air handlers and transformer, but existing ductwork will be reused to the extent possible. Similarly, the existing chiller plant will require minor modifications described in the MP/FP narrative but will otherwise remain. Interior lighting will be replaced throughout with new LED fixtures.

Architecturally, the base renovation scope will entail replacement of existing flooring, painting of existing walls, and replacement of ceilings throughout both buildings. Minor reconfiguration (demolition of interior partitions / installation of new drywall partitions) will be required in some areas; most major space reconfigurations are identified in the alternates below. The Phase 1 renovation will include replacement of the existing roofs with new TPO roofing. Other exterior improvements to the facades are identified in the alternate scopes below, rather than base scope.

**Phase 1 Renovation – Alternates**

In addition to the base scope described above, several alternates have been identified. These alternates are intended to be enhancements to the base scope and provide the College with a flexible cost approach for incorporating several key wants. To supplement the narratives on the following pages, see the drawing attachment (plans & elevations) which indicates the extents of each alternate for pricing. These alternates are intended to be additive to the base scope for the Phase 1 renovations, which will include replacement of major MEP systems, new LED lighting, accessibility / life safety updates, and basic finish renovations (floors, walls, ceilings) throughout.

**Alternate #1 – Exterior Façade Enhancements**

Demo the existing, freestanding brick portal and steps at the east entry to the building. Build a new precast entry surround (see elevation) at the existing opening to the breezeway. Install curtainwall, new entry doors, and canopy to infill the existing breezeway within the new precast surround.

Demolish the existing "T-windows" on the east & west facades of the admin building, as well as adjacent brick and wall construction to accommodate new window openings. Cut new openings at the ground level of the east & west facades of the admin building to accommodate new windows. Install new storefront windows and ACM spandrel panels as indicated on the elevations on the east & west facades of the admin building.

On the existing "triangle classrooms", cut new openings on the north façade to accommodate new windows. Install new storefront windows and ACM panels as indicated on the north elevation.

On the west elevation of the classroom building, cut new openings in existing brick veneer walls at Level 3 to accommodate new windows. Demo existing clerestory windows at the recessed façade on Level 2 and cut the existing walls to accommodate new windows. Install new storefront windows at Levels 2 & 3 as indicated on the elevations.

**Alternate #2A – Existing Restroom Renovations**

Demo the existing restrooms at the admin wing on levels 1, 2, & 3. Reconfigure the entry to these restrooms to meet ADA (see plans). Install new plumbing fixtures, partitions, toilet accessories, and finishes (porcelain tile on wet walls and floors).

**Alternate #2B – New Restroom core in Classroom Building**

Demo existing construction at Levels 1, 2, & 3 near the SW corner of the building (see plans). Demo existing tiered concrete slab at Level 1 and pour a new concrete slab for the new restroom. Provide a new restroom core on each level as indicated on the plans.

**Alternate #3 – Existing Elevator Replacement**

Demo the existing elevator at the south end of the admin building (at breezeway on Level 1) and prepare shaft to receive new elevator. Install a new traction elevator in the existing shaft (5 stops).

**Alternate #4 – New Lobby Enclosure at Existing Breezeway**

The existing breezeway between the classroom and admin buildings is to be enclosed at Level 1. This will entail demolition of existing slabs / installation of new slabs and flooring, installation of new storefront windows / doors on the open ends of the breezeway, and installation of new enhanced finishes (refer to renderings) in this lobby space.

**Alternate #5 – Student Services Suite Reconfiguration / West Corridor Enclosure**

Demo the existing partitions, ceilings, flooring, etc. in the current student services suite. Install new walls, ceilings, etc. per the plans for the reconfigured student services suite. Provide new interior glass storefront and the entry to this suite from the new lobby enclosure and provide enhanced finishes.

Demo existing planters and non-structural walls along the west façade of the admin building. Install a new concrete slab from the lobby heading north towards the north stairwell along the west façade. Install new storefront windows and doors to create an enclosed corridor along the west elevation for access to student services suites.

**Alternate #6 – Tech Corner Renovation**

Cut new openings in existing walls at the easternmost "triangle classroom" on Level 1 as indicated on the plans. Install new partitions, ceilings, etc. to accommodate new technology group offices and help desk off the main corridor.

**Alternate #7 – Expand Existing Trading Lab**

Demo existing corridor wall of the middle "triangle classroom: on Level 1, adjacent to the existing trading lab. Install a new storefront entry (similar to adjacent trading lab) and renovate this space to provide enhanced finishes / AV capabilities for a second trading lab. Install a new door in the wall between the existing trading lab and the new trading lab.

**Alternate #8 – Lecture Hall Renovation**

Demo the existing chairs with task arm tables in the north lecture hall. Install new built-up tiered flooring over existing concrete tiers to accommodate deeper tiers. Install new fixed lecture hall tables with power / data at each tier to accommodate loose chairs.

**Alternate #9 – Convert Existing Tiered Classrooms to Case Classrooms**

Demo the existing chairs with task arm tables in the (4) tiered classrooms on Level 1 along the west elevation. Install new built-up tiered flooring over existing concrete tiers to accommodate deeper tiers. Install new fixed lecture hall tables with power / data at each tier to accommodate loose chairs.

**Alternate #10 – Minor Office Renovations at Levels 2, 3 & 4**

Demo the department head office suites at the north end of levels 2, 3 & 4 in the admin building, as well as the existing lobby at the dean's suite. Subdivide the existing double offices into a pair of single offices as indicated on the plans, provide new wood doors with a full glass lite. Reconfigure the existing offices at the north end of the building as indicated on the plans. Provide new ceilings and enhanced finishes in the lobby space at dean's suite.

**Alternate #11 – Central Commons**

Install a new slab at the existing triangular opening at Level 2 of the classroom building. Cut new openings in the existing concrete walls of the triangle opening (see renderings and structural markups). Provide new enhanced finishes at levels 1, 2 & 3 of this central commons per renderings.

Demo the existing undersized classrooms / PHD spaces at the core of Level 2 & 3 of the classroom building. Install new team rooms with storefront window and doors along the corridor side as indicated on the plans. Renovate the remaining shell space behind these team rooms to provide an open PHD space on Level 2 and a new CNRL (research) suite on Level 3.

## STRUCTURAL NARRATIVE

### SECTION 1.1

#### BUILDING CRITERIA: STRUCTURAL SCOPE AND CODE REGULATIONS

As per the 2021 International Existing Building Code Level 3, alterations will apply since the work area exceeds 50 percent of the building area. As per the current building code, the existing building is in a high seismic zone and the seismic design category is "D".

#### EXISTING BUILDING

- Adding floor at slab infill areas to the existing building: The addition will not increase demand on existing seismic members by more than 10%, which is the current code limit for an addition without a structural upgrade. Limited structural upgrade of members will be required where the addition will increase demand on existing gravity members by more than 5%, which is the current code limit for an addition without a structural upgrade.

- Demolition of two existing stairs at north end of part A and part B building: Based on our initial review of the construction drawings, it is our opinion that removal of stairs and landing will not reduce the lateral force-resisting capacity of the main building. Re-supporting of newly cut slab edges will be required for gravity loads.

- Demolition of two-way flat slab and columns at north end of part B building: Based on our initial review of the construction drawings, it is our opinion that removal of the slab and columns will not reduce the lateral force-resisting capacity of the main building. Strengthening of floor slab and re-supporting of newly cut slab edges will be required for gravity loads.

- Demolition of connector between part A and part B building: Based on our initial review of the construction drawings, it is our opinion that removal of connector will not reduce the lateral force-resisting capacity of the main buildings. Re-supporting of newly cut structure will be required for gravity loads.

- Exterior brick wall with CMU backup and CMU partitions: Non-structural masonry backup walls and partitions will have to be evaluated for out-of-plane seismic forces. Typically, unreinforced masonry walls require anchorage to the structure.

- Voluntary upgrade seismic retrofit of the lateral force-resisting system: A voluntary upgrade and addition of structural elements to improve the lateral system of the building is an option. Providing a lateral path from the floor diaphragms to the foundation system will improve the lateral force-resisting system of the building. Although a seismic retrofit is possible, it is very costly.

#### NEW BUILDING (ADDITION)

- New construction: The new construction will be a structurally independent, four-story tall, vertical addition. The addition will be designed to meet the current building codes.

### SECTION 1.2

#### BUILDING CRITERIA: STRUCTURAL

#### EXISTING BUILDING

- Building description: The University of Memphis FCBE building consists of two structurally independent structures, 4-story part A, and 3-story part B. Part A structure has a partially underground basement story. Both structures are connected with a connector at the second and third floors. The connector is connected to the part A structure and separated by 1" expansion joint from part B structure.

- Part A is a rectangular building with an approximate footprint of 224' x 54' with a 13'-8" first story and 12'-0" top three stories. The building is 49'-8" feet tall above the first floor.

- Part B building has an approximate footprint of 205' x 164' with a 14'-8" first story

and 12'-0" top two stories. The building is 38'-8" feet tall above the first floor.

- Design building code: The building original construction documents were issued in April 1969. Based on the code adoption history, the building was designed for the 1965 Southern Standard Building Code. The lateral force-resisting system of the building was designed for wind but not seismic loads. Construction documents were available for review. The construction specifications were not available.

- The Gravity Force-Resisting System for both buildings mainly consists of 10" thick reinforced concrete, two-way flat slab and concrete columns. Although grid spacing is indicated to be 17'-0", the slab is spanning in a diagonal direction with a 24'-0" slab span. Flat slab column and middle strip reinforcement is indicated on the plan and schedule. Typical columns have a 6" deep x 3'-0" long steel shear head on all four sides in the direction of the slab span. Some isolated areas have one-way slab and beam construction.

- The Lateral Force-Resisting System for the building is flat slab frames consisting of columns and two-way flat slab without beams. Although the building was designed to meet wind loads, this is not an acceptable seismic force-resisting system in the current building codes. The concern is the transfer of applied forces between the slab and column, which could result in punching shear failure at columns and partial collapse. As the slab cracks, the flexibility of the seismic-force-resisting system increases. Three story light well in part B building has concrete bearing walls in upper two stories. Walls are supported on concrete columns below, which is not desirable during a seismic event. The FCEB building is located in a high seismic zone with higher lateral forces and very stringent detailing requirements. Additionally, confinement reinforcement of the column does not meet current code requirements for a high seismic zone.

- Foundation system and basement: Typically, the first floor is 5" concrete slab-on-

grade with welded wire fabric. The foundations are shallow spread footing.

- Exterior skin: The original architectural construction drawings indicate an exterior brick skin with 8" CMU backup interrupted by glass. CMU wall reinforcement and anchorage to structure is not indicated. Unreinforced masonry is a Life Safety issue during a seismic event. The architectural drawings indicate continuous steel angles for brick support at each floor.

- Parapet: Typically, parapets are brick with reinforced concrete backup.

- Stairs: Stairs are located at north and south ends of both buildings. Stairs are typically one-way concrete slabs supported by beams and columns.

#### NEW BUILDING (ADDITION)

- Building description: The addition to the original FCBE building is a 4-story, structurally independent structure. Upper stories in the addition will be taller than the existing buildings and will require steps and ramps at connections. The building will have large open spaces and floor openings in circulation areas.

#### STRUCTURAL SCOPE AND CODE REGULATIONS

As per the 2021 International Existing Building Code (IEBC), Level 3 alterations will apply since the work area exceeds 50 percent of the building area. As per the current 2021 International Building Code (IBC), the existing building is in a high seismic zone and the seismic design category is "D".

- Alternate #11 – Central commons (Part B building), second floor slab infill at existing triangular opening and cut new openings in existing concrete walls around the opening: The addition will not increase demand on existing seismic members by more than 10%, which is the current code limit for an addition without a structural

## STRUCTURAL NARRATIVE

upgrade. Limited structural upgrade of members will be required where the addition will increase demand on existing gravity members by more than 5%, as this is the current code limit for an addition without a structural upgrade.

- Exterior brick wall with CMU backup and CMU partitions: Non-structural masonry backup walls and partitions will have to be evaluated for out-of-plane seismic forces. Typically, unreinforced masonry walls require anchorage to the structure.

- Voluntary upgrade seismic retrofit of the lateral force-resisting system: A voluntary upgrade and addition of structural elements to improve the lateral system of the building is an option. Providing a lateral path from the floor diaphragms to the foundation system will improve the lateral force-resisting system of the building. Although a seismic retrofit is possible, it is very costly.

**EXISTING BUILDING DESCRIPTION:**

- Building description: The University of Memphis FCBE building consists of two structurally independent structures, the 4-story part A, and 3-story part B. Part A structure has a partially underground basement story. Both structures are connected with a connector at the second and third floors. The connector is connected to the part A structure and separated by a 1" expansion joint from part B structure.

- Part A is a rectangular building with an approximate footprint of 224' x 54' with a 13'-8" first story and 12'-0" top three stories. The building is 49'-8" feet tall above the first floor.

- Part B building has an approximate footprint of 205' x 164' with a 14'-8" first story and 12'-0" top two stories. The building is 38'-8" feet tall above the first floor.

- Design building code: The building original construction documents were issued

in April 1969. Based on the code adoption history, the building was designed for the 1965 Southern Standard Building Code. The lateral force-resisting system of the building was designed for wind but not seismic loads. Construction documents were available for review. The construction specifications were not available.

- The Gravity Force-Resisting System for both buildings mainly consists of 10" thick reinforced concrete, two-way flat slab and concrete columns. Although grid spacing is indicated to be 17'-0", the slab is spanning in a diagonal direction with a 24'-0" slab span. Flat slab column and middle strip reinforcement is indicated on the plan and schedule. Typical columns have a 6" deep x 3'-0" long steel shear head on all four sides in the direction of the slab span. Some isolated areas have one-way slab and beam construction.

- The Lateral Force-Resisting System for the building is flat slab frames consisting of columns and two-way flat slab without beams. Although the building was designed to meet wind loads, this is not an acceptable seismic force-resisting system in the current building codes. The concern is the transfer of applied forces between the slab and column, which could result in punching shear failure at columns and partial collapse. As the slab cracks, the flexibility of the seismic-force-resisting system increases. The three story light well in part B building has concrete bearing walls in upper two stories. Walls are supported on concrete columns below, which is not desirable during a seismic event. The FCEB building is located in a high seismic zone with higher lateral forces and very stringent detailing requirements. Additionally, confinement reinforcement of the column does not meet current code requirements for a high seismic zone.

- Foundation system and basement: Typically, the first floor is 5" concrete slab-on-grade with welded wire fabric. The foundations are shallow spread footing.

- Exterior skin: The original architectural construction drawings indicate an exterior

brick skin with 8" CMU backup interrupted by glass. CMU wall reinforcement and anchorage to structure is not indicated. Unreinforced masonry is a Life Safety issue during a seismic event. The architectural drawings indicate continuous steel angles for brick support at each floor.

- Parapet: Typically, parapets are brick with reinforced concrete backup.

- Stairs: Stairs are located at north and south ends of both buildings. Stairs are typically one-way concrete slabs supported by beams and columns.

**STRUCTURAL ITEMS:**

- Part A building, alternate #4: New lobby enclosure will require demolition and installation of new slab-on-grade.

- Part A building, alternate #5: West corridor enclosure will require some slab-on-grade work.

- Part B building, alternate #11 – Central commons second floor slab infill at existing triangular opening and cut new openings in existing concrete walls around the opening: The slab infill will be concrete slab on steel form deck supported by steel beams. Concrete or steel frames with new columns and beams will be required to re-support existing slab edges around the opening. Reinforcing existing foundations and adding new foundations will be required. The new frame will extend from foundation to roof on orthogonal sides, and to third floor on diagonal side of the triangular opening. Shoring of existing structure may be required based on final design and construction sequence.

## MECHANICAL, PLUMBING &amp; FIRE PROTECTION NARRATIVE

**General Mechanical and Existing Buildings****1. Existing Buildings**

- a. Existing Air Handlers in Building A (Faculty Suite) and Building B (Classrooms) shall be completely removed from the building.
- b. Existing primary ductwork and chases within Buildings A and B shall be reused as much as possible. Cap and seal any existing openings in the ductwork and provide new insulation on all existing ductwork to be re-used.
- c. Existing terminal boxes, downstream low-pressure ducting, fire dampers, smoke dampers, and existing controls shall be removed in their entirety. Provide new terminal units, controls and heating hot water piping for all areas of the existing buildings.
- d. The existing two-story lighting well in Building B shall be modified to infill the 2nd floor slab and the upper two floors of this lighting well opened up to provide a two story lighting well.
- e. Replace 1 large unit in the Faculty Suite (Building A) using fan wall technology with supply fan and return fan - fan wall systems.
  - i. The existing equipment room shall be re-used and the new unit sized for fitting in the existing mechanical room on the 4th floor. Provide a new air handler sized for the replacement of this existing unit. Provide new relief air, OSA and Return air as required to connect the existing supply and return ducting to the new unit as required.
  - ii. Existing supply and return ducting shall be patched and re-insulated as required.
  - iii. All new terminal units, controls, fans (Minimum 5+1) fan wall system for both the supply and return fans), VFDs, coils and all piping shall be replaced.
  - iv. All new units shall be verified for capacity and OSA requirements

per the new codes to assure proper ventilation.

- f. Utilize 2-way control valves on all chilled water and hot water systems to allow for full controllability and reduced flows at light load.
- g. Replace 1 large unit in the classroom building (Building B) using fan wall technology with supply fan and return fan - fan wall systems.
  - i. The existing equipment room shall be re-used, and the new unit sized for fitting in the existing mechanical room on the 3rd floor. Provide new relief air, OSA and Return air as required to connect the existing supply and return ducting to the new unit as required. Existing supply and return ducting shall be patched and re-insulated as required.
  - ii. All new terminal units, controls, fans (Minimum 5+1) fan wall system for both the supply and return fans), VFDs, coils and all piping shall be replaced.
  - iii. Utilize 2-way control valves on all chilled water and hot water systems to allow for full controllability and reduced flows at light load.
  - iv. All new units shall be verified for capacity and OSA requirements per the new codes to assure proper ventilation.
- h. Exhaust systems shall be completely replaced to meet current guidelines and construction practices.
- i. Provide D-X cooling systems to service all new elevator equipment rooms, IT rooms and communications rooms.
- j. Provide complete commissioning as well as Testing and Balancing for all new controls as well as any new or reused equipment.

**2. FIT Building Chiller Plant**

- a. This building is physically located beside the parking structure directly east of the building.
- b. Reuse all existing heating hot water systems located within this building with the following exceptions:

- i. Reuse the existing heating hot water piping routed under Fogelman Drive.
  - ii. Provide all new hot water unit heaters where equipment rooms and other heated only spaces require new units.
  - iii. Replace the existing Fulton Heating hot water boilers located within the FIT Building to provide the required heating for this Phase 1 project only.
  - iv. Replace existing heating hot water pumps (2) 25 HP Each. Provide new VFDs and controls for these pumps.
  - v. Provide capped location for future tie-in of Phase 2 piping serving the new Building C. Plan for this piping to be routed across the roof of Building B (Classrooms) to the future penthouse on Building C.
- c. Existing chilled water plant and pumps serving this chiller plant and all existing chilled water piping to the existing buildings shall remain in service. All existing chilled water piping within Building A (Faculty Suite) and Building B (Classrooms) shall be completely removed from the building and replaced with new.
    - i. Provide capped location for future tie-in of Phase 2 piping serving the new Building C. Plan for this piping to be routed across the roof of Building B (Classrooms) to the future penthouse on Building C.
- 3. BAS System**
    - a. Provide a new control system to service the new future building (Building C - Phase 2), and the two existing buildings (Buildings A and B). In addition, the control system for this building shall be extended to service the existing FIT Chiller Room and all equipment within this building.
    - b. Select system to allow for all future expansion areas within Phase 1 and Phase 2.

**Mechanical – New Building****4. Seismic Separation**

- a. The existing buildings are not seismically rated. There will be substantial seismic joints in the structure between the existing buildings and the new building. Provide seismic separations for all equipment between the buildings at seismic joints.

**5. Gas Entrance**

- a. Gas service is located at the existing FIT chiller plant. This service shall remain as existing.
  - i. See Phase 2 requirements - provide new seismic isolation valve at the building service entrance with isolation valve, seismic valve, BAS Alarm of actuation, Gas Meter with BAS readout, and pressure regulator.
  - ii. See Phase 2 requirements - route low pressure gas service to the CAFÉ if required by food services.

**Plumbing****1. Fixtures**

- a. Plumbing fixtures for all areas will be new.
- b. Commercial grade wall hung toilets, undermount lavatories, urinals, janitor sink, water cooler with bottle filler, and sink.
- c. Flush valve and faucets shall be hardwired, sensor operated.

**2. Domestic Water Distribution**

- a. General:
  - i. Domestic water piping for all areas will be new.
  - ii. Domestic water shall be from public mains to service building.
  - iii. Domestic cold water, hot water, and hot water circulating systems will be provided for all areas.
  - iv. Provide reduced pressure backflow preventer (minimum of 2) at

## MECHANICAL, PLUMBING &amp; FIRE PROTECTION NARRATIVE

- domestic water entry to building with flood protection alert system (if reduced pressure backflow preventer is located in Basement).
- v. Domestic cold water will be provided from a duplex domestic water booster pump package located downstream of the reduced pressure backflow preventers.
- vi. Domestic water will be provided for all areas of the project, including make-up water where required.
- vii. Isolation valves and unions or flanges will be provided for each piece of equipment such as water heaters, pumps, etc.
- viii. Manufactured shock absorbers will be provided for all piping servicing fixtures utilizing flush valves or similar equipment susceptible to causing water hammer.
- ix. All domestic water piping will be concealed above ceilings and within walls unless otherwise noted.
- x. All shut-off valves in the domestic water distribution system shall be non-ferrous ball valves.
- xi. Wall hydrants will be provided around the perimeter of the building to grade level spaced not greater than 100'-0" apart including main entrance.
- xii. Pressure reducing valves will be provided to limit the pressure available to 80 psig if required.
- xiii. All domestic hot, cold, and recirculating piping will be insulated with 1" fiberglass and preformed PVC fitting covers.
- xiv. Waste and water supplies under each lavatory shall be covered with pre-formed ADA compliant covering systems.
- xv. All piping shall be Type L copper.
- xvi. Provide hose bibs on roofs at mechanical equipment.
- xvii. Minimum pipe size serving more than one fixture: 3/4" (i.e., no 1/2").
- b. Domestic Hot Water Systems:
  1. Provide new electric tank water heater (120 gallon capacity) for all fixtures requiring hot water with approximately 18 kw heating element.
  2. Mechanical circulation shall be provided to sufficiently deliver hot water at any fixture within 5 seconds after it is turned on.

**3. Sanitary Waste**

- a. Sanitary waste and vent piping for all areas will be new.
- b. All sanitary piping shall be service weight cast iron.
- c. Duplex type sewage ejectors will be provided for those areas located below sanitary sewer mains. Fiberglass, cast iron, or lined concrete basins will be provided for each ejector adequately sized to prevent pump cycling. Sewage ejectors will be provided in separate rooms.
- d. Sump pump shall be provided for each elevator shaft and connected to the sanitary sewer system. Oil/water separator is required for hydraulic elevators.
- e. One floor drain will be provided for each 400 square feet of public restrooms; however, all restrooms will have at least one floor drain.
- f. Floor cleanouts will be provided throughout the facility in accordance with code requirements and at all changes in direction. Cleanouts will not be allowed in high traffic or public areas.
- g. All sanitary sewer piping will be concealed above finished ceilings and within walls unless otherwise indicated.
- h. All floor drains and floor sinks will have flashing rim and clamp.
- i. Trap primers will be provided for all floor drains and floor sinks.
- j. Floor drains will have heel-proof grates.
- k. Underground waste and vent piping shall be service weight cast iron, soil pipe and fittings with compression gasket hub and spigot joints.
- l. Drains will be provided at all mechanical equipment rooms within 2'-0" of discharges such as coil drains.

**4. Rainwater Drainage**

- a. Rainwater drainage piping and roof drains for all areas will be new including for existing buildings.
- b. New overflow roof drains and piping will be provided for existing buildings meeting current code.
- c. Storm drainage systems will consist of regular roof drains and overflow roof drains for all areas. Regular roof drains will be piped to grade and connected to manholes or designated drainage areas outside the building. Overflow roof drains will be separately piped to terminate above grade.
- d. All storm drainage piping will be concealed above finished ceilings and within walls unless otherwise indicated.
- e. Insulate horizontal roof drainage piping with 1-1/2" fiberglass insulation and all piping subject to condensation.
- f. Underground storm piping shall be service weight cast iron with neoprene gaskets. Above-ground storm piping shall be service weight cast iron with no-hub fittings.

**Fire Protection****1. Sprinkler System**

- a. Sprinkler system for all areas will be new.
- b. All sprinkler and fire protection piping will be concealed above finished ceilings and within walls unless otherwise indicated.
- c. Provide concealed sprinkler heads in areas with finished ceilings.
- d. A complete and operational fire protection system will be provided consisting of the following elements:
  - i. Wet pipe sprinkler system for all areas not subject to freezing.
  - ii. Standpipes in all egress stairwells (approximately 3).
- e. Provide sprinkler head in elevator shaft where required by NFPA and

- local Fire Marshal requirements.
  - f. All fire protection systems will be designed in accordance with NFPA and local Fire Marshal requirements.
- 2. Fire Pump**
- a. A single fire pump will be provided for the building.
  - b. Fire pump to be 1000 GPM water supply with approximately 125 HP motor.
  - c. Fire pump controller will be wye delta open reduced voltage start type with integral automatic transfer switch.
  - d. Fire pump room to be located near transformer.

## ELECTRICAL &amp; AUDIO VISUAL NARRATIVE

**EXISTING CONDITIONS AND DEMOLITION SCOPE**

A 3-phase, 15kV circuit enters the electrical vault located at the southeast corner of the basement level and loops through a G&W gas-insulated, 600-amp switchgear comprised of two input loop switches and four output switches. One output switch feeds three 250kVA, single-phase transformers inside the vault that provide 208V, 3-phase, 4-wire service to a 3,000-amp switchboard in the adjacent electrical room. The remaining output switches provide 15kV to remote transformers serving the neighboring FedEx Institute of Technology and both the University Middle/High School and Innovation Drive Chiller plant located across the street.

The existing 15kV G&W switch shall remain. The three 250kVA, single-phase transformers as well as associated feeder cabling shall be removed. The 50kW generator and 200-amp automatic transfer switch installed in 2016 shall be salvaged and delivered to a location as directed by the University for future use. Existing concrete generator pad and protective bollards shall be removed. The PacketPower energy monitor shall be salvaged for reinstallation at the new service switchgear. All remaining electrical switchgear is outdated, in disrepair, and shall be removed in its entirety.

All existing electrical devices, light fixtures and associated equipment shall be removed in their entirety. All existing wiring, cabling, conduits, supports, etc. shall be removed. Conduits installed in or below concrete slabs shall be cut and grouted flush. Conduits installed below grade outside the building footprint shall be abandoned in place.

The existing fire alarm system is Simplex/JCI and includes a 4100ES control panel and traditional horn/strobe notification devices. All existing equipment and devices shall remain in service except where modifications are required for any reconfigured areas.

The existing access control system and all AV equipment shall be removed in their entirety. All other low-voltage system components and cabling such as voice/data and CCTV that is currently in use shall remain. All unused cabling shall be removed.

**NEW PROJECT SCOPE****Electrical Service**

New medium voltage cabling shall be installed between the existing G&W gas-insulated switch in the electrical vault to a new pad-mounted transformer located in the utility yard between FCBE and FedEx Institute of Technology. New cabling shall be #2AWG, 15kV, Type MV 105, copper, with 200-mil (133%) EPR insulation and copper tape shield manufactured by either Kerite or Okonite as approved by the University.

The new pad-mounted transformer is anticipated to be no larger than 1,000kVA. The transformer shall be dead-front, internally fused, liquid-cooled type (with KNAN cooling class) utilizing less-flammable liquid that is non-toxic and completely biodegradable such as Envirottemp FR3. Transformer shall be configured for radial feed and rated with a 12470V delta, 95kV BIL primary and 208Y/120V, 30kV BIL secondary. Impedance shall be 5.75%. Transformer shall be installed on a concrete pad extending six inches beyond its footprint in all directions.

There shall be one new electrical service for the building and a separate electrical service for the fire pump. New building service equipment shall be installed in the main electrical room on the basement level. Service size is anticipated to be no larger than 2,500-amps at 208Y/120V, 3-phase, 4-wire. The existing PacketPower energy monitor shall be reconnected and configured to monitor the incoming service conductors at this location.

The fire pump service shall be sized for a 125HP motor. Because the campus service point is a primary electric meter, all downstream wiring serving buildings are defined

as feeders, which will require the fire pump to be provided with an alternate source of power per the National Electrical Code (NEC) 695.3(C)(2). As a result, the fire pump shall be furnished with a combination controller and automatic transfer switch and shall also be connected to the building's backup generator. Wiring and conduits for service and backup power shall be routed outside of the building in accordance with NEC 695.6(A)(1).

**Distribution**

Distribution equipment shall be installed in storage closets or utility spaces located on each floor of both the administration and classroom buildings.

A new generator shall be provided to provide backup power for the fire pump and other facility loads as described elsewhere in this narrative. The generator shall be approximately 200kW and diesel-fueled with 24-hour, sub-base fuel tank. Enclosure shall be level 2 sound attenuated with sand or dark bronze color as approved by the University. The generator shall be located in the utility yard between FCBE and the FedEx Institute of Technology. The generator shall reside on a concrete pad that extends a minimum of six inches beyond the footprint in all directions. Protective bollards shall be installed around the generator in accordance with Section 312 of the 2021 International Fire Code. Separate automatic transfer switches shall be provided for the emergency and legally required/optional-standby distribution systems. A generator docking station (i.e., manual transfer switch) meeting the requirements of NEC 700.3(F) shall be installed for the emergency distribution system and located on the exterior of the building to provide means of connection for an alternate source of power if the permanent generator should be taken offline for maintenance or repair.

Three different distribution systems shall be designed for the facility: normal power, emergency power, and legally required/optional-standby power. The emergency power system shall consist of light fixtures intended to provide emergency egress

lighting upon normal power failure. All wiring, conduits, cabinets, boxes, etc. shall be kept entirely independent of all other distribution system wiring and components in accordance with NEC Article 700. A surge protective device (SPD) shall be provided for each emergency system panelboard per NEC 700.8.

The legally required/optional-standby power distribution system shall consist of all other loads required or desired to have backup power but shall not include emergency lighting. Additionally, the University desires to have a minimum of one elevator (preferably all) and all IT equipment to be served by the legally required/optional-standby system. All wiring serving both legally required and optional-standby loads may share common raceways, boxes, panelboards, etc. as well as one common automatic transfer switch. Surge protective devices shall be installed for all panelboards serving sensitive electronic equipment.

Electrical studies shall be performed on the new electrical distribution systems. Studies may be self-performed or delegated to the switchgear manufacturer but must be signed and sealed by a professional engineer registered in the State of Tennessee. Studies shall include a short-circuit study, selective coordination study, and an arc flash study. The short circuit study shall be performed to confirm AIC ratings are appropriately sized for all equipment and as needed to provide the proper equipment labeling per the NEC. A selective coordination study shall be performed to determine proper trip settings of feeder circuit breakers and as required for the emergency distribution system and legally required standby systems (smoke control system). The arc flash study shall be performed to create safety labels for all switchgear in accordance with NFPA 70E. Arc flash labels shall be provided for all panelboards and switchboards. Labels shall display the following information: Warning Arc Flash Hazard, Arc Flash Risk Category, Arc Flash Protection Boundary, Arc Flash Incident Energy, Warning of Shock Hazard, Limited Approach Boundary, Restricted Approach Boundary, Prohibited Approach Boundary, and System Voltage.

## ELECTRICAL &amp; AUDIO VISUAL NARRATIVE

**Basic materials and methods**

All wiring shall be copper. All branch circuit homeruns shall be installed in conduits and terminated in a box above an accessible ceiling. MC cabling may be installed downstream of homeruns where concealed above ceilings or inside walls. Branch circuits shall not share neutral conductors. An equipment grounding conductor shall be installed with all circuits. All new work shall be concealed where possible.

All junction boxes shall be installed no more than 24-inches above ceilings. EMT fittings shall be steel, compression type. Rigid fittings shall be threaded. All conduits below grade shall have rigid galvanized steel elbows that extend a minimum of six inches above slab. Where installations are required to be exposed in other than utility spaces, wiring shall be installed in Wiremold 500 or 700 series surface raceway completed with compatible backboxes and other accessories. Exposed conduit installation is prohibited unless located in utility areas.

The main service panelboard or switchboard shall be equipped with a main circuit breaker. The main circuit breaker shall be equipped with ground fault protection and means to reduce arc energy as required by NEC Article 240. Bussing inside all panelboards and switchboards shall be copper. All panelboard covers shall have door-in-door construction with trims hinged to the enclosure.

All wiring devices shall be rated 20-amps. GFCI receptacles shall be installed where readily accessible for testing. Branch circuits serving vending machines, electric drinking fountains, and food service equipment shall be protected by GFCI type circuit breakers. A minimum of two duplex receptacles with dual USB ports (minimum 5V, 5A) shall be installed in all classrooms/lecture halls and study/team areas.

**Lighting**

All new lighting shall be LED. Light fixtures and associated controls shall be designed

in accordance with the 2021 International Energy Conservation Code with local amendments.

Interior lighting shall be recessed in ceilings wherever possible. Accent lighting shall be provided to highlight interior features as directed by the project architect and/or interior designer. Light fixtures installed in high ceilings and other hard to access spaces are discouraged. Care should be taken to ensure that maintenance can be provided without the use of special provisions such as lifts.

Interior lighting controls shall be networkable. The lighting system network shall be capable of interfacing with the building automation system via BACnet IP. The project shall include the services of a system integrator to create a browser-based management interface complete with graphical floorplan that provides remote system control, live status monitoring and configuration capabilities of lighting control settings and schedules. Programming capabilities shall include switch/sensor ground configuration, manual/automatic on modes, turn-on dim levels, occupancy sensor time delays, dual-tech occupancy sensor sensitivity, photosensor calibration adjustment/auto-setpoint, and trim level settings. All control system components shall be line-voltage powered. Battery operated components are prohibited. Systems shall be by Acuity, Lutron, or as otherwise approved by the University.

Exterior lighting shall be designed to highlight portions of the building facades and other architectural features from grade level if possible. All sidewalks and walking paths shall be properly illuminated in accordance with the University Design Standards. Wall mounted LED lights are encouraged where practical to illuminate pedestrian areas. Poles needed to illuminate exterior walking areas shall not exceed 12-feet in height. Exterior light fixtures shall be equipped with occupancy sensors that automatically dim light output when the surrounding area is unoccupied. On/off control shall be via time schedule that is configured by the interior lighting control network.

**HVAC**

The mechanical system will be mainly comprised of a 4-pipe water distribution system. Cold and hot water will be provided by the Innovation Drive chiller plant (aka, FIT chiller plant). The existing hot water pumps and associated VFDs, however, need to be replaced, and this rework shall be included in the project scope. All existing air distribution equipment will be replaced.

**Fire Alarm**

The existing Simplex/JCI fire alarm system shall remain in service. Modifications shall only be made where required due to reconfigurations or reclassifications of building spaces. New horizontal runs of cabling, if required, may be installed openly above accessible ceilings. All other cabling shall be installed in conduits.

**Telecommunications**

The existing structured cabling system shall remain in service. Modifications and/or additions shall only be made where required due to reconfigurations or reclassifications of building spaces.

Structured cabling to new outlets shall be CAT6A and terminated at both the outlet and respective patch panel. Runs above inaccessible ceilings, vertical drops in walls, and penetrations through walls or floors shall be made in metal conduits with nylon bushings. Additional patch panels shall be provided if required. The University will provide any additional network switches and other head-end equipment.

**A/V, Access Control, & CCTV**

New audio/visual equipment shall be provided for spaces such as classrooms/lecture halls, teams rooms, and the event theater space. Hybrid instruction capabilities shall be provided in instruction spaces. Components shall include monitors on

walls, ceiling speakers and microphones, and cameras as required for recording and effectively communicating with outside users. Teams rooms will be used as group study/brainstorming areas and shall be equipped with wall mounted monitors that allow students to cast pictures, documents, or video for group reference and discussions. The Event Theater Space shall have a higher level of AV capabilities and shall include a separate control room for AV and lighting. High-fidelity speakers and microphones shall be installed on ceilings. Projectors and large screens shall be used for visual display. Two-way communication with outside users is important as well as the ability to record and post instructions for future use.

A new access control system shall be provided throughout the building to control public traffic and prevent unauthorized users from entering designated areas of the building. Door systems and controls shall be Stanley Basis. Power and network connectivity shall be provided at each controlled door location. An emergency lock-down button(s) shall be provided where directed by the University that forces all controlled doors to lock and restricts access only to emergency personnel in the event of a campus wide emergency.

The existing CCTV system shall remain in service. Modifications and/or additions shall only be made where required due to reconfigurations or reclassifications of building spaces. New cameras shall be installed as directed by the University to survey new doors on the lower levels. Cameras and other related components shall be by Avigilon.

Cabling for AV, Access Control, and CCTV systems may be routed openly above accessible ceilings. Each system requires separate supports (j-hooks, bridle rings, etc.) and shall utilize different colored cabling. Runs above inaccessible ceilings, vertical drops in walls, and penetrations through walls or floors shall be made in metal conduits with nylon bushings. All exterior penetrations shall be made watertight.

# DESIGN NARRATIVE - PHASE 2



## ARCHITECTURAL NARRATIVE

## SCOPE OVERVIEW

The renovation and expansion of the Fogelman College of Business is envisioned to be holistic modernization of the college focused on providing contemporary instructional environments, expanding access to key student resources (Student Services and Centers) and driving engagement through exciting common spaces. To achieve these objectives, the Phase 2 addition will provide expanded classroom and common space that connect to the major circulation paths of the existing building. In particular, a large central common will be tied to the “classroom main street” to give the sense of a unified building.

The Phase 2 addition will be a standalone structure from the Phase 1 renovations except for where the two buildings are tied together. Specifically, the two existing stairwells at the north end of the building will serve as connection points to the new building. Additionally, a lower 1-2 story structure will connect from the east side of the new commons to provide a pathway back to the Fogelman Drive entry in the existing building. The addition will have new mechanical / electrical / plumbing systems as outlined in the attached engineering narratives.

Regarding phasing, the intent is for the existing renovated spaces to remain fully operational during the construction of the Phase 2 addition, except for limited downtime for connecting the buildings at the stairwells / the lower level. Any utility work that could impact the existing buildings is intended to occur during regularly scheduled campus breaks or slowdowns (Summer, holiday break, etc.)

## DETAILED SCOPE NARRATIVE

**Division 2 - Demolition and Site Construction**

Site demolition will include the existing courtyard, sidewalks and trees / vegetation

within the area impacted by addition. There is a desire to utilize the wood from the existing site trees that are removed for limited interior features, such as wood paneling or custom millwork in enhanced spaces. Existing storm structures and site utilities (refer to engineering narratives) are to be relocated from the addition footprint to accommodate new construction.

The new plaza space at the front of the building (as well as the sidewalks and landscape areas at the East / West elevations) is to include new landscaping and irrigation consistent with the rest of campus, as well as a blend of pavers and concrete paving for hardscape elements. It is anticipated that site furnishings or built in seating elements will be included in this plaza space. Refer to the engineering University of Memphis – Fogelman College of Business Programming Study narratives for descriptions of exterior lighting, security, and access control requirements related to this area.

This project will also entail work at the FIT Building chiller plant across Fogelman Drive. Refer to engineering narratives for a description of new equipment and distribution requirements. The impacts on Fogelman Drive from the extension of new chilled / hot water piping from this plant are to be mitigated to the extent possible to disturbance to this road.

Selective demolition of the existing building will include very limited demolition at corridor connections through the existing stairwells. The addition will be separated from the existing structure with seismic joints and new foundations will be provided for the addition.

**Division 3, 4, 5 - Concrete, Masonry, Metals**

Refer to structural narrative for an outline of anticipated structural systems and requirements.

**Masonry / Concrete**

New face brick and mortar at the addition is to match the University of Memphis campus standard and existing masonry. Unit masonry assemblies are to include accessories, such as: Through wall flashing with drip edges and end dams at openings, wall ties and anchors, cell vent weeps, and mortar cavity net above through-wall flashings.

Custom precast panels are to be utilized at locations noted on the elevations.

**Metals**

The new stairs will have a steel structure with a precast or terrazzo tread. Egress stairs are to have painted steel handrails and guardrails. Enhanced finishes for the stair, treads, and railing systems are anticipated at the central open stair in the atrium. Guardrails at the perimeter of the atrium space are anticipated to have similar enhanced finishes.

**Division 6 - Wood & Plastics****Millwork**

Laminate clad millwork with Premium Grade laminate (full range of colors and patterns wood grains.) Flush overlay construction, concealed hinges, drawer pulls.

**Counters**

Solid Surface – Break Rooms, Kitchenettes, Toilets, Windowsills

lastic laminate – Work, Copy, and Mail Rooms

**Division 7 - Thermal, Moisture & Applied / Intumescent Fireproofing Protection**

Under-slab Barrier: 40 mil – example: Stego Wrap

Foundation Perimeter and Below Grade: Sheet waterproofing with drainage mat and filter fabric on exterior foundation walls below grade.

**Weather Barriers:**

Bituminous damp proofing in masonry cavity-wall construction. Fluid applied seamless moisture barrier (40 mils) and flashings on fiberglass reinforced exterior gypsum sheathing board with continuous foam board insulation layer, moisture, thermal, and air barrier system at masonry cavity-wall construction.

**Insulation:**

Closed cell foam plastic board insulation (ex. Styrofoam by Dow Corning) at exterior foundation and cavity walls.

Slag wool fiber / Rock wool fire-safing insulation system.

Glass fiber blanket insulation in exterior stud walls.

Slag wool / Rock wool acoustical blanket type insulation at selected interior partitions.

**Metal Panel:**

Exterior cladding consists of formed aluminum composite material (ACM) sheet, secondary supports, and anchors to structure attached to solid backup. Refer to elevations for panel sizes and locations.

Metal panel system to be used at noted exterior walls, soffits and integral parapets. Panel finish to be custom.

## ARCHITECTURAL NARRATIVE

**Roofing:**

Fully adhered Thermoplastic Membrane Roofing over polyiso insulation, flat and tapered (R-30) with ½" polyiso cover board bonded to the insulation. (Firestone UltraPly TPO)

Stack Boots: Prefabricated flexible boot and collar for pipe stacks through membrane; same material as membrane.

Cant and Edge Strips: Wood fiberboard, compatible with roofing materials; cants formed to 45 degree angle.

Termination Bars and pressure bars: Lip type, type 304 Stainless Steel bars, 1 inch (25 mm) x 10 feet (3000 mm) length each piece, 0.075 inches (1.905 mm) in thickness minimum; with anchors of same material.

Insulation Joint Tape: Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches (150 mm) wide; self-adhering.

Walkway Pads: Suitable for maintenance traffic, contrasting color or otherwise visually distinctive from roof membrane.

Applied fireproofing and sealants will be utilized as required to achieve the necessary ratings and separations needed in the final building design.

**Division 8 - Doors and Windows****Aluminum Entrance and Storefront System - Exterior**

Insulated glazing for exterior applications (refer to elevations) with Kynar coated finish, custom color.

**Aluminum Entrance and Storefront System - Interior**

Single glazing for interior application, Kynar coated finish, custom color.

**Glazed Aluminum Curtainwall System**

For large exterior glazing applications reinforced as required to meet structural design criteria. Kynar coated finish, custom color. Extruded caps integral with curtainwall system are utilized at select locations for shading. See elevations for current level of development.

**Glazing**

One-inch insulated, low-e coated, high performance coated glazing, for exterior applications, spandrel at select locations. Some areas to also receive a decorative ceramic frit on the number two or number three surface of glass panels. Interior glazing to be clear, tempered.

**Exterior Doors**

Provide aluminum storefront doors at all exterior glazing systems. Provide painted hollow metal doors and frames at all utility locations (receiving, stair towers, and back of house). 16ga. flush with 12ga. frame.

**Interior Doors**

Public: Flush, Solid Core, stain-grade wood veneer; 8'-0" tall typical. Interior lites to be provided at select locations.

Service: 18ga. flush with 16ga frames.

**Door Hardware**

Provide campus standard hardware, refer to engineering narratives for access control and security

requirements. Exterior entry and vestibule doors are to have enhanced hardware with auto operators and ADA push buttons at all exterior doors.

**Roof Access**

One elevator and stair are to be extended to the mechanical penthouse / roof level to allow for service access.

**Louvers**

Provide architectural louvers, regular and storm at locations be developed.

**Division 9 - Finishes****Interior Wall Construction**

5/8" type 'X' gypsum board each side on 3 5/8" or 6" metal studs with continuous sound batts, provide ½" resilient channel on one side of studs. 3 5/8" studs to be used in office admin area.

Use High-Abuse type in all areas.

Extend walls to deck above in toilets, classrooms, labs, mechanical, electrical, and between closed offices / meeting / work rooms.

Firestop all Penetrations at rated walls

Minimum STC 50 rating for walls separating Offices / Conference Rooms and Corridors.

**Flooring, Base, Walls & Ceilings**

For schematic budget estimate purposes, the below narrative has been provided:

**Ceilings:**

Gypsum Board Ceilings: 5/8" gypsum board with 6" vertical return corner for ceiling perimeters and detail areas.

**Acoustical Lay-in Ceilings:**

Typical throughout .70 NRC, 2'x2' tegular edge tile. Equal Armstrong Optima

In utility areas, low NRC 2'x4' square edge tile. Equal Armstrong Dune

In corridors, .70 NRC, 2'x8' tegular edge tile. Equal Armstrong Optima Wood

**Ceilings:**

In Lobby and upper corridor, Armstrong Woodworks grille

**Flooring**

Large Format Ceramic Tile: See plans.

Ceramic Tile: Provide in all bathrooms.

Static Control Resilient Flooring: Equal to Armstrong SDT VCT. (Provide in AT/IT rooms)

Carpet Tile: 24" module carpet tile. Equal to InterfaceFLOR Commercial. Assume in all classrooms, team rooms and office area.

**Walls:**

Fabric Wrapped Wall System: (provide in classrooms) - 1" Thick, square profile, fabricated tackable and acoustical panels. Equal to Accutrack.

Ceramic Tile: Provide in all bathrooms.

General Painting

## ARCHITECTURAL NARRATIVE

CMU walls: Low VOC Latex, semi gloss finish with high build primer

Gypsum Board Walls: Low VOC Latex, eggshell finish on all walls, except at toilets

Toilets: Epoxy paint

Ceilings: Low VOC Latex, flat ceiling paint

### **Division 10 - Specialties**

#### **Visual Display Surfaces**

Provide glass boards at all classrooms, team rooms, and open collaborative areas with wall surfaces; equal to Clarus Float boards.

#### **Electronic Display:**

Classrooms/Labs: 2 display monitors per classroom/lab.

Multi-Purpose: 1 display monitors per room.

Team Rooms: 1 display monitor per team room.

#### **Corner Guards**

Provide stainless steel corner guards, typical. Extend from wall base to 6' high.

#### **Fire Extinguishers**

Recessed duo style extinguisher cabinets, stainless steel, provide cabinet every 75' minimum in corridors and common areas.

#### **Toilet Accessories**

Toilet: Paper Towel Holder, Toilet Paper dispenser, coat hooks (example – Bobrick or similar)

Sink area: Frameless Glass; full length and full height.

ADA provisions: Grab bars as required.

#### **Toilet Partitions**

Compact Grade Laminate, per campus standards.

Drinking Fountains w/ Bottle Fill

In-wall Bi-Level Integral SwirlFlo Fountain, Filtered Refrigerated Stainless. Provide bottle fill stations.

Refer to plumbing narrative.

### **Division 11 - Equipment**

It is anticipated that all loose equipment (classrooms, labs & offices) will be accounted for in the university's project budget rather than the construction cost. This includes residential equipment such as microwaves that would be utilized in break areas. See the following exceptions.

#### **Food Service Equipment**

There will be cafe space within the addition that is operated by campus dining services. This space will be equipped with limited cooking equipment and the need for a grease trap is anticipated.

### **Division 12 - Furnishings**

#### **Roller Shade Systems**

Provide motorized roller shades at all classrooms and computer labs.

Provide manual roller shade shade at all office spaces, center offices.

#### **Signage**

Interior Signage: Plastic, 3/16" thick, adhesive-mounted room identification signage will be required at ll room locations, in accordance with University signage standards.

Exterior Signage: Provide a cast bronze or aluminum building plaque in accordance with The College System of Tennessee.

Exterior Building Signage: Provide exterior building letters (1/4" thick, 8" tall, dark bronze anodized, pin mounted)

#### **Furniture**

• Furniture is to be provided within project budget, not construction budget and therefore not included in the preliminary construction estimate.

### **Division 14 - Conveying Equipment**

#### **Elevators**

New elevators are to be machine roomless traction elevators. STRUCTURAL SCOPE

• Design building code: 2021 International Building Code (IBC)

• Building description: New addition to the original FCBE building is a 3-story, structurally independent structure with a partial mechanical penthouse above the roof. Upper stories in the addition will be taller than the existing buildings and will require steps and ramps at connections. The building will have large open spaces and floor openings in circulation areas.

• Building separation: The existing building and addition will have 6" separation joints, minimum, between the structural elements above ground. Straight line joints are recommended.

• The Gravity Force-Resisting System will mainly consist of either concrete or steel construction. The concrete structure will mostly consist of beams, slabs and columns. The steel structure will consist of beams, concrete slabs on composite deck and columns. The new structure will be deeper than the existing concrete flat slab structure. The steel system would be slightly deeper frame and fire rating requirements will have to be verified.

• The Lateral Force-Resisting System for the building will be either special reinforced concrete shear walls or steel braced frames, with elevated floor and roof slab diaphragms, collector elements, and foundation system. The building is in a high seismic zone and the seismic design category is "D".

• Foundation system: The first floor will be 5" reinforced concrete slab-on-grade. Foundation type will be determined based on final loads and recommendations from the soil investigation report.

## STRUCTURAL NARRATIVE

### STRUCTURAL SCOPE

Design building code: 2021 International Building Code (IBC)

### Building description

New addition to the original FCBE building is a 3-story, structurally independent structure with a partial mechanical penthouse above the roof. Upper stories in the addition will be taller than the existing buildings and will require steps and ramps at connections. The building will have large open spaces and floor openings in circulation areas.

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### Gravity Force-Resisting System

The Gravity Force-Resisting System will mainly consist of either concrete or steel construction. The concrete structure will mostly consist of beams, slabs and columns. The steel structure will consist of beams, concrete slabs on composite deck and columns. The new structure will be deeper than the existing concrete flat slab structure. The steel system would be slightly deeper frame and fire rating requirements will have to be verified.

### Lateral Force-Resisting System

The Lateral Force-Resisting System for the building will be either special reinforced concrete shear walls or steel braced frames, with elevated floor and roof slab diaphragms, collector elements, and foundation system. The building is in a high seismic zone and the seismic design category is "D".

### Foundation system

The first floor will be 5" reinforced concrete slab-on-grade. Foundation type will be determined based on final loads and recommendations from the soil investigation report.

## MECHANICAL, PLUMBING & FIRE PROTECTION NARRATIVE

### General Mechanical and New and Existing Buildings

#### 1. Existing Buildings:

- a. Existing Air Handlers in Building A and Building B shall remain in service per the requirements of Phase 1 previously addressed.
- b. Provide complete commissioning as well as Testing and Balancing for all new controls as well as any new equipment. Recommission all equipment installed under Phase 1 as required for interconnection and tie-ins as listed below.

#### 2. Existing FIT Building Chiller Plant:

- a. This building is physically located beside the parking structure directly east of the building.
- b. Existing hot water and chilled water systems within this building shall remain in service to provide heating and cooling requirements for Building A (Faculty Suite) and Building B (Classrooms).
- c. Phase 2 – Building C shall be provided with a complete system located within the penthouse of the new building to provide hot water and chilled water to the new building.
  - i. Provide interconnecting hot water and chilled water piping for service from the existing Fit Building.
  - ii. Provide piping from capped location for future tie-in of Phase 2 piping serving the new Building C. Plan for this piping to be routed across the roof of Building B (Classrooms) to the new penthouse on Building C.
- d. Provide a new control system to service the new building (Building C - Phase 2). The two existing buildings (Buildings A and B) were provided with a control system designed to be extended to service the existing FIT Chiller Room and all equipment within this building (Phase 2 – building C) as well as all of Phase 1 - (Buildings A and B). Utilize this system as previously selected.

- e. Gas service under Phase 1 remained as existing.
  - i. **Option 1** is that this existing service from the Existing Fit Chiller plant can be extended to the Southeast corner of existing building B with a new medium pressure line.
    1. Outside of the building, provide a new isolation valve and cap for tie-in to Phase 2 building. The new gas regulator installed to meter and reduce the pressure to 2 PSIG before it enters the building.
    2. This gas service shall be routed through Building B to the roof and across the roof to the new penthouse serving the new boiler room during Phase 2.
    3. Provide seismic joint as it crosses the expansion joint at the roof level. Provide a new gas regulator and gas low pressure service to the new building at the roof level before it enters the new penthouse in Phase 2.
    4. Provide new seismic isolation valve at the building service entrance with isolation valve, seismic valve, BAS Alarm of actuation, Gas Meter with BAS readout, and pressure regulator under Phase 2 requirements.
    5. Route low pressure gas service to the CAFÉ if required by food services.
  - ii. **Option 2** is to provide new gas service from the West side of the new building to service the CAFÉ and the Boiler plant from the West service area and route the gas piping from Patterson.
    1. Outside of the building, provide a new isolation valve and cap for tie-in to Phase 2 building. The new gas regulator installed to meter and reduce the pressure to 2 PSIG before it enters the building.
    2. Provide new seismic isolation valve at the building service

## MECHANICAL, PLUMBING & FIRE PROTECTION NARRATIVE

entrance with isolation valve, seismic valve, BAS Alarm of actuation, Gas Meter with BAS readout, and pressure regulator under Phase 2 requirements.

3. Route low pressure gas service to the CAFÉ if required by food services.

### 3. New Chilled Water Service:

- a. Provide new air-cooled chillers on the roof of the new building to meet all cooling loads for the new building (Building C) with 100% redundancy.
  - i. New chiller (2) @ 250 Tons each.
- b. Provide new chilled water pumps with VFDs for variable flow. (2 @ 20 HP). Size Chilled Water Pumps to each flow both of the chillers to allow this to be a redundant system for the Fit Chiller Plant (1 pump – 2 chillers). Locate these in the penthouse of the new building C.
- c. As redundant capacity, the New Chilled Water Plant shall be capable of back feeding the service from the Fit Building to allow this plant to service the two buildings in Phase 1 as well as the new building in Phase 2. **(6" chilled water tie-in across the roof).**
- d. Provide air dirt separator (6"), Expansion tank, and Buffer Tank (500 gal lon) for proper operation of the new plant.
- e. Provide a new bypass inside the Building C plant to assure minimum flow within the chiller primary system when the auxiliary cooling plant system is in operation.

### 4. New Hot Water Service:

- a. Install a heating hot water boiler system to service the reheat and heating hot water for the building. This shall include new condensing boilers located in a new penthouse of the new building (Building C).
  - i. Route heating hot water across the roof to existing buildings with a new connection across the roof of Building B to the existing equipment room at Building B – 3rd floor. **(4" piping interconnection).**

- ii. Provide new secondary heating hot water pumps to service the new Building C. Provide a total of 2 heating hot water pumps (2 @ 5 HP - one of which is a redundant pump for maintenance purposes.) Provide VFDs for these pumps. Size piping for potential of both boilers to be in operation when back feeding from the Building C plant to the existing buildings if necessary.
- iii. Provide a primary pump sized for each individual boiler to circulate water through the boiler and back to the primary piping for the boiler plant. These pumps will be provided with single speed starters and shall be interlocked to the individual boiler served.
- iv. Provide chemical startup treatment for the closed loop systems serving the buildings with a chemical pot feeder for each of the secondary pumps within the system.
- v. Provide an air dirt separator with automatic bleed and control for the new hot water plant return main.
- b. Provide complete commissioning as well as Testing and Balancing for all new controls as well as any new equipment.

### 5. BAS System

- a. Provide a new control system to service the new building (Building C). Buildings A and B control system shall be extended from the FIT Chiller Room to service all equipment within this building.
- b. Provide controls for locating within the Fireman's Override Panel. Provide all over-ride systems, control interlocks, dedicated HVAC system, emergency power for controls, and elevator controls as required by the local AHJ.

### 6. Seismic Separation

- a. The existing buildings are not seismically rated. There will be substantial seismic joints in the structure between the existing buildings and the new building. Provide seismic separations for all equipment between the

buildings at seismic joints.

### 7. Air Handler for Building C

- a. Provide a large new unit in Building C using fan wall technology with supply and return fan - fan wall systems.
  - i. Provide new equipment room at the roof level. Provide a new air handler sized for the entire new building utilizing supply and return air chases throughout the building to accommodate air flow to the lower floors.
  - ii. All new terminal units, controls, fans (Minimum 5+1 fan wall system or both the supply and return fans), VFDs, coils and all new piping.
  - iii. Utilize 2-way control valves on all chilled water and hot water systems to allow for full controllability and reduced flows at light load.
- b. New Exhaust systems shall be provided to meet current guidelines and construction practices.
- c. Verify that any new equipment room is properly sealed to assure no water leakage from the equipment room through the floor to the spaces below.
- d. Provide D-X cooling systems to service all new elevator equipment rooms, IT rooms and communications rooms.
- e. Provide complete commissioning as well as Testing and Balancing for all new controls as well as any new equipment.

### 8. Smoke Control System:

- a. Provide a CFD analysis of the smoke control system in the early stages of the design to confirm the smoke control system design.
- b. Provide separate roof mounted exhaust fans to provide required exhaust air flow direct from the ceiling of the Atrium Area. This prevents the AHU supply fan from being required to be on the emergency power system.

### 9. CAFÉ Food Service Equipment

- a. Assume a full-service CAFÉ with a new kitchen hood and dishwasher.

The dishwasher shall be at a low temperature with a booster heater if required. The kitchen hood will be assumed at a total length of 12'-6" Maximum and will be provided with fire suppression system, lights and Grease removal filters.

- b. Provide grease rated ducting to the roof and coordinate the routing of the ducting to the roof. Provide exhaust fan on the roof.
- c. The dishwasher will be assumed to be "Non-Vented" with no exhaust fan required.
- d. Make-up air for the kitchen hood shall be compensated for through the Primary air conditioning air handler serving the Building C. The separation between the Atrium and the CAFÉ shall allow for air flow through the gate/door whenever the exhaust system is in operation.

## Plumbing

### 1. Fixtures

- a. Plumbing fixtures for all areas will be new.
- b. Commercial grade wall hung toilets, undermount lavatories, urinals, janitor sink, water cooler with bottle filler, and sink.
- c. Flush valve and faucets shall be hardwired, sensor operated.

### 2. Domestic Water Distribution

- a. General:
  - i. Domestic water piping for all areas will be new.
  - ii. Domestic water shall be from public mains to service building.
  - iii. Domestic cold water, hot water, and hot water circulating systems will be provided for all areas.
  - iv. Provide reduced pressure backflow preventer (minimum of 2) at domestic water entry to building.
  - v. Domestic cold water will be provided from a duplex domestic

## MECHANICAL, PLUMBING & FIRE PROTECTION NARRATIVE

water booster pump package located downstream of the reduced pressure backflow preventers.

- vi. Domestic water will be provided for all areas of the project, including make-up water where required.
- vii. Isolation valves and unions or flanges will be provided for each piece of equipment such as water heaters, pumps, etc.
- viii. Manufactured shock absorbers will be provided for all piping servicing fixtures utilizing flush valves or similar equipment susceptible to causing water hammer.
- ix. All domestic water piping will be concealed above ceilings and within walls unless otherwise noted.
- x. All shut-off valves in the domestic water distribution system shall be non-ferrous ball valves.
- xi. Wall hydrants will be provided around the perimeter of the building to grade level spaced not greater than 100'-0" apart including main entrance.
- xii. Pressure reducing valves will be provided to limit the pressure available to 80 psig if required.
- xiii. All domestic hot, cold, and recirculating piping will be insulated with 1" fiberglass and preformed PVC fitting covers.
- xiv. Waste and water supplies under each lavatory shall be covered with pre-formed ADA compliant covering systems.
- xv. All piping shall be Type L copper.
- xvi. Provide hose bibs on roofs at mechanical equipment.
- xvii. Minimum pipe size serving more than one fixture: 3/4" (i.e., no 1/2").
- b. Domestic Hot Water Systems:
  - 1. Provide new electric tank water heater (120 gallon capacity) for all fixtures requiring hot water with

approximately 48kw heating element.

- 2. Mechanical circulation shall be provided to sufficiently deliver hot water at any fixture within 5 seconds after it is turned on.

### 3. Sanitary Waste

- a. Sanitary waste and vent piping for all areas will be new.
- b. All sanitary piping shall be service weight cast iron.
- c. All sanitary sewer grease piping will be routed to the exterior of the building to concrete grease interceptor sized in accordance with local code (minimum 1500-gallon capacity). Grease interceptors will be located away from areas of heavy pedestrian travel and close enough to tank truck access (near new Café area).
- d. Duplex type sewage ejectors will be provided for those areas located below sanitary sewer mains. Fiberglass, cast iron, or lined concrete basins will be provided for each ejector adequately sized to prevent pump cycling. Sewage ejectors will be provided in separate rooms.
- e. Sump pump shall be provided for each elevator shaft and connected to the sanitary sewer system. Oil/water separator is required for hydraulic elevators.
- f. One floor drain will be provided for each 400 square feet of public restrooms; however, all restrooms will have at least one floor drain.
- g. Floor drains will be provided in Café kitchen.
- h. Floor cleanouts will be provided throughout the facility in accordance with code requirements and at all changes in direction. Cleanouts will not be allowed in high traffic or public areas.
- i. All sanitary sewer piping will be concealed above finished ceilings and within walls unless otherwise indicated.
- j. All floor drains and floor sinks will have flashing rim and clamp.
- k. Trap primers will be provided for all floor drains and floor sinks.

- l. Floor drains will have heel-proof grates. Floor sinks will be equipped with partial grates in kitchens.
- m. Underground waste and vent piping shall be service weight cast iron, soil pipe and fittings with compression gasket hub and spigot joints.
- n. Drains will be provided at all mechanical equipment rooms within 2'-0" of discharges such as coil drains.

### 4. Rainwater Drainage

- a. Rainwater drainage piping and roof drains for all areas will be new.
- b. Overflow roof drains and piping will be provided meeting current code.
- c. Storm drainage systems will consist of regular roof drains and overflow roof drains for all areas. Regular roof drains will be piped to grade and connected to manholes or designated drainage areas outside the building. Overflow roof drains will be separately piped to terminate above grade.
- d. All storm drainage piping will be concealed above finished ceilings and within walls unless otherwise indicated.
- e. Insulate horizontal roof drainage piping with 1-1/2" fiberglass insulation and all piping subject to condensation.
- f. Underground storm piping shall be service weight cast iron with neoprene gaskets. Above-ground storm piping shall be service weight cast iron with no-hub fittings.

### Fire Protection

#### 1. Sprinkler System

- a. Sprinkler system for all areas will be new.
- b. All sprinkler and fire protection piping will be concealed above finished ceilings and within walls unless otherwise indicated.
- c. Provide concealed sprinkler heads in areas with finished ceilings.

- d. A complete and operational fire protection system will be provided consisting of the following elements:
  - i. Wet pipe sprinkler system for all areas not subject to freezing.
  - ii. Standpipe in egress stairwell.
- e. Provide continuous water curtain at atrium opening(s).
- f. Provide sprinkler head in elevator shaft where required by NFPA and local Fire Marshal requirements.
- g. All fire protection systems will be designed in accordance with NFPA and local Fire Marshal requirements.

#### 2. Fire Pump

- a. A single fire pump will be provided for the building.
- b. Fire pump to be 500 GPM water supply with approximately 60 HP motor.
- c. Fire pump controller will be wye delta open reduced voltage start type with integral automatic transfer switch.
- d. Fire pump room to be located near transformer.

## ELECTRICAL &amp; AUDIO VISUAL NARRATIVE

**Electrical Service**

New 15kV primary electrical service shall originate from the existing G&W gas-insulated switchgear in the Phase 1 electrical vault. The loadbreak bushings for the existing output switch serving Phase 1 shall be replaced with new 15kV, 200-amp, feed-thru (dual) bushings so the switch can be used to serve both Phase 1 and Phase 2 transformers. New 15kV medium voltage cabling shall be installed between the existing switch to a new pad-mounted transformer located near the Phase 2 main electrical room. Routing is assumed to exit the east wall of the vault and run north and west to the Phase 2 project location. New cabling shall be #2AWG, 15kV, Type MV 105, copper, with 200-mil (133%) EPR insulation and copper tape shield manufactured by either Kerite or Okonite as approved by the University.

The new pad-mounted transformer is anticipated to be no larger than 1500kVA. The transformer shall be dead-front, internally fused, liquid-cooled type (with KNAN cooling class) utilizing less-flammable liquid that is non-toxic and completely biodegradable such as Envirotemp FR3. Transformer shall be configured for radial feed and rated with a 12470V delta, 95kV BIL primary and 480Y/277V, 30kV BIL secondary. Impedance shall be 5.75%. Transformer shall be installed on a concrete pad extending six inches beyond its footprint in all directions.

There shall be one electrical service for the building and a separate electrical service for the fire pump. The building service equipment shall reside in the main electrical room. Service size is anticipated to be no larger than 2,000-amperes at 480Y/277V, 3-phase, 4-wire. A new PacketPower energy monitor shall be installed and configured to monitor the incoming service conductors at this location.

The fire pump shall reside in a separate room adjacent to the main electrical room. The fire pump service shall be sized for a 60HP motor. Because the campus service point is a primary electric meter, all downstream wiring serving buildings are defined as feeders, which will require the fire pump to be provided with an alternate source

of power per the National Electrical Code (NEC) 695.3(C)(2). As a result, the fire pump shall be furnished with a combination controller and automatic transfer switch and shall also be connected to the building's backup generator. Wiring and conduits for service and backup power shall be routed outside of the building in accordance with NEC 695.6(A)(1).

**Distribution**

Electrical rooms shall be provided and stacked on each floor for efficient vertical distribution. Distribution voltage shall be 480Y/277V for lighting and mechanical systems and 208Y/120V for convenience power and other miscellaneous loads. Dry-type transformers used to derive 208Y/120V power shall be ultra-efficient type, PQI #EY series or as otherwise approved by the University. Transformers shall be minimum K9 rated, 130C temperature rise, equipped with aluminum windings, and shall exceed 2016 DOE CSL 3 efficiency standards.

A new generator shall be provided to provide backup power for the fire pump and other facility loads as described elsewhere in this narrative. The generator shall be approximately 150kW and diesel-fueled with 24-hour, sub-base fuel tank. Enclosure shall be level 2 sound attenuated with sand or dark bronze color as approved by the University. The generator shall be located in an approved utility area outside the building and as close as possible to the main electrical and fire pump rooms. The generator shall reside on a concrete pad that extends a minimum of six inches beyond the footprint in all directions. Protective bollards shall be installed around the generator in accordance with Section 312 of the 2021 International Fire Code. Separate automatic transfer switches shall be provided for the emergency and legally required/optional-standby distribution systems. Transfer switches shall be 4-pole type if ground fault protection is required for the main electrical service. A generator docking station (i.e., manual transfer switch) meeting the requirements of NEC 700.3(F) shall be installed for the emergency distribution system and located on

the exterior of the building to provide means of connection for an alternate source of power if the permanent generator should be taken offline for maintenance or repair.

Three different distribution systems shall be designed for the facility: normal power, emergency power, and legally required/optional-standby power. The emergency power system shall consist of light fixtures intended to provide emergency egress lighting upon normal power failure. All wiring, conduits, cabinets, boxes, etc. shall be kept entirely independent of all other distribution system wiring and components in accordance with NEC Article 700. A surge protective device (SPD) shall be provided for each emergency system panelboard per NEC 700.8.

The legally required/optional-standby power distribution system shall consist of all other loads required or desired to have backup power but shall not include emergency lighting. The 2021 International Fire Code requires the smoke control system serving the atrium space to have backup power, and therefore shall be considered legally required. Additionally, the University desires to have a minimum of one elevator (preferably all) and all IT equipment to be served by the legally required/optional-standby system. All wiring serving both legally required and optional-standby loads may share common raceways, boxes, panelboards, etc. as well as one common automatic transfer switch. Surge protective devices shall be installed for all 120V panelboards serving sensitive electronic equipment.

Electrical studies shall be performed on the new electrical distribution systems. Studies may be self-performed or delegated to the switchgear manufacturer but must be signed and sealed by a professional engineer registered in the State of Tennessee. Studies shall include a short-circuit study, selective coordination study, and an arc flash study. The short circuit study shall be performed to confirm AIC ratings are appropriately sized for all equipment and as needed to provide the proper equipment labeling per the NEC. A selective coordination study shall

be performed to determine proper trip settings of feeder circuit breakers and as required for the emergency distribution system and legally required standby systems (smoke control system). The arc flash study shall be performed to create safety labels for all switchgear in accordance with NFPA 70E. Arc flash labels shall be provided for all panelboards and switchboards. Labels shall display the following information: Warning Arc Flash Hazard, Arc Flash Risk Category, Arc Flash Protection Boundary, Arc Flash Incident Energy, Warning of Shock Hazard, Limited Approach Boundary, Restricted Approach Boundary, Prohibited Approach Boundary, and System Voltage.

**Basic materials and methods**

All wiring shall be copper. All branch circuit homeruns shall be installed in conduits and terminated in a box above an accessible ceiling. MC cabling may be installed downstream of homeruns where concealed above ceilings or inside walls. Branch circuits shall not share neutral conductors. An equipment grounding conductor shall be installed with all circuits. All new work shall be concealed where possible.

All junction boxes shall be installed no more than 24-inches above ceilings. EMT fittings shall be steel, compression type. Rigid fittings shall be threaded. All conduits below grade shall have rigid galvanized steel elbows that extend a minimum of six inches above slab. Where installation are required to be exposed in other than utility spaces, wiring shall be installed in Wiremold 500 or 700 series surface raceway completed with compatible backboxes and other accessories. Exposed conduit installation is prohibited unless located in utility areas.

The main service panelboard or switchboard shall be equipped with a main circuit breaker. The main circuit breaker shall be equipped with ground fault protection and means to reduce arc energy as required by NEC Article 240. Bussing inside all panelboards and switchboards shall be copper. All panelboard covers shall have door-in-door construction with trims hinged to the enclosure.

## ELECTRICAL &amp; AUDIO VISUAL NARRATIVE

All wiring devices shall be rated 20-amps. GFCI receptacles shall be installed where readily accessible for testing. Branch circuits serving vending machines, electric drinking fountains, and food service equipment shall be protected by GFCI type circuit breakers. A minimum of two duplex receptacles with dual USB ports (minimum 5V, 5A) shall be installed in all classrooms/lecture halls and study/team areas.

**Lighting**

All lighting shall be LED. Light fixtures and associated controls shall be designed in accordance with the 2021 International Energy Conservation Code with local amendments.

Interior lighting shall be recessed in ceilings wherever possible. Accent lighting shall be provided to highlight interior features as directed by the project architect and/or interior designer. Consideration should be given to illuminating the atrium space indirectly from walls. Light fixtures installed in high ceilings and other hard to access spaces are discouraged. Care should be taken to ensure that maintenance can be provided without the use of special provisions such as lifts.

Interior lighting controls shall be networkable. The lighting system network shall be capable of interfacing with the building automation system via BACnet IP. The project shall include the services of a system integrator to create a browser-based management interface complete with graphical floorplan that provides remote system control, live status monitoring and configuration capabilities of lighting control settings and schedules. Programming capabilities shall include switch/sensor ground configuration, manual/automatic on modes, turn-on dim levels, occupancy sensor time delays, dual-tech occupancy sensor sensitivity, photosensor calibration adjustment/auto-setpoint, and trim level settings. All control system components shall be line-voltage powered. Battery operated components are prohibited. Systems shall be by Acuity, Lutron, or as otherwise approved by the University.

Exterior lighting shall be designed to highlight portions of the building facades and other architectural features from grade level if possible. The northern façade should be prioritized due to public visibility from Central Avenue. All sidewalks and walking paths shall be properly illuminated in accordance with the University Design Standards. Wall mounted LED lights are encouraged where practical to illuminate pedestrian areas. Poles needed to illuminate exterior walking areas shall not exceed 12-feet in height. Exterior light fixtures shall be equipped with occupancy sensors that automatically dim light output when the surrounding area is unoccupied. On/off control shall be via time schedule that is configured by the interior lighting control network.

**HVAC & Smoke Control**

The mechanical system will be mainly comprised of a 4-pipe water distribution system. New chillers and gas-fired boilers will be located in a mechanical penthouse on the roof. Two 250-ton chillers and two 20HP pumps are anticipated to source chilled water. Two 120V gas-fired condensing boilers with 5HP pumps will source hot water. IT rooms will be equipped with independent DX mini-split units to provide continuous cool air to sensitive electronic equipment.

A smoke control/evacuation system shall be provided in the atrium area. Standby power is required for the associated ventilation equipment per International Fire Code Section 909.11. Power shall be derived from the legally required/optional-standby system. A smoke detection system tied to the building fire alarm shall be provided in the atrium to initiate the control system. A fire fighter's smoke control panel designed and built in accordance with IFC 909.16 shall be provided and installed in a location approved by the local AHJ.

**Fire Alarm**

The Phase 1 Simplex/JCI fire alarm system shall be extended into Phase 2. Smoke

detection will be required for the atrium smoke control system. Fire alarm notification devices, such as strobes and horn/strobes, shall be located throughout all public/common areas, classrooms, group study areas, and all other areas accessible to students. The building will be fully sprinklered and must be electrically supervised by the fire alarm system. It is recommended the fire alarm system be powered from the emergency distribution system but also equipped with internal lead acid batteries. Fire alarm cabling shall be installed in conduits except where installed above accessible ceilings. Open cabling shall be independently supported from all other cabling.

**Telecommunications**

One MDF room shall be located on the ground floor with additional IT closets located and stacked on each floor to help facilitate vertical distribution. Each telecom closet shall be equipped with a copper ground bar. The ground bar in the MDF shall be bonded to the main electrical service ground. All other ground bars shall be bonded together in each vertical stack and homerun back to the main ground bar in the MDF. Equipment racks, media converters, and patch panels shall be provided in each IT room and sized for the appropriate number of outlets in each area plus a minimum of 25% spare.

A twelve-strand, single-mode fiber shall be homerun from the Phase 2 MDF to the Phase 1 MDF. Additional twelve-strand, single-mode fiber shall be homerun from each Phase 2 IT closet to the Phase 2 MDF. All fiber cabling shall be terminated at both ends. Structured cabling to each wall outlet shall be CAT6A and terminated at both the outlet and respective patch panel. Fiber backbone and horizontal structured cabling may be installed openly above accessible ceilings but must be independently supported by j-hooks or bridle rings. Runs above inaccessible ceilings, vertical drops in walls, and penetrations through walls or floors shall be made in metal conduits with nylon bushings. Patch cables shall be provided for all wall outlets and

for each patch panel termination. The University will provide network switches and other head-end equipment.

**A/V, Access Control, & CCTV**

Audio/visual equipment shall be provided for spaces such as classrooms/lecture halls, teams rooms, and the event theater space. Hybrid instruction capabilities shall be provided in instruction spaces. Components shall include monitors on walls, ceiling speakers and microphones, and cameras as required for recording and effectively communicating with outside users. Teams rooms will be used as group study/brainstorming areas and shall be equipped with wall mounted monitors that allow students to cast pictures, documents, or video for group reference and discussions. The Event Theater Space shall have a higher level of AV capabilities and shall include a separate control room for AV and lighting. High-fidelity speakers and microphones shall be installed on ceilings. Projectors and large screens shall be used for visual display. Two-way communication with outside users is important as well as the ability to record and post instructions for future use.

The Phase 1 CCTV and access control systems shall be extended into Phase 2. CCTV cameras and other related components shall be by Avigilon. Police services will assist in CCTV camera placement. Access control components shall be Stanley Basis. Power and network connectivity shall be provided at each controlled door location. Doors requiring access control shall be as directed by the University.

Cabling for AV, Access Control, and CCTV systems may be routed openly above accessible ceilings. Each system requires separate supports (j-hooks, bridle rings, etc.) and shall utilize different colored cabling. Runs above inaccessible ceilings, vertical drops in walls, and penetrations through walls or floors shall be made in metal conduits with nylon bushings. All exterior penetrations shall be made watertight.



# ROOM DATA SHEETS

## ROOM NAME: LECTURE HALL

Existing Area: ~2,400-2700 sf

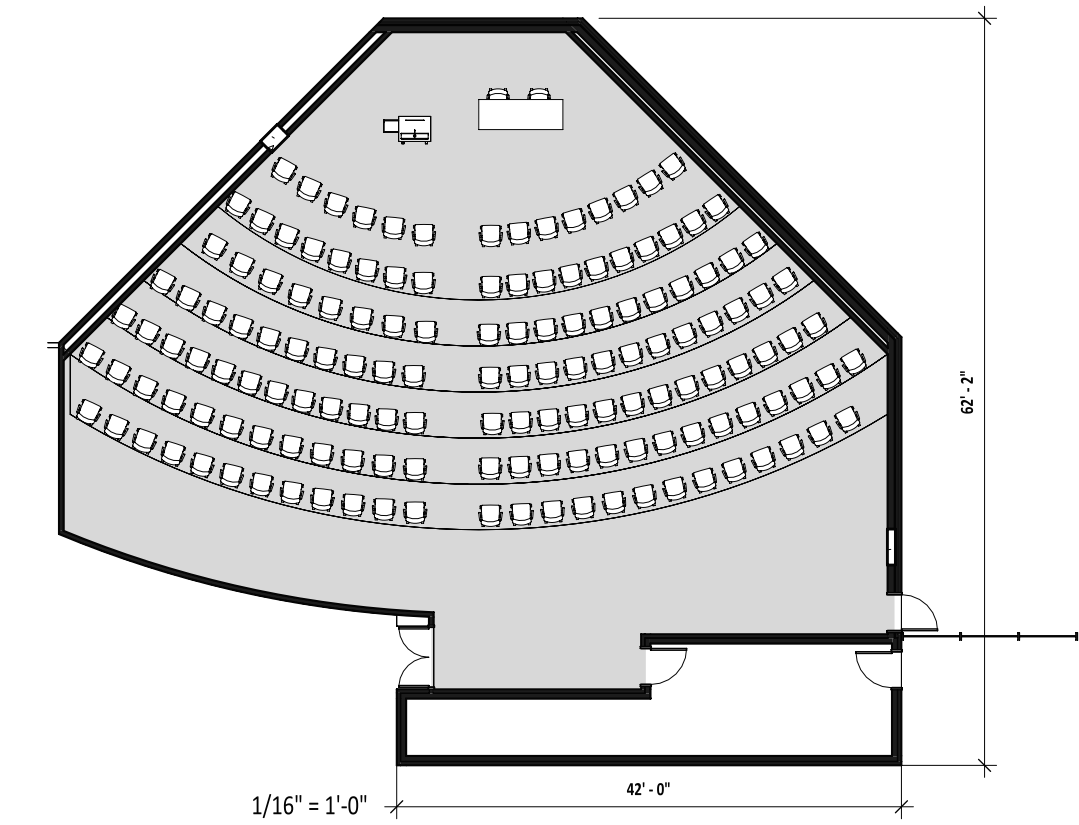
Existing Quantity: 2

Proposed Seat Count: 150

The larger of the two lecture halls will be renovated to have tables and chairs (current configuration is all task arm fixed seating) similar to the adjacent lecture hall. Loose chairs are preferred. To accommodate both chairs and tables, the current tiers will be built out with light framing to provide larger tiers. This reconfiguration will adjust the seat count down to 150, which is plenty for the College's needs.

Both spaces are to receive new finishes (floors, walls, ceilings) throughout, as well as lighting, AV upgrades, and new acoustic wall treatments. To conceal the sprinkler piping, a lower ceiling will need to be provided.

ARCHITECTURAL			
<b>FLOOR</b>	<b>DOORS/FRAMES</b>	<b>ACCESSORIES/FURNISHINGS</b>	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: N Side Lite: N	Desk: N	Specialty Equipment: N
		Chairs: Y	
<b>WALL</b>	<b>SECURITY</b>	Tables: Y (Fixed)	
Finish: PAINTED GYP	Camera: N	Lectern: Y	
Base: RUBBER	Access Cont: Y	File Cabinets: N	
Wall Prot: N			
Acoustic Panel: Y			
<b>CEILING</b>	<b>DAYLIGHTING</b>		
Finish: ACT / GYP	View to Exterior: N		
Ht: 10'-0" - 12'-0"	Daylighting: N		
ELECTRICAL			
<b>LIGHTING</b>		<b>POWER</b>	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N	
Fixture Mounting: RECESSED	Daylight Sensor: N	Floor Boxes: Y	
Task Lights: N	Dimming: Y	Emergency Power: N	
	Lighting Controls: Y	Special Power Requirements: N	
COMMUNICATION			
<b>TECHNOLOGY</b>		<b>AUDIOVISUAL</b>	
Phone Outlets: N		Projector / Screen: Y	Visual Controls: Y
Data Outlets: Y		Monitor: N	Confidence Monitor: Y
Clocks: N		Speakers / Microphones: Y	Camera: Y



SCALE: 1/16" = 1'0"



EXISTING LECTURE HALL

## ROOM NAME: FLAT FLEX CLASSROOM

Proposed Area: 1200-1800 SF      Proposed Quantity: 12      Proposed Seat Count: 50-80

### GENERAL NOTES

Several existing flat flexible classrooms will be updated with new finishes and technology to support enhanced instruction. Additionally, the program includes several new flat flexible classrooms in the addition.

### ARCHITECTURAL

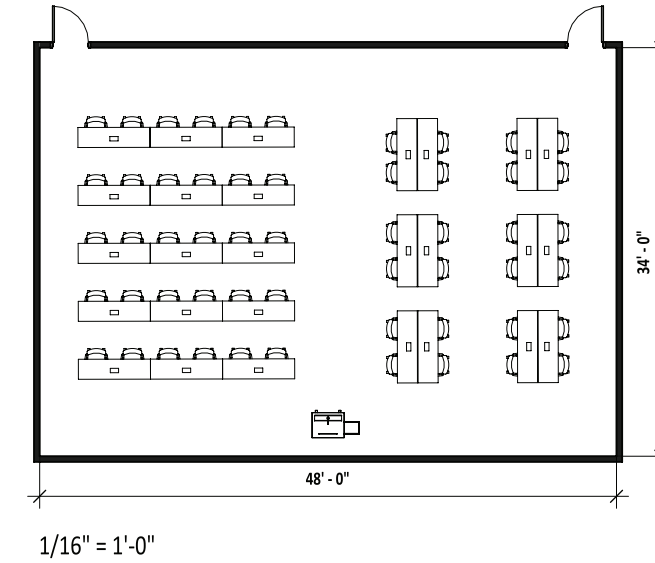
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: N
	Door Lite: Y    Side Lite: Y	Desk: N	Specialty Equipment: N

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Chairs: Y	Tables: Y
Base: RUBBER	Access Cont: Y	Lectern: Y	File Cabinets: N
Wall Prot: N			

CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 10'-0" - 11'-0"	Daylighting: Y

ELECTRICAL		
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

COMMUNICATION			
TECHNOLOGY		AUDIOVISUAL	
Phone Outlets: N		Projector / Screen: N	Visual Controls: Y
Data Outlets: Y		Monitor: Y	Confidence Monitor: N
Clocks: N		Speakers / Microphones: Y	Camera: Y



SCALE: 1/16" = 1'0"



## ROOM NAME: HYBRID CLASSROOM

Proposed Area: 1700      Proposed Quantity: 2      Proposed Seat Count: 70

### GENERAL NOTES

Shallow tiered space with the ability for flipped instruction (students can alternate between lecture format and group work at intermediate tables).

### ARCHITECTURAL

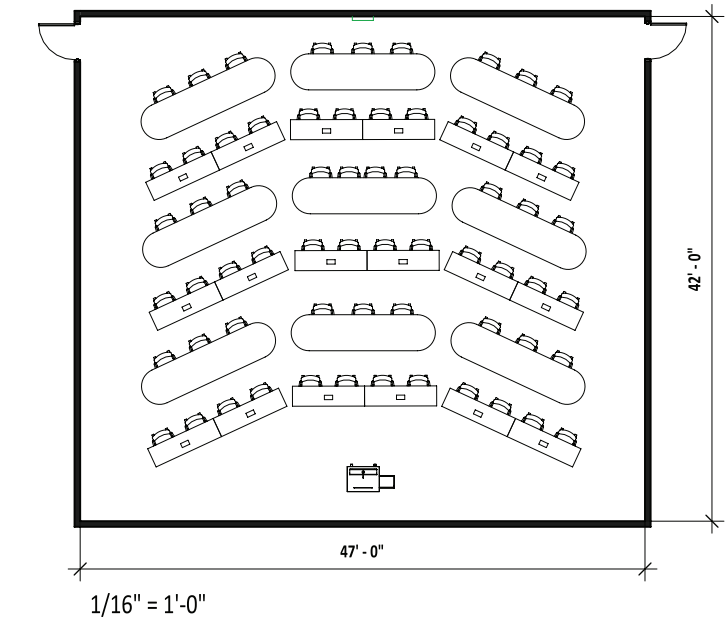
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: N
	Door Lite: Y    Side Lite: Y	Desk: N	Specialty Equipment: N

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Chairs: Y	Tables: Y
Base: RUBBER	Access Cont: Y	Lectern: Y	File Cabinets: N
Wall Prot: N			

CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 10'-0" - 11'-0"	Daylighting: Y

ELECTRICAL		
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

COMMUNICATION			
TECHNOLOGY		AUDIOVISUAL	
Phone Outlets: N		Projector / Screen: Y	Visual Controls: Y
Data Outlets: Y		Monitor: N	Confidence Monitor: Y
Clocks: N		Speakers / Microphones: Y	Camera: Y



SCALE: 1/16" = 1'0"

## ROOM NAME: TIERED CLASSROOM

Proposed Area: 1100

Proposed Quantity: 5

Proposed Seat Count: 50-60

### GENERAL NOTES

Existing task arm chairs are to be removed and the existing tiers are to be built out to deeper landings. New loose chairs and fixed tables will be provided, with a target seat count of 50-60.

### ARCHITECTURAL

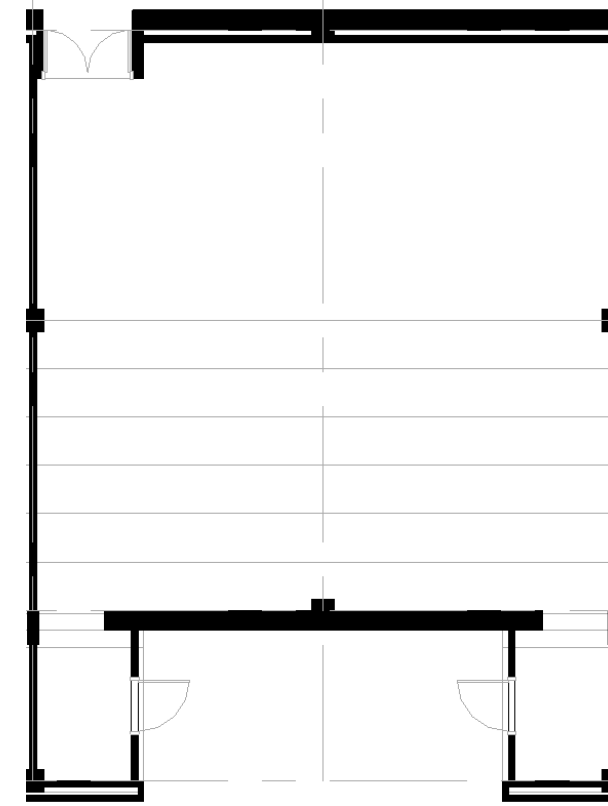
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: N
	Door/Frame Mat: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: Y Side Lite: Y	Desk: N	Specialty Equipment: N
		Chairs: Y	
WALL	SECURITY	Tables: Y (Fixed)	
Finish: PAINTED GYP	Camera: N	Lectern: Y	
Base: RUBBER	Access Cont: Y	File Cabinets: N	
Wall Prot: N			
Acoustic Panel: Y			
CEILING	DAYLIGHTING		
Finish: ACT / GYP	View to Exterior: N		
Ht: 10'-0" - 11'-0"	Daylighting: N		

### ELECTRICAL

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: N	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: Y	Visual Controls: Y
Data Outlets: Y	Monitor: N	Confidence Monitor: Y
Clocks: N	Speakers / Microphones: Y	Camera: Y



SCALE: 1/16" = 1'0"



## ROOM NAME: EVENT/TRAINING THEATRE

Proposed Area:

Proposed Quantity:

Proposed Seat Count:

### GENERAL NOTES

Event / training theater for flexible instruction and FCBE events. Similar to a "black box theater". Retractable seating is provided at the back of the room and can be extended out for lecture configurations, whereas loose seating can provide more flexible, banquet style seating. The upper mezzanine has additional loose seating. Adjacent furniture storage and catering kitchen.

### ARCHITECTURAL

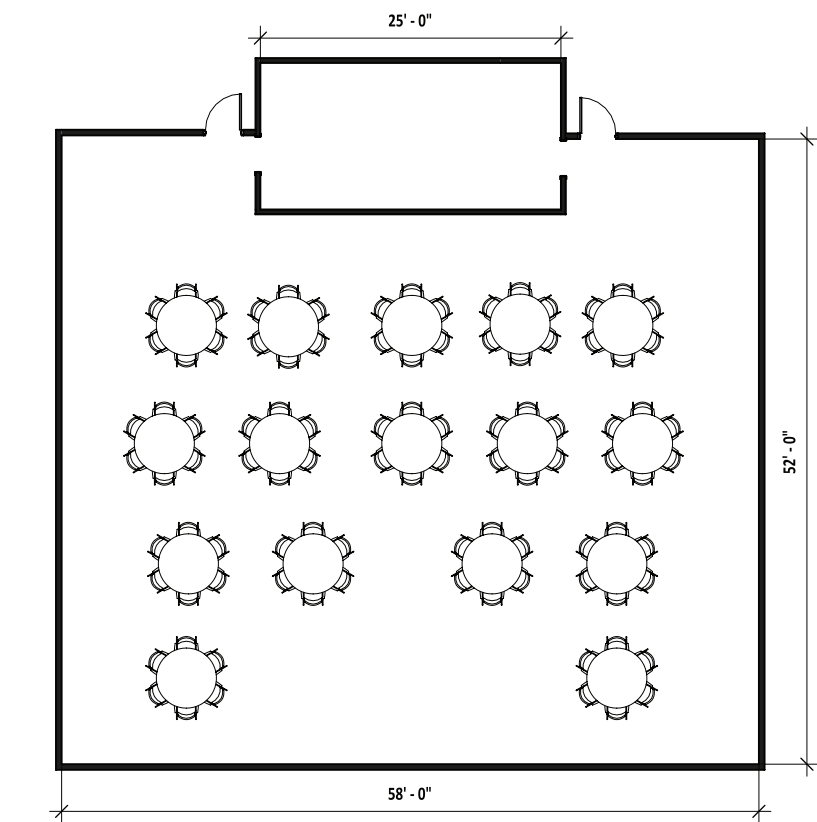
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Mat: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: N Side Lite: N	Desk: N	Specialty Equipment: Y
		Chairs: Y	Retractable Seating
WALL	SECURITY	Tables: Y	
Finish: PAINTED GYP	Camera: N	Lectern: Y	
Base: RUBBER	Access Cont: Y	File Cabinets: N	
Wall Prot: N			
Acoustic Panel: Y			
CEILING	DAYLIGHTING		
Finish: ACT / GYP	View to Exterior: Y		
Ht: 24'-0" - 26'-0"	Daylighting: Y		

### ELECTRICAL

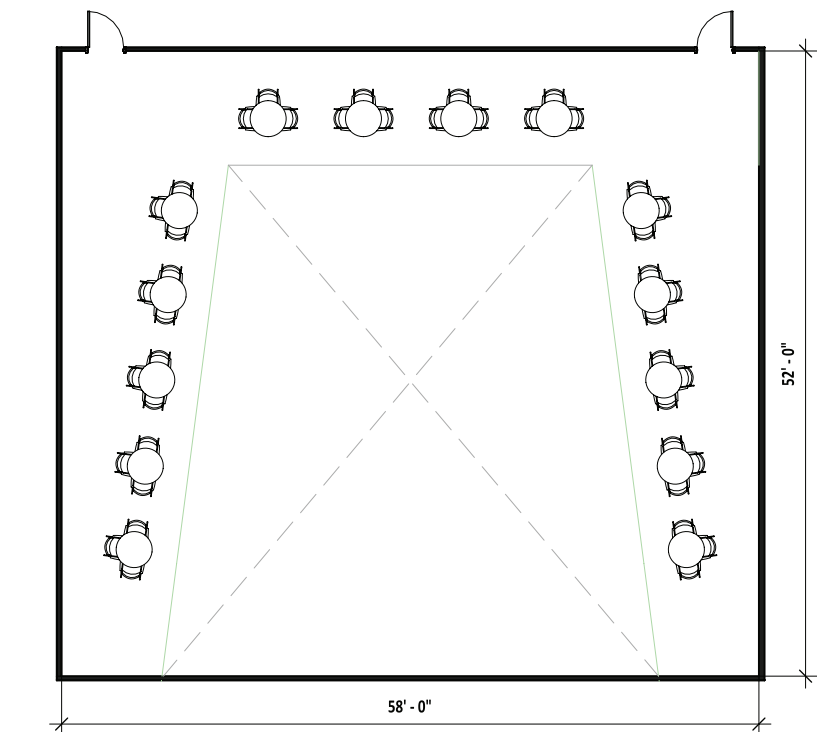
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: Y	Visual Controls: Y
Data Outlets: Y	Monitor: N	Confidence Monitor: Y
Clocks: N	Speakers / Microphones: Y	Camera: Y



SCALE: 1/20" = 1'0"



1" = 20'

## ROOM NAME: TRADING LAB

Proposed Area: 1600 SF

Proposed Quantity: 1

Proposed Seat Count: 24

### GENERAL NOTES

The current trading lab has 12 stations and is to be expanded to 24 seats.

### ARCHITECTURAL

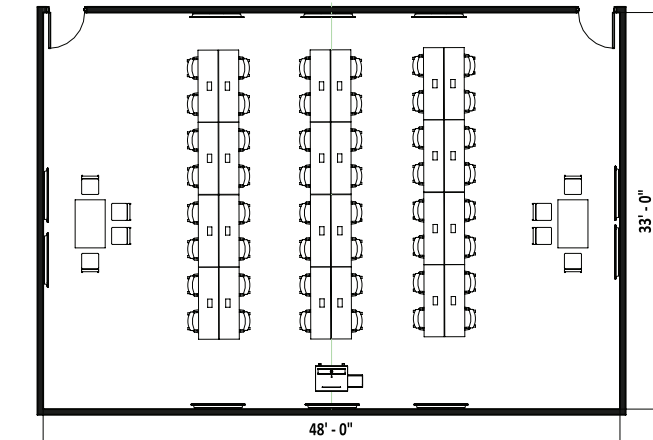
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET	Size (WxH): 3X8	Markerboard: Y	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: Y Side Lite: Y	Desk: Y	Specialty Equipment: Y
		Chairs: Y	Bloomberg Terminals

WALL	SECURITY
Finish: PAINTED GYP	Camera: Y
Base: RUBBER	Access Cont: Y
Wall Prot: N	
Acoustic Panel: Y	

CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 10'-0" - 11'-0"	Daylighting: N

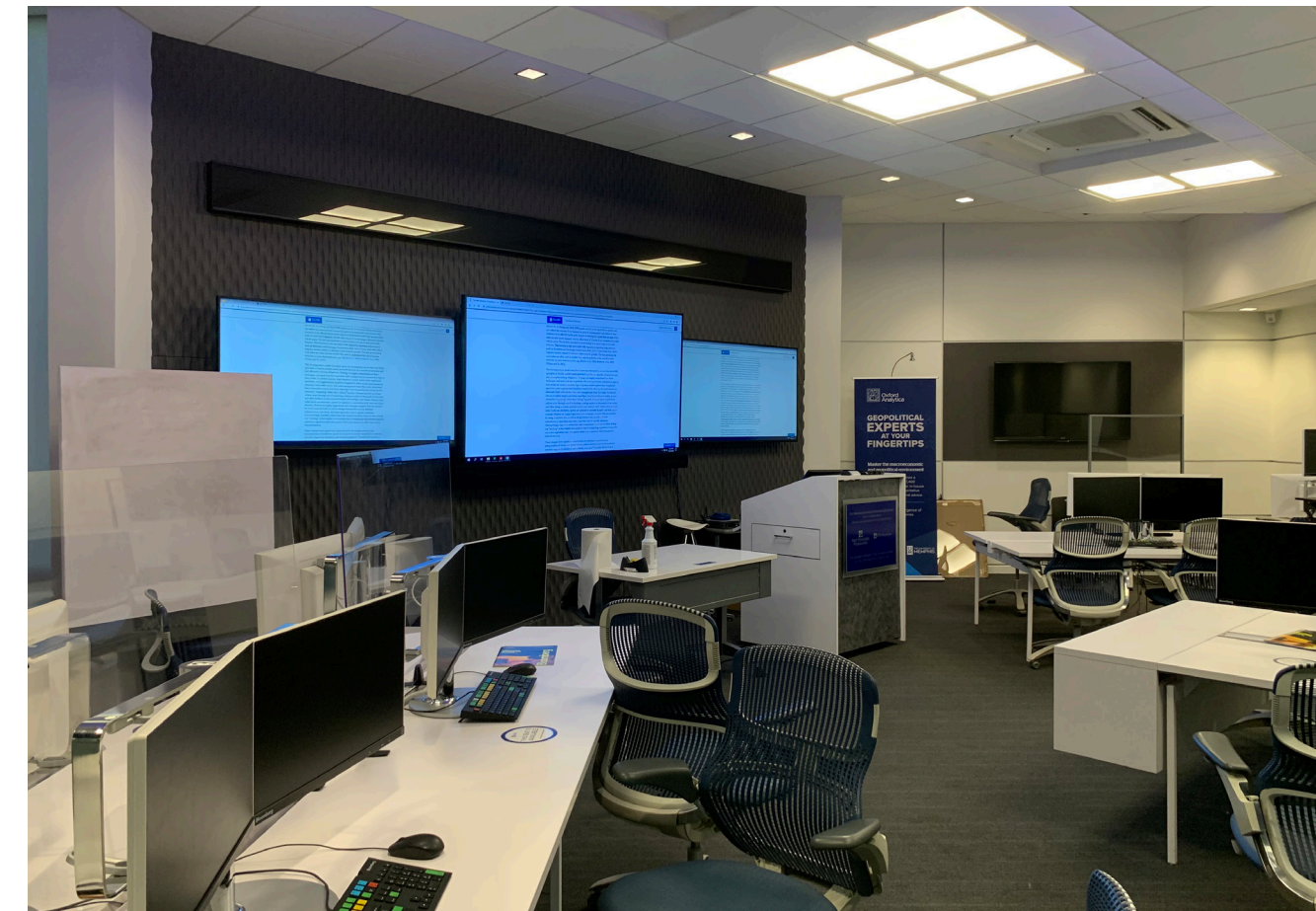
ELECTRICAL		
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: N	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

COMMUNICATION TECHNOLOGY		
TECHNOLOGY		AUDIOVISUAL
Phone Outlets: N	Data Outlets: Y	Projector / Screen: N
Clocks: Y		Monitor: Y
		Speakers / Microphones: Y
		Visual Controls: Y
		Confidence Monitor: Y
		Camera: Y



1/16" = 1'-0"

SCALE: 1/16" = 1'-0"



## ROOM NAME: EXECUTIVE PROGRAMS CONFERENCE ROOM

Proposed Area: 1200 SF

Proposed Quantity: 1

Proposed Seat Count: 40

### GENERAL NOTES

Seats 40 in seminar format. Adjacent storage and break room.

### ARCHITECTURAL

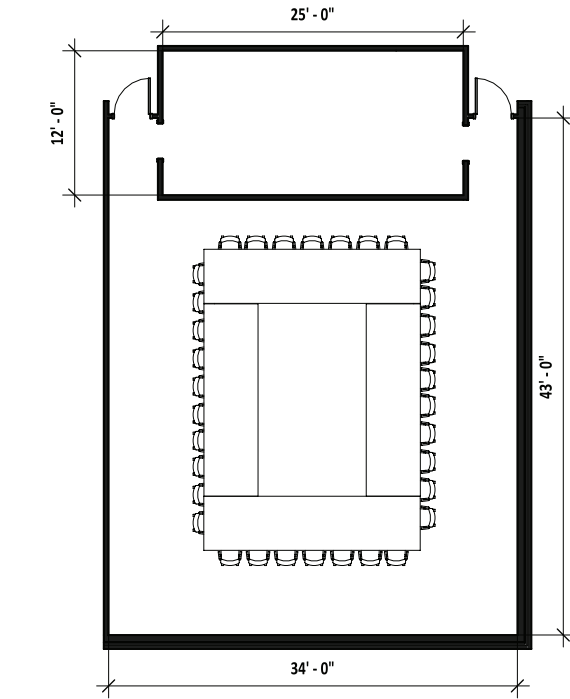
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: N
	Door Lite: N Side Lite: N	Desk: N	Specialty Equipment: N
		Chairs: Y	

WALL	SECURITY
Finish: PAINTED GYP	Camera: N
Base: RUBBER	Access Cont: Y
Wall Prot: N	
Acoustic Panel: Y	

CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 10'-0" - 11'-0"	Daylighting: Y

ELECTRICAL		
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

COMMUNICATION TECHNOLOGY		
TECHNOLOGY		AUDIOVISUAL
Phone Outlets: N	Data Outlets: Y	Projector / Screen: Y
Clocks: N		Monitor: N
		Speakers / Microphones: Y
		Visual Controls: Y
		Confidence Monitor: Y
		Camera: Y



1/16" = 1'-0"

SCALE: 1/16" = 1'-0"

**ROOM NAME: EXECUTIVE PROGRAM BREAK ROOM**

Proposed Area: Proposed Quantity: Proposed Seat Count:

**GENERAL NOTES**

Adjacent to executive programs conference room.

**ARCHITECTURAL**

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: LVT	Size (WxH): 3X8	Markerboard: N	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: Y
	Door Lite: N Side Lite: N	Desk: N	Specialty Equipment: Y
		Chairs: Y	Breakroom Appliances

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: Y	Lectern: N
Base: RUBBER	Access Cont: N	File Cabinets: N	
Wall Prot: N			
Acoustic Panel: Y			

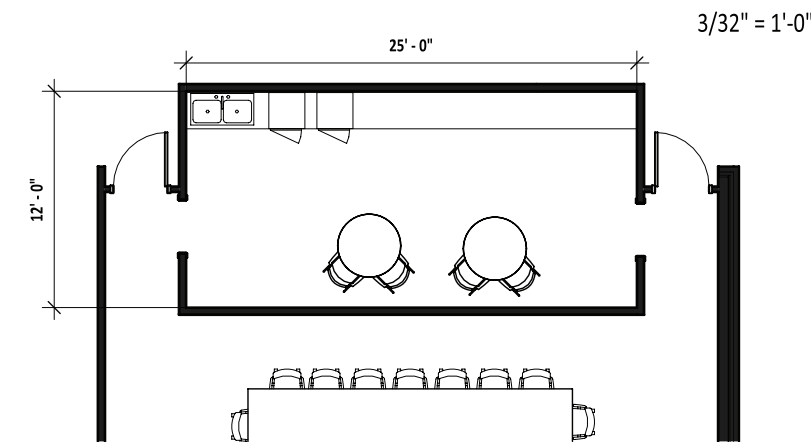
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 10'-0" - 11'- 0"	Daylighting: N

**ELECTRICAL**

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: Y
Fixture Mounting: RECESSED	Daylight Sensor: N	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

**COMMUNICATION**

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: N
Data Outlets: Y	Monitor: N	Confidence Monitor: N
Clocks: N	Speakers / Microphones: N	Camera: N



SCALE: 3/32" = 1'0"

**ROOM NAME: COMPUTER LAB (GENERAL)**

Proposed Area: 1500 SF Proposed Quantity: 3 Proposed Seat Count: 60

**GENERAL NOTES**

**ARCHITECTURAL**

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: Y Side Lite: Y	Desk: Y	Specialty Equipment: N
		Chairs: Y	

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: Y	Lectern: Y
Base: RUBBER	Access Cont: Y	File Cabinets: N	
Wall Prot: N			
Acoustic Panel: Y			

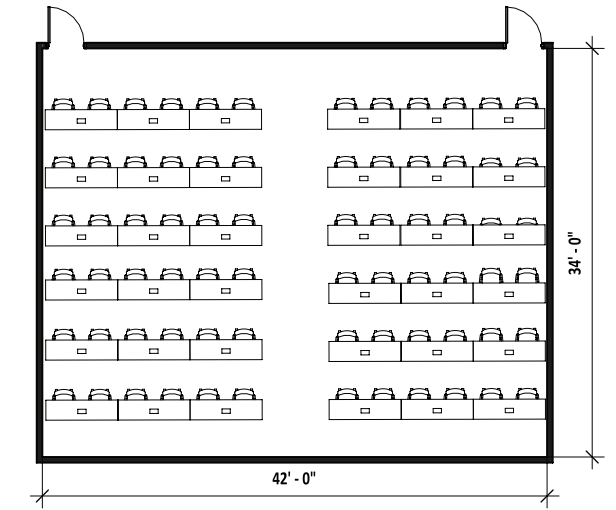
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 10'-0" - 11'-0"	Daylighting: Y

**ELECTRICAL**

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

**COMMUNICATION**

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: Y	Visual Controls: Y
Data Outlets: Y	Monitor: N	Confidence Monitor: N
Clocks: Y	Speakers / Microphones: Y	Camera: Y



SCALE: 3/32" = 1'0"

## ROOM NAME: INNOVATION LAB

Proposed Area: 1600 SF

Proposed Quantity: 1

Proposed Seat Count: 60

### GENERAL NOTES

Flexible lab space for student projects, instruction and external engagement.

### ARCHITECTURAL

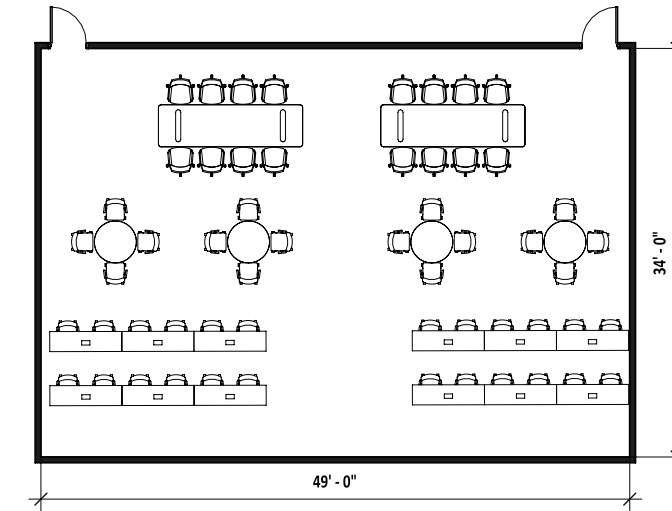
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: N
	Door Lite: Y Side Lite: Y	Desk: N	Specialty Equipment: N

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: Y	
Base: RUBBER	Access Cont: Y	Lectern: Y	
Wall Prot: N		File Cabinets: Y	

CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 10'-0" - 11'-0"	Daylighting: Y

ELECTRICAL		
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

COMMUNICATION		
TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: Y
Data Outlets: Y	Monitor: Y	Confidence Monitor: N
Clocks: N	Speakers / Microphones: Y	Camera: N



SCALE: 1/16" = 1'-0"

## ROOM NAME: BEHAVIORAL LAB SUITE (CNRL)

Proposed Area: 2000 SF

Proposed Quantity: 1

Proposed Seat Count: 20

### GENERAL NOTES

Monitored testing space with eye tracking capabilities. Only the behavioral lab is depicted, but there would be an adjacent office / reception / storage area.

### ARCHITECTURAL

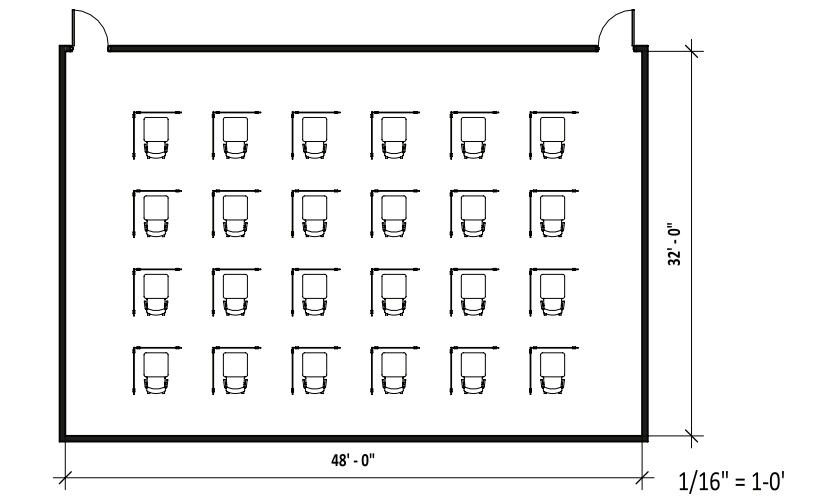
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: N Side Lite: N	Desk: Y	Specialty Equipment: Y

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables:	
Base: RUBBER	Access Cont: Y	Lectern: Y	
Wall Prot: N		File Cabinets: N	

CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 10'-0" - 11'-0"	Daylighting: N

ELECTRICAL		
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: N	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

COMMUNICATION		
TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: Y	Visual Controls: Y
Data Outlets: Y	Monitor: N	Confidence Monitor: N
Clocks: N	Speakers / Microphones: Y	Camera: Y



SCALE: 1/16" = 1'-0"

## ROOM NAME: PHD RESEARCH SPACE

Proposed Area: 3400 SF

Proposed Quantity: 1

Proposed Seat Count: 84

### GENERAL NOTES

The current PHD research spaces in FCBE are siloed into individual departments. The proposed renovation and addition combines these into one larger PHD space with room for 12 PHDs for each department (7 total).

### ARCHITECTURAL

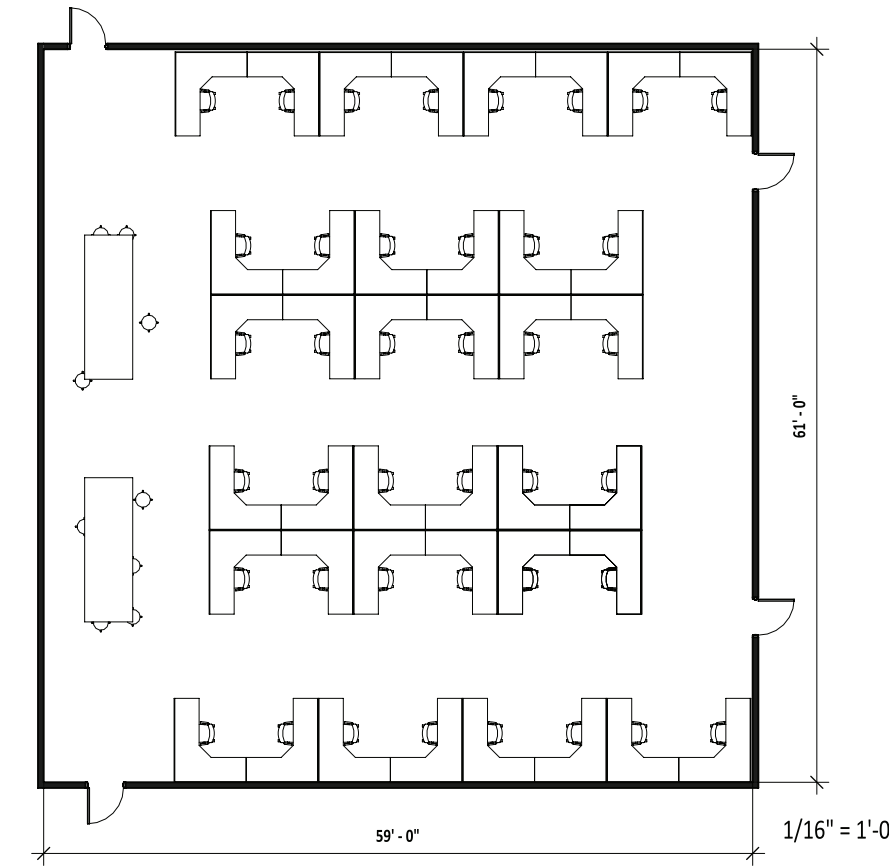
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: Y
	Door Lite: Y Side Lite: Y	Desk: Y	Specialty Equipment: N

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: Y	Lectern: N
Base: RUBBER	Access Cont: Y	File Cabinets: Y	

CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 10'-0" - 11'-0"	Daylighting: Y

ELECTRICAL		
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

COMMUNICATION		
TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: N
Data Outlets: Y	Monitor: N	Confidence Monitor: N
Clocks: Y	Speakers / Microphones: N	Camera: N



SCALE: 1/16" = 1'0"

## ROOM NAME: PHD BREAKOUT ROOM

Proposed Area: 500

Proposed Quantity: 2

Proposed Seat Count: 20-25

### GENERAL NOTES

20-25 seat breakout rooms for PHD activities.

### ARCHITECTURAL

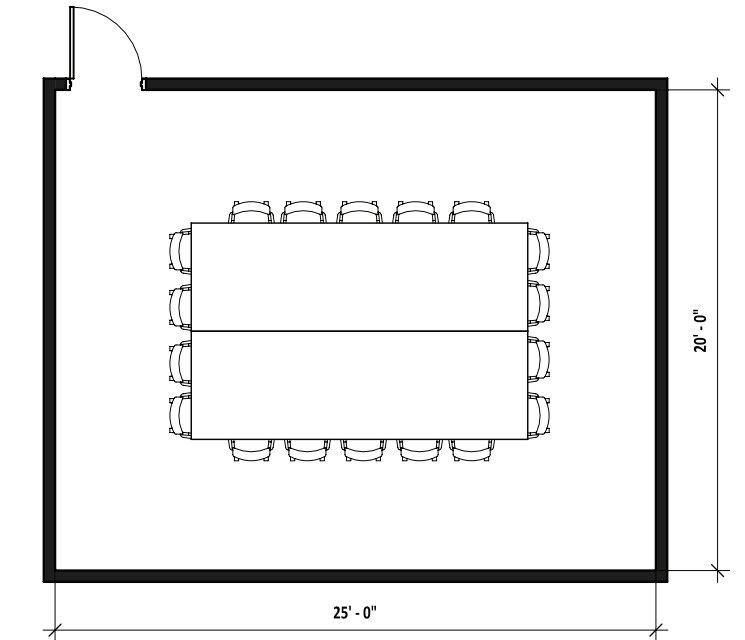
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: Y Side Lite: Y	Desk: Y	Specialty Equipment: N

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: Y (Fixed)	Lectern: Y
Base: RUBBER	Access Cont: Y	File Cabinets: N	

CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 10'-0" - 11'-0"	Daylighting: N

ELECTRICAL		
LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: N	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

COMMUNICATION		
TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: Y
Data Outlets: Y	Monitor: Y	Confidence Monitor: N
Clocks: N	Speakers / Microphones: N	Camera: N



SCALE: 1/8" = 1'0"

## ROOM NAME: DEAN'S OFFICE

Proposed Area: 190

Proposed Quantity: 1

Proposed Seat Count: 1

### GENERAL NOTES

Located within Dean's Suite.

### ARCHITECTURAL

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: N
	Door Lite: N Side Lite: Y	Desk: Y	Specialty Equipment: N

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: N	Lectern: N
Base: RUBBER	Access Cont: Y	File Cabinets: Y	

Wall Prot: N

Acoustic Panel: N

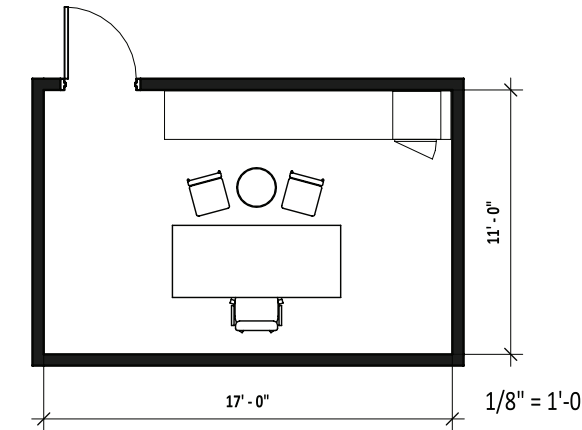
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 9'-0" - 10'-0"	Daylighting: Y

### ELECTRICAL

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: N
Task Lights: Y	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: N
Data Outlets: Y	Monitor: Y	Confidence Monitor: N
Clocks: N	Speakers / Microphones: N	Camera: YN



SCALE: 1/8" = 1'0"

## ROOM NAME: LARGE CONFERENCE/BOARD ROOM

Proposed Area: 750 SF

Proposed Quantity: 1

Proposed Seat Count: 50

### GENERAL NOTES

Large conference space with elevated finishes, within Dean's suite.

### ARCHITECTURAL

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: N Side Lite: N	Desk: N	Specialty Equipment: N

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP / WD	Camera: N	Tables: Y	Lectern: Y
Base: WOOD	Access Cont: Y	File Cabinets: N	

Wall Prot: N

Acoustic Panel: Y

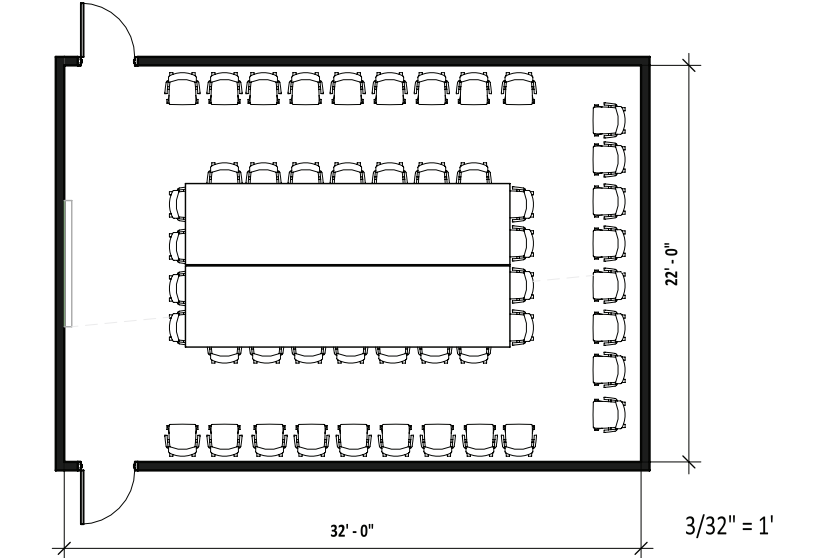
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 10'-0" - 11'-0"	Daylighting: Y

### ELECTRICAL

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: Y	Visual Controls: Y
Data Outlets: Y	Monitor: N	Confidence Monitor: Y
Clocks: N	Speakers / Microphones: Y	Camera: Y



SCALE: 3/32" = 1'0"



## ROOM NAME: ACADEMIC OFFICE SUITE (FACULTY)

Proposed Area: 80 SF

Proposed Quantity: 189

Proposed Seat Count: 1

### GENERAL NOTES

Typical faculty / staff office. Small size than THEC target per programming.

### ARCHITECTURAL

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET	Size (WxH): 3X8	Markerboard: N	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: N
	Door Lite: N Side Lite: Y	Desk: Y	Specialty Equipment: N
		Chairs: Y	

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: N	Lectern: N
Base: RUBBER	Access Cont: Y	File Cabinets: Y	

Wall Prot: N

Acoustic Panel: N

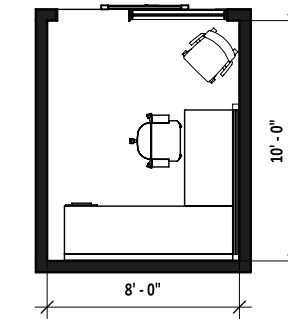
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 9'-0" - 10'-0"	Daylighting: Y

### ELECTRICAL

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: N
Task Lights: Y	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

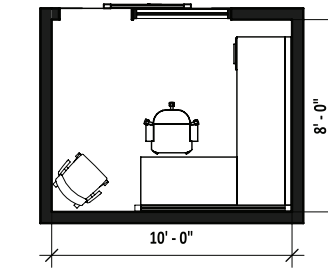
### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: N
Data Outlets: Y	Monitor: N	Confidence Monitor: N
Clocks: N	Speakers / Microphones: N	Camera: N



1/8" = 1'

LAYOUT A



LAYOUT B

SCALE: 1/8" = 1'0"

## ROOM NAME: FACULTY CONFERENCE ROOMS

Proposed Area: 300 SF

Proposed Quantity: 3

Proposed Seat Count: 12-14

### GENERAL NOTES

Medium conference rooms for use by faculty / centers.

### ARCHITECTURAL

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: N
	Door Lite: Y Side Lite: Y	Desk: N	Specialty Equipment: N
		Chairs: Y	

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: Y	Lectern: N
Base: RUBBER	Access Cont: Y	File Cabinets: N	

Wall Prot: N

Acoustic Panel: N

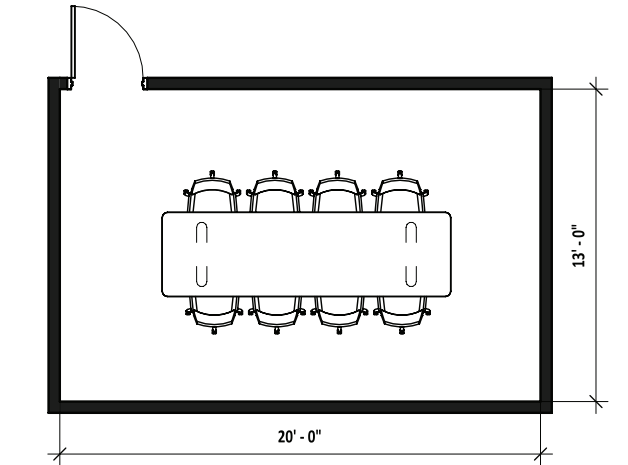
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 10'-0" - 11'-0"	Daylighting: Y

### ELECTRICAL

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: Y
Data Outlets: Y	Monitor: Y	Confidence Monitor: N
Clocks: N	Speakers / Microphones: Y	Camera: Y



1/8" = 1'

SCALE: 1/8" = 1'0"

## ROOM NAME: VIDEO RECORDING

Proposed Area: 300 SF

Proposed Quantity: 1

Proposed Seat Count:

### GENERAL NOTES

Green room for video production for FCBE (marketing, announcements, etc.) Various furniture configurations can be set up and stored within room.

### ARCHITECTURAL

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET	Size (WxH): 3X8	Markerboard: N	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: N Side Lite: N	Desk: Y	Specialty Equipment: Y
		Chairs: Y	Videography / Green Screen

WALL	SECURITY
Finish: PAINTED GYP	Camera: N
Base: RUBBER	Access Cont: Y
Wall Prot: N	File Cabinets: N

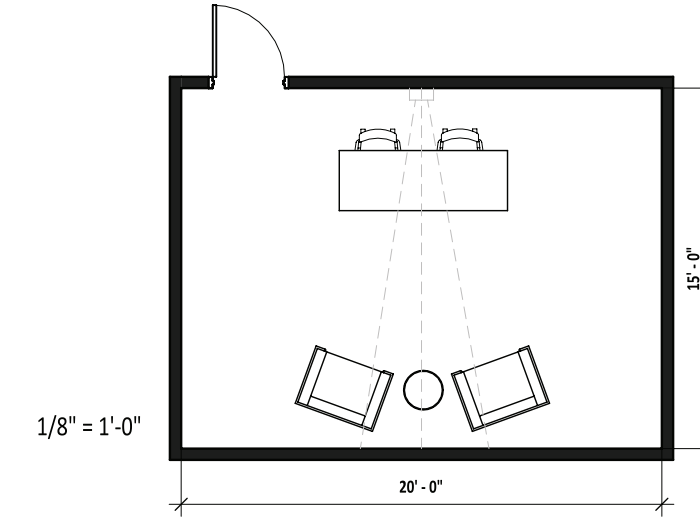
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 10'-0" - 11'-0"	Daylighting: N

### ELECTRICAL

LIGHTING	POWER
Type(s): Direct LED	Casework Power: N
Occupancy Sensor: Y	Floor Boxes: Y
Daylight Sensor: N	Emergency Power: N
Dimming: Y	Special Power Requirements: N
Lighting Controls: Y	

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL
Phone Outlets: N	Projector / Screen: N
Data Outlets: Y	Monitor: N
Clocks: Y	Speakers / Microphones: Y
	Visual Controls: Y
	Confidence Monitor: N
	Camera: Y



SCALE: 1/8" = 1'0"

## ROOM NAME: TECH GROUP

Proposed Area: 350

Proposed Quantity: 1

Proposed Seat Count: 5

### GENERAL NOTES

Envisioned as "bullpen" type space with a interaction counter for tech support.

### ARCHITECTURAL

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: Y	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: N
	Door Lite: Y Side Lite: Y	Desk: Y	Specialty Equipment: Y
		Chairs: Y	

WALL	SECURITY
Finish: PAINTED GYP	Camera: N
Base: RUBBER	Access Cont: Y
Wall Prot: N	File Cabinets: Y

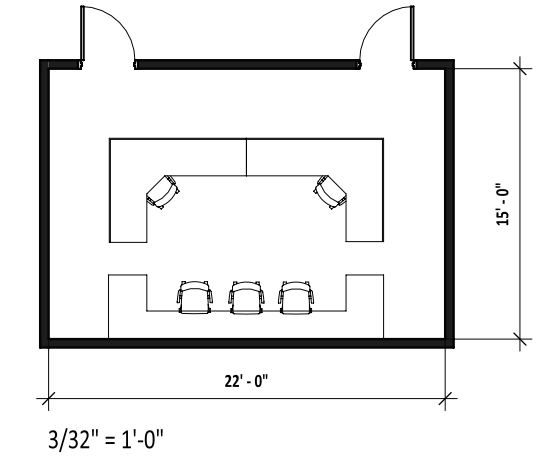
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 10'-0" - 11'-0"	Daylighting: N

### ELECTRICAL

LIGHTING	POWER
Type(s): Direct LED	Casework Power: N
Occupancy Sensor: Y	Floor Boxes: Y
Daylight Sensor: N	Emergency Power: N
Dimming: Y	Special Power Requirements: N
Lighting Controls: Y	

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL
Phone Outlets: N	Projector / Screen: N
Data Outlets: Y	Monitor: N
Clocks: N	Speakers / Microphones: N
	Visual Controls: N
	Confidence Monitor: N
	Camera: N



SCALE: 3/32" = 1'0"

## ROOM NAME: TEAM ROOM

Proposed Area: 150 SF

Proposed Quantity: 18

Proposed Seat Count: 4-6

### GENERAL NOTES

Small & medium team rooms for open student use (with room scheduler).

### ARCHITECTURAL

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET	Size (WxH): 3X8	Markerboard: Y	Window Treatment: Y
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: N
	Door Lite: Y Side Lite: N	Desk: N	Specialty Equipment: N
		Chairs: Y	

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: Y	Lectern: N
Base: RUBBER	Access Cont: Y	File Cabinets: N	

Wall Prot: N

Acoustic Panel: N

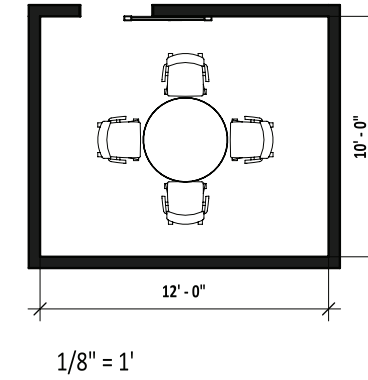
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: Y
Ht: 9'-0" - 10'-0"	Daylighting: Y

### ELECTRICAL

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: Y	Floor Boxes: Y
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: Y
Data Outlets: Y	Monitor: Y	Confidence Monitor: N
Clocks: N	Speakers / Microphones: N	Camera: N



SCALE: 1/8" = 1'0"

## ROOM NAME: MOTHER'S ROOM

Proposed Area:

Proposed Quantity:

Proposed Seat Count:

### GENERAL NOTES

Small room with comfortable chair and sidetable, equipped with a sink and small refrigerator (can be lockable or managed at the room door).

### ARCHITECTURAL

FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET	Size (WxH): 3X8	Markerboard: N	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: N	Sink / Soap / Paper Towel: Y
	Door Lite: N Side Lite: N	Desk: N	Specialty Equipment: Y
		Chairs: Y	Undercounter refrigerator

WALL	SECURITY	ACCESSORIES/FURNISHINGS	
Finish: PAINTED GYP	Camera: N	Tables: N	Lectern: N
Base: RUBBER	Access Cont: Y	File Cabinets: N	

Wall Prot: N

Acoustic Panel: N

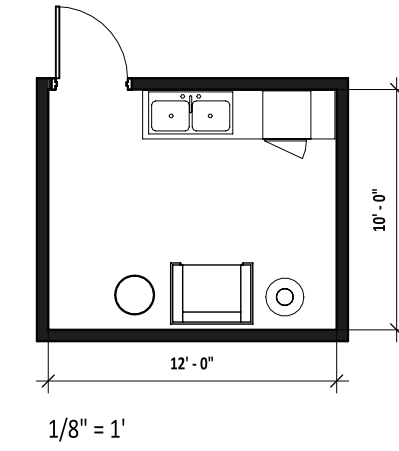
CEILING	DAYLIGHTING
Finish: ACT / GYP	View to Exterior: N
Ht: 9'-0" - 10'-0"	Daylighting: N

### ELECTRICAL

LIGHTING	POWER	
Type(s): Direct LED	Occupancy Sensor: Y	Casework Power: N
Fixture Mounting: RECESSED	Daylight Sensor: N	Floor Boxes: N
Task Lights: N	Dimming: Y	Emergency Power: N
	Lighting Controls: Y	Special Power Requirements: N

### COMMUNICATION

TECHNOLOGY	AUDIOVISUAL	
Phone Outlets: N	Projector / Screen: N	Visual Controls: N
Data Outlets: N	Monitor: N	Confidence Monitor: N
Clocks: N	Speakers / Microphones: N	Camera: N



SCALE: 1/8" = 1'0"

**ROOM NAME: FACULTY LOUNGE**

Proposed Area: Proposed Quantity: Proposed Seat Count:

**GENERAL NOTES**

Smaller faculty lounges on each floor.

**ARCHITECTURAL**

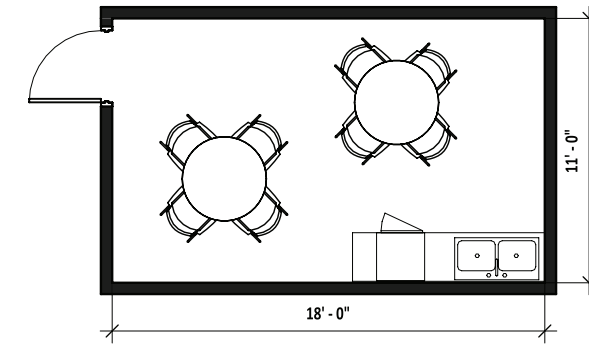
FLOOR	DOORS/FRAMES	ACCESSORIES/FURNISHINGS	
Finish: CARPET / LVT	Size (WxH): 3X8	Markerboard: N	Window Treatment: N
	Door/Frame Matl: WD/HM	Magnet / Tack board: Y	Sink / Soap / Paper Towel: Y
	Door Lite: N Side Lite: N	Desk: N	Specialty Equipment: Y
		Chairs: Y	Breakroom appliances
WALL	SECURITY	Tables: Y	
Finish: PAINTED GYP	Camera: N	Lectern: N	
Base: RUBBER	Access Cont: Y	File Cabinets: N	
Wall Prot: N			
Acoustic Panel: N			
CEILING	DAYLIGHTING		
Finish: ACT / GYP	View to Exterior: Y		
Ht: 10'-0" - 11'-0"	Daylighting: Y		

**ELECTRICAL**

LIGHTING	POWER
Type(s): Direct LED	Occupancy Sensor: Y
Fixture Mounting: RECESSED	Daylight Sensor: Y
Task Lights: N	Dimming: Y
	Lighting Controls: Y
	Casework Power: Y
	Floor Boxes: N
	Emergency Power: N
	Special Power Requirements: N

**COMMUNICATION TECHNOLOGY**

TECHNOLOGY	AUDIOVISUAL
Phone Outlets: N	Projector / Screen: N
Data Outlets: N	Monitor: N
Clocks: N	Speakers / Microphones: N
	Visual Controls: N
	Confidence Monitor: N
	Camera: N



SCALE: 1/8" = 1'0"

**CONCEPTUAL ESTIMATE**



# PHASE 2 DETAILED COST ESTIMATE

Note: The total construction cost presented in this detailed estimate differs from the total construction cost presented in the prior section. This is due to modifications made to escalation, estimate contingency, and deferred Phase 1 scopes after review / further discussion.



## Fogelman Business Complex Expansion Phase 2 New Building University of Memphis Memphis, Tennessee



March 27, 2024

### Opinion of Probable Cost Programmatic Cost Model - Phase 2 New Building

prepared for:



## Fogelman Business Complex Expansion Phase 2 University of Memphis Memphis, Tennessee March 27, 2024 OPINION OF PROBABLE COST Programmatic Cost Model - Phase 2 New Building

DESCRIPTION	SF 61,160	\$TOTAL	%Total Cost
<b>BASE ESTIMATE</b>			
General Conditions	\$22.42	\$1,371,217	3.75%
Allowances	\$7.77	\$475,250	1.30%
Project Requirements	\$13.68	\$836,768	2.29%
Select Demolition	\$0.33	\$20,000	0.05%
Deep Foundations	\$10.08	\$616,500	1.68%
Concrete	\$17.28	\$1,056,637	2.89%
Masonry	\$1.23	\$74,975	0.20%
Structural Steel and Misc Metals	\$69.11	\$4,226,678	11.55%
Rough Carpentry	\$1.58	\$96,615	0.26%
Finish Carpentry	\$0.11	\$6,776	0.02%
Architectural Millwork and Countertops	\$2.82	\$172,610	0.47%
Thermal and Moisture Protection	\$33.41	\$2,043,535	5.58%
Frames, Doors and Finish Hardware	\$1.04	\$63,892	0.17%
Storefront, Curtainwall, Glass and Glazing	\$31.96	\$1,954,676	5.34%
Finishes	\$64.70	\$3,956,915	10.81%
Specialties	\$2.94	\$179,824	0.49%
Equipment	\$0.00	\$0	0.00%
Furnishings	\$4.81	\$294,093	0.80%
Elevators	\$4.28	\$261,706	0.72%
Fire Protection	\$9.50	\$580,960	1.59%
Plumbing	\$22.11	\$1,352,100	3.70%
HVAC and Controls	\$58.06	\$3,550,871	9.70%
Electrical, Fire Alarm, Light Fixtures, Generator	\$53.46	\$3,269,716	8.94%
Communications, Security and Access Control	\$9.35	\$571,846	1.56%
Sitework, Improvements and Utilities	\$28.80	\$1,761,401	4.81%
<b>SUBTOTAL</b>	<b>\$470.82</b>	<b>\$28,795,562</b>	
<b>Fees &amp; Other Costs</b>			
Building Review and Permit	\$2.12	\$129,580	0.35%
Builders Risk Insurance	\$3.06	\$187,171	0.51%
General Liability Insurance	\$2.59	\$158,376	0.43%
Subcontract Default Insurance (SDI)	\$5.98	\$365,884	1.00%
Payment & Performance Bond	\$4.12	\$251,911	0.69%
Estimate Contingency (10%)	\$48.87	\$2,988,848	8.17%
Escalation (6% projected construction start May 2025)	\$32.25	\$1,972,640	5.39%
General Contractor Overhead & Fee (5%)	\$28.49	\$1,742,499	4.76%
<b>TOTAL CONSTRUCTION COST</b>	<b>\$598.31</b>	<b>\$36,592,469</b>	



## Fogelman Business Complex Expansion Phase 2 University of Memphis Memphis, Tennessee March 27, 2024 OPINION OF PROBABLE COST Programmatic Cost Model - Phase 2 New Building

<b>SUMMARY HIERARCHY (includes mark-ups)</b>			
Sitework	\$36.60	\$2,238,332	6.12%
Building	\$561.71	\$34,354,138	93.88%
<b>Total</b>	<b>\$598.31</b>	<b>\$36,592,469</b>	

<b>PROGRAM PARAMETERS</b>		<b>GSF</b>
New Construction level 1		20,000
New construction level 2		20,200
New construction level 3		17,750
New construction level 4		3,210
<b>Project Total</b>		<b>61,160</b> GSF

<b>BASIS OF ESTIMATE</b>	
Memphis FCBE Plans & Elevations - Pricing Documents (Phase 2) received 3.15.2024	
Memphis FCBE - Phase 2 Addition Narrative received 3.15.2024	
Construction start based on May 2025	

<b>ESTIMATE QUALIFICATIONS</b>	
<b>Estimate Exclusions:</b>	
Building Commissioning	
Special Inspections	
Quality Control Testing Services	
Owner and Design Contingency	
Latent Conditions	
Architectural and Engineering Fees	
FF&E, Graphics and Artwork (furnishings and equipment)	
Laboratory Casework and Equipment	
Data/Communications Equipment, Wiring, Cabling are Provided by Owner	
Security Systems and Cameras (empty raceways are included)	
Public Address System (empty raceways are included)	
Data / Voice / CTV Equipment (empty raceways are included)	
Master Clock System	
Smartboards	
Projection Screens	
TV's	
Audio/Visual Equipment (empty raceways are included)	
Access Control and Video Surveillance Equipment (empty raceways are included)	
Theatrical Equipment	
Fiberoptic Cabling by Owner	
Site Chilled Water Extends to Existing Central Plant at Parking Garage	

<b>Estimate Conditions:</b>	
Escalation is 6% and based on a construction start by May 2025	
Recommendation for escalation factor of start beyond 2025	
Estimate Contingency is 10%	
Estimate Based on a 24-month duration	



## Fogelman Business Complex Expansion Phase 2 University of Memphis Memphis, Tennessee March 27, 2024 OPINION OF PROBABLE COST Programmatic Cost Model - Phase 2 New Building

No Labor Cost Premiums Included for Overtime/Weekend/Night Work  
Estimate assumes the structure for the New Addition is structural steel  
Estimate includes Allowance for MLG&W utility connection fees

Market Conditions and Inflationary Escalations are unprecedented and can't be accounted for or anticipated. The Cost Estimate includes a 6% inflationary escalation contingency for mitigating material increases or disruptions in deliveries. Should increases in materials be experienced and not accounted for in the cost estimate, adjustments to the project cost estimate will be required. Costs incurred or schedule extensions caused by disruptions in material deliveries will have an impact on the cost estimate.



Fogelman Business Complex Expansion  
University of Memphis  
Memphis, Tennessee  
March 27, 2024  
Opinion of Probable Cost  
Programmatic Cost Estimate

Table with 7 columns: Description, QTY, U/M, Unit Cost, Extended Cost, Total Cost, Comments. Includes sections: BASE ESTIMATE, Frames, Doors and Hardware, Hollow Metals, Wood Doors, Door Hardware, Special Doors, Storefront, Curtainwall, Glass & Glazing, Finishes, Gypsum Board and Metal Stud Framing.

Fogelman Business Complex Expansion  
University of Memphis  
Memphis, Tennessee  
March 27, 2024  
Opinion of Probable Cost  
Programmatic Cost Estimate

Table with 7 columns: Description, QTY, U/M, Unit Cost, Extended Cost, Total Cost, Comments. Includes sections: BASE ESTIMATE, Ceramic Tile, Terrazzo, Acoustical Ceilings, Special Ceilings, Resilient Flooring, Carpet, Fire Extinguishers and Cabinets, Floor Treatment, Acoustical Treatment.

Fogelman Business Complex Expansion  
University of Memphis  
Memphis, Tennessee  
March 27, 2024  
Opinion of Probable Cost  
Programmatic Cost Estimate

Table with 7 columns: Description, QTY, U/M, Unit Cost, Extended Cost, Total Cost, Comments. Includes sections: BASE ESTIMATE, Painting, Specialties, Glass Boards, Signage, Toilet Partitions, Wall Protection, Toilet Accessories, Equipment Appliances, Furnishings, Window Treatments.

Fogelman Business Complex Expansion  
University of Memphis  
Memphis, Tennessee  
March 27, 2024  
Opinion of Probable Cost  
Programmatic Cost Estimate

Table with 7 columns: Description, QTY, U/M, Unit Cost, Extended Cost, Total Cost, Comments. Includes sections: BASE ESTIMATE, Elevator, Fire Protection, Plumbing, HVAC, Controls, Electrical, Fire Alarm, Light Fixtures, Light Control System, Emergency Generator, Lightning Protection System.



Fogelman Business Complex Expansion  
University of Memphis  
Memphis, Tennessee  
March 27, 2024  
Opinion of Probable Cost  
Programmatic Cost Estimate

Description	QTY	U/M	Unit Cost	Extended Cost	Total Cost	Comments
<b>BASE ESTIMATE</b>						
<b>Bi-Directional System</b>						
Bi-Directional System	61,160	gsf	0.90	55,044		
<b>Distributed-Directional Amplification System</b>						
Distributed Antenna System	61,160	gsf	1.85	113,146		
<b>Exterior Lighting</b>						
Site Lighting, pole, fixtures excluding concrete bases	4	ea	2,850.00	11,400		
<b>Communications, Security, Sound, Access Data / Communications / CTV / Security / Sound / Access Control</b>						
Rough-ins, Conduit, Back Boxes, Structured Cabling	61,160	gsf	9.35 /sf	571,846	\$571,846	
<b>Site Work &amp; Improvements</b>						
<b>Site Clearing</b>						
Clearing and grubbing, minimal vegetation	1.50	acre	3,500.00	5,250		Site is based on the 9/1/23 Program estimate
<b>Site Demolition</b>						
Remove trees 12-18" ca.	6	ea	750.00	4,500		re-purpose lumber
Remove trees 6-12" cal.	15	ea	750.00	11,250		
Remove trees <6"	6	ea	925.00	5,550		
Remove shrubs	40	ea	45.00	1,800		
Remove bollards, appear to be illuminated	8	ea	635.00	5,080		
Remove raised beds / brick ret. Walls	1	ls	20,000.00	20,000		
Remove plaza hardscape	1	ls	7,500.00	7,500		
Remove tiger statue, store for reinstallation	1	ls	4,295.00	4,295		
Remove fixed outdoor tables and seating	4	sets	695.00	2,780		
Remove site light poles - 15' tall bolted to conc. Base, LED head	4	ea	1,850.00	7,400		
Remove exterior electric service panels and mounting struts, cut and cap service	100	amp	42.50	4,250		
Remove monument sign and brick base	1	ea	3,500.00	3,500		
Remove post mounted sign	2	ea	650.00	1,300		
<b>Site Grading</b>						
Mobilization	1	ea	25,000.00	25,000		
Surveying, Control Layout and GPS Modeling	1.50	acre	2,150.00	3,225		
Strip Topsoil, 6" depth, stockpiling	1,264	cy	3.25	4,108		
Respreading, distributing of topsoil	1,264	cy	7.10	8,974		
Cut/Shift, 2' of onsite material, balanced site	5,056	cy	10.00	50,560		
Building Pad, average 3' select fill	4,291	cy	14.00	60,074		
Fine Grade Site, Prep site for landscaping	35,264	sf	1.10	38,790		
Backfill curbs	1,296	lf	4.90	6,350		
Fine Grade Sidewalks	15,551	sf	1.65	25,659		

Fogelman Business Complex Expansion  
University of Memphis  
Memphis, Tennessee  
March 27, 2024  
Opinion of Probable Cost  
Programmatic Cost Estimate

Description	QTY	U/M	Unit Cost	Extended Cost	Total Cost	Comments
<b>BASE ESTIMATE</b>						
<b>Erosion Control</b>						
Aggregate Construction Entrance	1	ea	8,295.00	8,295		
Tire Wash	1	ea	32,000.00	32,000		
Silt Fence	1,296	lf	8.10	10,498		
Inlet Protection	4	ea	3,500.00	14,000		
Tree Protection	10	ea	365.00	3,650		
Temporary Seeding	3,918	sy	0.82	3,213		
SWPP Inspections	1,296	lf	2.65	3,434		
SWPP Maintenance	28	mo	290.00	8,120		
<b>Traffic Control</b>						
Traffic Control, pedestrian routes	1	ls	11,500.00	11,500		
<b>Storm Drainage &amp; Structures</b>						
Storm Drainage & Structures	1	allow	7,500.00	7,500		
Foundation drainage	1,150	lf	16.35	18,803		
Relocate existing storm lines - plaza drainage	200	lf	155.00	31,000		
<b>Site Water</b>						
8" fire water main	200	lf	85.50	17,100		
3" domestic water	200	lf	31.65	6,330		
New 3" tap	1	ea	2,553.00	2,553		
FDC	2	ea	2,865.00	5,730		
Post indicator valve	1	ea	3,265.00	3,265		
Fire hydrant Assembly	1	ea	4,896.00	4,896		
Backflow preventer	1	ea	12,000.00	12,000		
Water meter	1	ea	3,550.00	3,550		
<b>Site Chilled Water Piping</b>						
CHWS/R, w. 2" thick insulation w. casing, align and tack weld on sleepers (2 ea. 14")	495	lf	560.00	277,200		
HTHWS/R, w. 2" thick insulation w. casing, align and tack weld on sleepers (2 ea. 8")	495	lf	280.00	138,600		
Boring, Open Cut	1	allow	75,000.00	75,000		
<b>Site Sewer &amp; Manholes</b>						
8" main	150	lf	48.65	7,298		
Cleanout to grade	2	ea	1,250.00	2,500		
Sanitary manhole	1	ea	3,695.00	3,695		
Grease Trap	1	ea	12,500.00	12,500		
<b>Gas Distribution</b>						
2" Gas Line, high pressure	200	lf	25.00	5,000		
Gas Meter	1	ea	2,500.00	2,500		
Pressure Regulator	1	ea	1,850.00	1,850		

Fogelman Business Complex Expansion  
University of Memphis  
Memphis, Tennessee  
March 27, 2024  
Opinion of Probable Cost  
Programmatic Cost Estimate

Description	QTY	U/M	Unit Cost	Extended Cost	Total Cost	Comments
<b>BASE ESTIMATE</b>						
<b>Electrical and Communications Site Utilities</b>						
Electrical Bus Duct	500	lf	112.00	56,000		basis of cost based on 500 feet
Communications Bus Duct	500	lf	108.00	54,000		basis of cost based on 500 feet
Secondary Conduit and Conductors	75	lf	95.00	7,125		
<b>Asphalt Paving</b>						
Mill & overlay city asphalt	3,500	sy	26.35	92,225		
<b>Curb and Gutter</b>						
6-30 Curb and Gutter Combination, new	450	lf	43.75	19,688		
6-30 Curb and Gutter Combination, replace public C&G	1,296	lf	43.75	56,700		
<b>Sidewalks</b>						
Public Sidewalk, 4" thick, w. wire mesh reinforcement, broom finish, replace public sidewalk	6,130	sf	8.25	50,573		
Entry or Plaza Sidewalk, 4" thick, w. wire mesh reinforcement	9,421	sf	10.25	96,565		
Ramp, 4" thick, foundations	1	ls	3,500.00	3,500		
<b>Pavers</b>						
Pavers interspersed in landscape per narrative	1,400	sf	15.10	21,140		
<b>Site Concrete</b>						
Electrical Transformer Pads, 4" concrete, reinforced, form work	150	sf	16.25	2,438		
Mechanical Equipment Pads, 4" concrete, reinforced, form work	500	sf	16.25	8,125		
Site Lighting, excavate, auguring, sonotube form, reinforcing steel, anchor bolts	4	ea	1,800.00	7,200		
<b>Pavement Stripping</b>						
Pavement markings, turn arrows and stop lines	3	ea	750.00	2,250		
<b>Site Signage</b>						
Stop sign	1	ea	965.00	965		
Brick monument sign - match existing	1	allow	35,000.00	35,000		
Tiger statue - relocated	1	allow	4,500.00	4,500		
<b>Site Furnishings</b>						
Bike Racks	3	ea	1,835.00	5,505		
Outdoor seating, possibly reuse existing	4	ea	2,135.00	8,540		
Thrash Receptacle	3	ea	1,210.00	3,630		
<b>Landscaping and Irrigation</b>						
Sod	800	sy	6.35	5,080		
Landscape beds	2,025	sf	2.35	4,759		
Trees, plants	1	allow	65,000.00	65,000		

Fogelman Business Complex Expansion  
University of Memphis  
Memphis, Tennessee  
March 27, 2024  
Opinion of Probable Cost  
Programmatic Cost Estimate

Description	QTY	U/M	Unit Cost	Extended Cost	Total Cost	Comments
<b>BASE ESTIMATE</b>						
Landscape/Pathway in courtyard between buildings	4,839	sf	14.35	69,440		
<b>Irrigation</b>						
Rework / abandon existing	3	zones	2,565.00	7,695		
Add new zone	1	ea	32,985.00	32,985		
<b>SUBTOTAL</b>						
	61,160	gsf	\$470.82 /sf	\$28,795,562		

# MEETING MINUTES

## MEETING MINUTES

**Re:** University of Memphis  
Fogelman College of Business and Economics (FCBE)  
Space Programming for Renovations and Addition

**Date:** January 18, 2023 – 4:00 - 5:00 PM  
**Location:** Zoom

**From:** Williams Blackstock Architects  
**Attendees:** Dr. Greg Boller, Interim Dean, (FCBE)  
Dr. Sandi Richardson Associate Dean of Faculty & Administration, (FCBE)  
Lauren Gwaltney Williams Blackstock Architects (WBA)  
Stephen Allen Williams Blackstock Architects  
Joel Blackstock Williams Blackstock Architects

**Purpose:** Programming Kickoff Meeting

## NOTES

- Programming Steps.  
WBA reviewed a proposed list of program steps with a general time frame for each (detail step-by-step programming and schedule attached). The steps include:
 

1) Inventory phase	February 6 <sup>th</sup>
2) Visioning	March 13 <sup>th</sup>
3) Space Program	March 27 <sup>th</sup>
4) Conceptual design options	May 22 <sup>nd</sup>
5) Phasing / Implementation	May 29 <sup>th</sup>
6) Cost Estimate	June 26 <sup>th</sup>
7) Final Presentation / Deliverables	July 10 <sup>th</sup>
- Schedule.  
WBA reviewed a Gantt schedule for the programming process (attached).
- Benchmarking.  
We discussed visiting other Schools of Business to benchmark and study. It was generally concluded we should consider visiting University of Kentucky, Clemson, and Auburn. WBA will develop a timeline for these visits and work with FCBE to set up the tours.
- Stakeholders.  
WBA reviewed the list of stakeholders that were compiled from information provided by FCBE. These groups include:
  - FCBE Administration
  - UoM Facilities

FCBE – Programming Kickoff  
01/18/2023, Page 2 of 2

- FCBE Facilities Management
- Faculty
- FCBE Staff
- Doctoral Students
- Undergraduate Students
- External stakeholders (donors)

A process of engagement with the various stakeholders was discussed. It was agreed that a series of questionnaires tailored to each stakeholder group would be prepared by WBA and forwarded to FCBE for review and approval and then sent to each group. A follow up meeting and interviews with each stakeholder group will be scheduled once the questionnaires are completed to walk through the questionnaire and glean additional information and input. The questionnaires will be tailored to each stakeholder group and cover vision, existing building assessment, pedagogies/classrooms, adjacencies, flow, and information on each space as appropriate for each group.

- General.
  - Dr. Boller and Dr. Richardson noted that there is a lot of interest with their donors in seeing how the programming and design is coming. They have some upcoming meetings with the donors and were interested in examples of brochures or promotional pieces WBA had prepared for other projects. WBA shared some examples and will send copies to FCBE.
  - WBA asked FCBE for classroom utilization information showing the existing times that existing classrooms are being used per the school schedule for the year. FCBE to forward this information.

## ACTION LIST

- FCBE to provide a class schedule or information on the existing classroom utilization if available.
- FCBE to provide a list of departments in the College, and list of department heads and faculty for each department, including administration.
- WBA to get CAD drawings from UoM Facilities and build a REVIT model of the floor plans, and site plan to use to develop blocking and stacking options and serve as base plans for the space program.
- WBA to prepare stakeholder questionnaires to FCBE to review.
- WBA to work on schedule for benchmarking tours.
- WBA to review all existing information from UoM and FCBE prepare a base initial space program template for refinement in discussions going forward.
- WBA will pull a presentation on best practices and trends in business Schools.

This concludes the substance of the meeting. If anyone notices any clarifications or additions to the meeting notes, please advise all present by email.

April 3, 2023

**DEAN'S SUITE** 8:00 - 10:00  
Gregory Boller  
Sandi Richardson

Need for concierge/interactive display to assist with way finding. People are often lost. Most students go to FIT building for informal collaboration.

**May 9<sup>th</sup> – wine and cheese donor event – WBA will need to provide collage of images. Crosstown concourse for dinner**

- Should convey welcoming. Right now, it is not inviting at all.
  - Really like the open staircase idea.
  - Threshold effect – step over and should have a “pop”
  - Almost all student traffic comes from Pepin Portal, some from FIT building.
  - Does anyone use the courtyard? The students do when the weather is nice but its actually used for by the middle school students.
- Trends
  - Asynchronous – do it when you get to it vs. Synchronous – zoom in and learn together. Connect to those that are virtual.
  - 1/3 of classes are on ground, 1/3 hybrid, 1/3 online.
  - Does not believe a large lecture hall is needed. The larger one they have now is not really used that much. Largest class now may get up to 100.
  - Small seminar rooms would be great.
  - Case study could be used – maybe one of these.
- Vision
  - Art competition from student has started – will be displayed and prizes given. Follow of Instagram.
  - Not so much about number of classrooms but types of classrooms
  - Currently at 3,800 students in college – would like to double that but not sure how long that will take.
  - Maybe draw students back in through use of different classroom types. FOMO
  - Departmental offices – currently no interaction between faculty, students and departments. Need flex space for faculty. Would like for office to be closer to the students. Offices they have now could be smaller. No need for the large middle offices.
  - 2 departments per office suite – one common conference room

**CENTERS** 10:00 - 12:00

Forthcoming Center for Arts Integration in Business Performance (Gregory Boller) – teaching in the round,

Forthcoming Supply Chain Management Center for Excellence (Gregory Boller) – *might need lab space*  
Forthcoming Center Financial Literacy and Planning (Gregory Boller) – *providing training out in the community.*

Methodist LeBonheur Center for Healthcare Economics (Han Yu, Director) – *tiered hybrid preference*  
Center for Workplace Diversity & Inclusion (Ji Hae You, Director) – *tiered hybrid preference*  
Crews Center for Entrepreneurship (Mike Hoffmeyer, New Director Dawn Kimble) – *likes innovation lab idea, would use EASL mast.*

Dean’s Office (Ashley Rose, Operations Manager)

- Trends
  - Like the windows and lack of brick in Collate
  - Love the LSU business school – maybe we need to go to this one? Specifically liked the office layout and collab areas.
  - Like the idea of various team room sizes. Like the idea to have monitors. Would like one that is 15-20 people. Could be used for guest speaker.
  - Nice views of campus could be a challenge. Think outside the box on this one. Roof top?
  - Like the use of color in Kansas slide. Like the bright white and blue accents.
  - Outdoor – program outside spaces
- Classroom Types
  - EASL is their preferred classroom type.
  - Most used rooms are the 1<sup>st</sup> floor tiered – seat 88 (133-135). Used because of size not because they are tiered.
  - Really like the multi-purpose theater. Could use for student competitions, TEDtalks,
  - Large lecture halls are utilized but no need for more. Would rather have multi-purpose.
- Vision
  - Would like to see more graphics and branding.
  - Coffee shop – would like a legitimate food option. Food incubator. Starbucks sized. Look at venue at Crosstown. They make smaller spaces work well.
  - Like the idea of offices above classrooms levels.
  - More power outlets, charging hotspots.
- Space Requirements
  - Crews Center for Entrepreneurship: Primary goal is to inspire and train entrepreneurs. Need student working area so that students can work in teams, 2 collab spaces (15-20 ppl, could be a room with divisible walls), 2 offices, innovation lab. Visibility is key!
  - Center for Workplace Diversity & Inclusion: Improve diversity of companies.
    - Small office with lounge for students
    - Training space,
  - Center for Healthcare Economics:
    - Office
- Technical needs
  - Cook Lab (new) – Bloomberg terminals.
  - See-NRL – neuro research lab
  - Supply Chain Lab – allow research (TBD)

Maybe level 1 of new build is all centers....? Could share admin, lounges, sizable shared conference room, etc. “Education Foodcourt”

Ashley mentioned FIU and will send photos.

**FACULTY** 1:00 - 3:00

Department of Economics (Bill Smith, Chair)  
Department of Finance, Insurance and Real Estate (PK Jain, Chair)  
Department of Business Information & Technology (Sandi Richardson, Chair)  
Department of Marketing & Supply Chain Management (Ernie Nichols, Interim Chair, Gregory Boller, Chair)  
Department of Management (Kurt Kraiger, Chair)  
Crews School of Accountancy (Ken Lambert, Interim Director)

April 4, 2023

**STUDENT SERVICES & GRADUATE PROGRAMS** 8:00 - 9:00

Undergraduate Student Services (Trellis Morgan, Manager)

Graduate Programs Office (Carmen Astorne, MBA Programs Director)

1. Trends
  - a. Like the idea of divisible rooms, 80 going to 40 would be great.
  - b. Hybrid – maybe. Not as strong
  - c. Technology is a big issue. Cameras aren't wide enough to cover white boards.
2. Vision
  - a. Staff need to happy in their space. Need to have walls and doors for privacy.
  - b. Add elevator as issue. People get stuck in them, and they need refurbishment.
  - c. Like idea of monitor for wayfinding use.
3. Space Requirements
  - a. Graduate
    - i. Currently no good place for students to wait for their meetings.
    - ii. Better to have to front desks if grad & undergrad together. - 2 desks
    - iii. For advising offices the preference would not be to have full glass walls. Need 4 enclosed offices.
    - iv. Shared open area for printer/2 copiers, supplies – could be shared but need separate areas.
    - v. Breakroom - shared
    - vi. Conference room – 20 ppl preferred – can be shared. Can be glass. Need large monitor and white boards.
    - vii. Needs to be quite and able to be productive.
  - b. Undergraduate
    - i. Storage – not shared.
    - ii. Offices – recruitment cord (1), advisors (5), manager (1), extra (1), GA (1)
    - iii. Lobby area – up to 20 students, kiosk to swipe in. may be waiting for 30 min – 1 hour if they just walk-in. Registration area (bar height)
    - iv. Recruitment space (blue & grey room) – can be shared, would like this near their space.
    - v. Maybe shared 8-10 conference room. Would be nice.
4. Adjacencies
  - a. Can be near CPCD but they do not want their space to be a go between.

**DOCTORAL STUDENTS / MASTERS STUDENTS** 10:00 – 11:00 am

1. Trends
  - a. Like the open stairs options
  - b. Feels like a maze.
  - c. Like the varying sizes of teams rooms and various sizes of open collab.
  - d. Stripes of white around glass is preferred.
  - e. Roof top terrace

- f. Like more modern look. We're going innovated research but the building doesn't look like it. C-RNL lab for example.
- g. Likes the flexible seating and access to power.
- h. The 2 attendees do not like teaching to remote students. They did not think it was necessary for every room to be equipped with
- i. Safety – this is a complaint. Room secure entry access. Stairwells are all open to public.
- j. Will have hard time recruiting PhD with current offices.

2. Space Requirements

- a. Doctoral (361)
  - i. Cubicles are fine but space is run down. 10 spaces ideal.
  - ii. Could use 1 teaming room (4-6) for multi-use. Proctor exams, huddle.
  - iii. Small wet bar/break area – could be shared.

**UNDERGRADUATE STUDENTS** 11:00 – 12:00 am

Thomas Valdescaro, Accounting student

1. Trends
  - a. If studying together usually around 4 - 6 people. Would use monitors on wall. Larger groups tend to study elsewhere.
  - b. Students do start to gather right before class. Touch down before/after class is common. Area to gather would be great.
  - c. More lecture heavy in undergrad. Likes the idea of the EASL but currently doesn't.
  - d. Hybrid would be utilized.
  - e. Zoom isn't going away – because students often commute or work this needs to be continued. Most people aren't listening during synchronous. Preferred asynchronous because could be done on own time. Good way to merge would be to have a in-person class at same time synchronous. Wishful thinking.
2. Vision
  - a. Grab and go area would be great.
  - b. Would like for this to be a modern feel. A place with history but that has moved forward. Feels very “stuck in the past” right now.
  - c. Agrees with CPCD, USO, Graduate being in same area but away from open collab areas.
  - d. Outdoor seating would be nice.
  - e. Commuter students walk from Holiday Inn lot down to portal.
3. Security
  - a. Nervous at night in open areas. Feels like building is fairly secure. Stairs could use visibility.
4. What would make they stay in the building?
  - a. In the FIT building students tend to site at edges. Space in the middle may not get used enough.
  - b. Add art. FedEx plane model.

**FCBE FACILITIES MANAGEMENT / UOM FACILITIES** 1:00 – 2:30 pm

David Jamison, UoM Facilities

Tony Poteet, UoM Facilities

Jamie Barthol, FCBE Facilities

1. Vision
  - a. Think about student collab, faculty collab, and then faculty-student collab. Recognize the need for faculty to have collab space. Just some of these spaces.
  - b. Career Fairs – think about where this would go.
  - c. The group seemed to like the idea still having office separate from classrooms but are open to the idea of more connection to the students
  - d. Management / Accounting: Conference rooms now seem small (need 10 – 12 ppl), reception – admin, separate desk for work study, copy. Would like larger meeting room with coffee, copy.
  - e. Ken would like to see more administrative space in new building.
2. Trends
  - a. Business should look modern.
  - b. Classrooms:
    - i. Flexible classrooms (80 ppl) and computer labs (80 students). Would like to have at least 2 monitors at teaching wall. More screens!
    - ii. Ken preferred the case style class but doesn't like student coming in from front of class.
    - iii. Classroom in the round – could it be 2 case study classrooms? Theater in the round where seating is more flexible.
    - iv. Computer lab – could be mix of lab and active learning?
  - c. Offices: not enough currently – need to about double
  - d. Technology: nothing additional
  - e. Aesthetic: nothing additional

**FOGELMAN CENTER FOR PROFESSIONAL CAREER DEVELOPMENT (CPCD)** 3:00 - 4:00

Marja Martin-Carruth, Director

*Host mock interviews, host events (often uses glass bowl room at FIT about 60 ppl and could be shared), interview spaces.*

1. Space Requirements
  - a. Classroom: 1 training room for 30 - likes EASL. – not shared
  - b. Executive meeting space: like a board room (10-12 ppl) – not shared
  - c. Would like 2 small team rooms for interviews, more pro. (4-6 ppl) – not shared
  - d. 4 offices for staff, enclosed – not shared
  - e. 2 open offices for student workers – not shared
  - f. Very small work room for printing – not shared
  - g. Need small computer space (5 computers) – not shared
  - h. Event space that is shared (at least 60 people). Something like the Broadway event space would be ideal.
2. Adjacencies – near USO office (undergraduate),
3. Wants space to be dynamic and lively. Its so dark right now.

1. \$35M project cost for reno = 32,000 sf
2. Need space formula, need course listing.
3. At this point don't set the size based on utilization right now. Size based on demand and what our feedback has been.
4. STEM – A2H/SmithGroup, is under construction.
5. Tulane business school renovation.
6. Trends
  - a. Like the light flooring and ceiling
  - b. Like the room reservation idea to track usage.
  - c. Black box theater area would need to seat at least 100 for faculty. Would need to be an academic room. Would need to be laid out to produce credit hours.
  - d. WBA – send a request for utilization, office quantities, classroom quantities
  - e. David mentioned thought of having one admin suite and faculty being dispersed on level above.
  - f. Phd would be on 3<sup>rd</sup> floor.
  - g. State will go to 20?? Code soon. This is going through the state now. May need to upgrade seismic.
  - h. Need to set up zoom with engineers.
    - i. Source for cooling for the addition. Chilled water to it.
    - ii. Storm drainage – cannot increase runoff post construction.
    - iii. Access controls, cameras
    - iv. Support space – main frame (IT), closets, custodial, etc.
    - v.

## MEETING MINUTES

**Re:** University of Memphis  
Fogelman College of Business and Economics (FCBE)  
Space Programming for Renovations and Addition

Date & Time: 5/18/2023, 9:00 AM – 11:00 AM  
Location: Zoom

From: Williams Blackstock Architects

Attendees: Dr. Greg Boller, Chair, Assoc. Prof., Dept of Marketing & Supply Chain Mgt  
Dr. Sandi Richardson Associate Dean of Faculty & Administration, (FCBE)  
Tony Poteet Assistant Vice President for Campus Planning and Design  
Joel Blackstock Williams Blackstock Architects (WBA)  
Lauren Gwaltney Williams Blackstock Architects (WBA)  
Taylor Christiansen Williams Blackstock Architects (WBA)  
Eva Knapp Williams Blackstock Architects (WBA)  
Anne Yeilding Williams Blackstock Architects (WBA)

**Purpose:** Programming Mtg #3

**Notes:**

1. Opening discussion
  - a. Projected growth
    - Keeping in mind the 32,000 GSF initially requested based on what the school believed they could fundraise.
      - Looking at estimated expansion of SF during past weeks, University estimates around \$75M project
    - Comparison of initial metrics to that of predicted growth (create chart, compare to UKY classroom comparison chart vs. UKY classroom count)
      - Prediction 1: 20% over 5 years + another 20% over the following 5
      - 2: Over 5,000 students, 31% growth over the next 5 years expected.
    - Run the numbers on THEC to see a base number, then gather reasons to justify going above or below that.
2. Scheme A Discussion
  - a. A1
    - Block out space for stacked mechanical rooms to all floors, roughly one to each quadrant (Tony)
    - Distribute smaller air handlers throughout the floors instead of its layout as 2 large-scale units.
    - *Card Reader Access:* University is striving for a campus-wide system of wireless locks and card reader access connected to a central network (like Auburn). Currently, doors to academic buildings remain unlocked and open during class hours. The eventual

FCBE – Stakeholder Interviews  
03/4/2023, Page 2 of 3

goal is for students to use their phone/fob for access to the buildings: *True All-Day Access Control.*

- They hope to remove the “T” windows of the existing building.
- Add ribbon windows to 3D massing studies (noted Patterson-side classrooms)
- Atrium and skylights + building as single unit: how will smoke evac systems impact cost? How could this be resolved?
  - Creating 2 atriums comes with code implications for smoke/fire.
  - Existing now is a 2-story opening so smoke evac does not apply.
  - Great preference for “one building idea,” but justification is needed due to code complications (ex. promotion of community + access)

b. A2

- Placing mechanical rooms and video recording rooms will pose noise issues.
- Despite liking the large balcony/rooftop terrace idea seen at Clemson, general preference for the costs to be directed to smoke evacuation systems to deal with atrium/skylight first.
- Preference for the PhDs to be organized in one general space and not in proximity to faculty. Placement in middle with engagement to commons is good.
- Multi-Purpose room - ->>> **Event/Training Theatre**
  - Rough SF and seating capacity (~250) drawn from Horton Hardgrave
  - Problem with Kentucky’s MPR: no easy street access for catering. Place this theatre on Patterson for easy access by food delivery services.
- Location of Dean’s Suite and Faculty spaces
  - Based on visits to Clemson, faculty often prefer to be out of the way of student foot traffic + noise (faculty offices behind locked door).
  - Dean’s suite can likely be placed further away from classroom/noisier spaces since most people visiting will be outside visitors.
  - Consider schemes where faculty and dean space have a degree of separation (placed on 4<sup>th</sup> floor?)
  - Small terrace at corner of Dean’s Suite

3. Scheme B2 Discussion

- *Innovation Lab/Entrepreneur* space is desired. Like those of Auburn and Clemson, this lab should/could be publicly viewable.
- **Preference for B-scheme courtyard + the 4-floor layout** (Greg)
- Consensus that the distance between toilets and many classrooms is too significant – more should be added in the new building.
  - Dean’s Suite will have a bathroom, current bubble diagrams do not display the space in many rooms that already have room for toilets accounted for
- Café:
  - In order to take advantage of considerable student foot traffic + account for unloading/trash/etc., café should be situated near entrance/have access to road.
  - Attempts to coordinate food/beverage services for students with the Law School did not pan out in the past – Logistics of loading dock/what type of restaurant/café discussed (Tony).
  - For a modern academic building/business school, it is no longer an option to not provide a café service (Greg).

FCBE – Stakeholder Interviews  
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- Potential for café to be shared with/utilized by the Training Theatre when events are catered.

4. Action Items/General notes

- Next 2-3 weeks:
  - Meet with University of Memphis President to show schemes + slideshow.
  - Update bubble / adjacency diagram slides
  - Reduce to 2 scheme alternatives.
  - Factor in the soft costs of the project
  - Add more visioning + benchmark examples to slideshow (business school at beginning of ppt was discussed)
  - On massing studies, add shading + notes.
- Update 3D models with existing façade updates
- Make accommodations for innovation lab rooms.
- Consider access to bathrooms/adding more.
- Studies or schemes for potential central/monumental/sculptural staircase.
  - Compare: UKY
  - Use to figure out where/if stepped seating could be placed.
- Floor alignment study
  - Remember preference for the “single building” feeling.
  - Schemes should account for incorporation of the new to the existing.
  - Duct work, ceiling heights, potential for single slabs of concrete, stairs, ramps
- Balance informal/formal team spaces in schemes. Avoid letting the desire for the closed team rooms completely outweigh the need for informal seating in making the building a place where students feel they can occupy.
  - Balance between types at Auburn was well-liked and greatly preferred to that of UAB (much more closed team space at expense of informal) (Sandi)
- Get clear picture of examples of classroom/space utilization (UK) and current UM utilization.
  - Full/current utilization is at 67% (30 class hours/week).
  - Due to low utilization, losing some classroom space in current schemes would be OK.

This concludes the substance of the meeting. If anyone notices any clarifications or additions to the meeting notes, please advise all present by email.

## MEETING MINUTES

**Re: University of Memphis  
Fogelman College of Business and Economics (FCBE)  
Space Programming for Renovations and Addition**

Date & Time: 6/1/2023, 2:30 PM – 4:30 PM  
Location: Zoom

From: Williams Blackstock Architects  
Attendees: Dr. Greg Boller, Chair, Assoc. Prof., Dept of Marketing & Supply Chain Mgt  
Dr. Sandi Richardson Associate Dean of Faculty & Administration, (FCBE)  
Tony Poteet Assistant Vice President for Campus Planning and Design  
Joel Blackstock Williams Blackstock Architects (WBA)  
Lauren Gwaltney Williams Blackstock Architects (WBA)  
Taylor Christiansen Williams Blackstock Architects (WBA)  
Eva Knapp Williams Blackstock Architects (WBA)  
Anne Yeilding Williams Blackstock Architects (WBA)

**Purpose: Programming Mtg #4**  
– Design update  
– Pre-meeting for 06/12 mtg with President (Dr. Bill Hardgrave) and CFO (Raaj Kurapati)

**Notes:**

- General Book-keeping/Admin:
  - Greg has a meeting with the Advancement Group tomorrow (Fri, 6/3) and would like to show this presentation to that group to stoke excitement for the project
    - WBA to send a PDF (minus the protruding stair render) to Greg today after mtg.
  - Sandy spoke with the Board of Trustees, who have concerns with Earthquake requirements.
    - WBA will work with all applicable codes for renovation and new construction for seismic.
  - Meeting on Mon, 6/12 with President and CFO – will be in-person, in same conference room as last mtg.
    - WBA to send a PDF of the presentation to the President beforehand.
  -
- Benchmarking:
  - Simplify “Like/Dislike” lists into one or two word qualities

This concludes the substance of the meeting. If anyone notices any clarifications or additions to the meeting notes, please advise all present by email.

## MEETING MINUTES

**Re: University of Memphis  
Fogelman College of Business and Economics (FCBE)  
Engineering On-Boarding for Renovations and Addition**

Date & Time: 6/27/2023, 3:00 PM – 5:00 PM  
Location: Zoom  
From: Williams Blackstock Architects

Attendees: Tony Poteet Assistant Vice President for Campus Planning and Design  
Sean Whitt Canup Engineering, Inc., Electrical  
Joel Johnson Burr & Cole Consulting Engineers, Civil/Structural  
Steve Stephens Haltom Engineers, MEP/FP  
Rodney Lum Haltom Engineers, MEP/FP  
Joel Blackstock Williams Blackstock Architects (WBA)  
Lauren Gwaltney Williams Blackstock Architects (WBA)  
Taylor Christiansen Williams Blackstock Architects (WBA)  
Eva Knapp Williams Blackstock Architects (WBA)  
Anne Yeilding Williams Blackstock Architects (WBA)

**Purpose: Engineer On-Boarding**  
– Summarize program and vision for engineers  
– Get preliminary thoughts/questions on proposal  
– Review schedule for narratives and date for on-site meeting


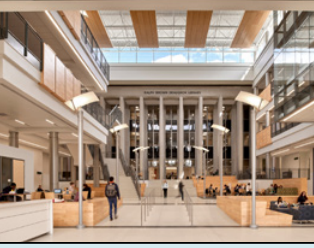

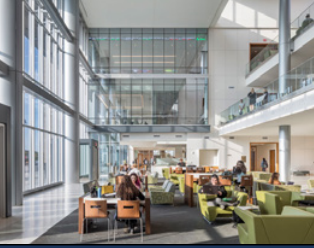
**Notes:**



- Project Introduction:
  - The end goal of these meetings is to provide an engineering narrative for the programming booklet that encompasses the vision for the building system and adherence to campus standards
  - Tony – reason for the addition is to create a space for potentially double the current amount of students (3800 currently); and renovate current outdated building systems.
  - Will want to also update bldg. security systems, elevator systems, and integrate tech. into classrooms
  - Rough time frame of engineering narratives:
    - **Onboarding/Kick-off: Tuesday, 6-27-23**
      - 1-2 weeks to digest onboarding, review existing and proposed plan documents
    - **On-site meeting: proposed Friday, 7-14-23**
      - Review room data sheets, answer any final questions, and leave with a solid idea of what narratives will contain
    - **Final Narrative Due: 8-1-23**




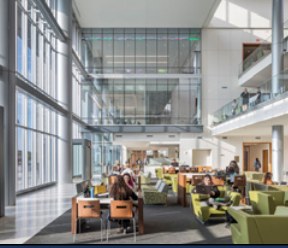
- Fire Protection/Plumbing:
  - Smoke Evac will be necessary with large atrium; Pressurization fans serving lower areas.
  - Will need a new fire pump, space on level 1.
    - Tony – Just start over with fire protection system.
    - Site fire hydrants
    - Fully sprinklered bldg
  - Utility entries at existing basement (in a pit) so that pipes can come through wall rather than floor. Seismic constraint.
  - Domestic water to come in at one location. Booster pump may be needed
  - Fire pump has door directly to outside; keep close to main electrical transformer
  - Café: 3 compartment sink and grease trap; not currently sure of extent of kitchen; no dumpster needed
- Mech:
  - Tony- HVAC Coming from central plant (remote chiller room connected to garage, add chiller to support this building broadly) – To support new FCBE and Fedex Building, Orville Education Center
    - Enlarge lines coming across the street
  - Steam plant (heating), trying to get away from it – New condensing boilers for whole building (Best suited on top floor of new building)
    - Not enough room in the garage for boilers, etc.
    - Trying to stay away from steam on campus; going towards a hot water, de-centralized model
  - Distributed systems for VAV’s – move away from large centralized space in building
    - WBA will need to add a couple more rooms to the plan – one in east faculty building and one in west classroom wing.
  - Baseboard/perimeter heating
  - All new control system
- Electrical:
  - High voltage electrical – will need new transformer, coming into SE corner of bldg. (Fogelman Drive side)
    - New pad mount transformer outside (not in building)
  - Fire pump feed direct from transformer (if it goes through building, needs to be fully encased in concrete)
  - Existing – One building is 280, other is 480? New service will be 480V.
  - Need more electrical and data closets
    - 150’ run electrical, 300’ for AV/IT runs (up/down)
    - Main room 8x10? Maybe smaller rooms at branches.
  - Switchgear room size?
  - Potentially new smoke detection system in atrium – VESDA (very early smoke detection apparatus) – similar to system used in new Performing Arts building
  - Avigilon camera system throughout building
  - Standard door locking / access controls (all exterior doors) Remote lockdown on all classrooms with two or more exits




- Structural:
  - Existing flat plate construction will be difficult to cut for both plumbing/mech shafts and removing triangle classrooms
  - Better to cut between columns (more than 8sf around column) in “middle strip”
  - Seismic codes would require 6” joint at perimeter between new and existing building floors.
    - First time retro-fitting a building like this in Memphis, so will need to study for more accurate evaluation
    - Building structures would need to be completely structurally separate with isolation/seismic joints between – size of joints dependent on height of buildings
  - Alternative cost saving measures: WBA to study potentially using 12’ floor to floor with flat plate in new addition to avoid stepping; incorporating the triangle rooms into the atrium and finding a new use for them that fits the size better
- Tasks:
  - **WBA** to distribute existing drawings and new plans, site plans to all. Note where existing shafts are located. Share room data sheet example with group.
  - **WBA:** add electrical and mech. rooms to plans based on feedback
  - **FCBE:** Ask Sandra to populate classroom schedule (typical weekly calendar for future)
    - **WBA** to send a list of classroom spaces and sizes/seat counts
  - **FCBE:** to contact Food Services on campus about extent of potential café area, what type of service might be provided in this space
  - **Canup Eng.:** look into remote lockdown on classrooms with two or more exits; VESDA smoke detection system
  - **Burr & Cole Eng.:** review flat plate existing drawings and consider possible cuts for removing “triangle” rooms

**This concludes the substance of the meeting. If anyone notices any clarifications or additions to the meeting notes, please advise all present by email. Thanks!**

Stakeholder Name: University of Memphis - College of Business Programming Gregory W Boller <h2 style="text-align: center;">Peer Visits Debrief #1</h2>	
<b>01 Tour Takeaways</b>	
Briefly describe your tour observations. What did you like and dislike? What wouldn't you replicate?	
<b>Day 1: Clemson, SC → Auburn, AL</b>	
[A] Wilbur O. Ann Powers College of Business, Clemson University LOVE the natural light and openness of their building(s)! Love that faculty and center offices overlooked their "living room." Really, really loved the design of the student team rooms. Like that their large lecture space was flat – like attending a conference so that it could be broken down and repurposed for an event space. A bit too much orange throughout – don't think we need that much color branding in our space. Hated that they kept students locked out of the faculty area. Loved the "kitchen" (café) so close to the "living room."	
[B] Mell Classroom Building, Auburn University LOVE all the light and openness! Study spaces and comfortable seating throughout were awesome! That staircase was epic! Large lecture room was spacious with lots of visibility – that's a professional looking lecture space. Very impressed with the flat-flex classrooms and the retractable bi-fold to double the room size.	
<b>Day 2: Auburn, AL → Birmingham, AL</b>	
[A] Horton-Hardgrave Hall, Auburn University LOVE, LOVE, LOVE the 120 seat theatre with retractable seating on the floor and balcony seating 3/4 around!! That is a MUST HAVE for us!! Really nice that they have a catering prep kitchen and ample storage space attached. Gorgeous main "living room!" Love all the comfortable study/meeting spaces for students. Really nice study spaces tucked into almost every available corner. MUST HAVE several EASL rooms!! LOVE the rooftop terrace! Flat flex and case classrooms are excellent. Wasn't a fan of their tiny "food cafe" – far away from the rest of the living room. Innovation lab was cool!	
[B] Collat School of Business, UAB Loved their living room – bright, spacious and comfortable seating next to their café! Gorgeous staircase! Terrific views overlooking the living rooms from other offices and floors. Nice conference spaces. Thought the faculty offices seemed rather secluded from the action/activity in the building – much prefer keeping people closer together.	
<b>02 Please list "must-have" items for the College of Business at UM:</b>	
What were your key takeaways to implement at UM? i.e. cafe, collaboration areas, large corridors, classroom sizes	
Spacious, comfortable and lit with natural lighting "living room" with international-themed café immediately adjacent. Event space/theatre similar to Auburn's. Innovative classrooms (EASL, flat-flex, tiered case rooms). Lots of study spaces for students. Everything card-access for security. Online reservation system for study spaces.	
<b>03 Other Comments or Feedback:</b>	

Stakeholder Name: University of Memphis - College of Business Programming Gregory W Boller <h2 style="text-align: center;">Peer Visits Debrief #2</h2>	
<b>01 Tour Takeaways</b>	
Briefly describe your tour observations. What did you like and dislike? What wouldn't you replicate?	
<b>Day 1: Lexington, KY</b>	
[A] Gatton College of Business, University of Kentucky LOVED their "living room!!" My favorite one yet. Wasn't all glass but still had lots of natural light. Such a comfortable study/gather/work area. LOVED the large art installation hanging from the ceiling! LOVED the large wooden steps! LOVED all the artwork throughout the building! The number of study rooms (42) was amazing! Loved the spacious hallways and extra gathering areas for meetings and studying. Loved how integrated the three buildings (two old and one new) were – couldn't tell that they were separate. Not a big fan of their event space – too small for our needs.	
	
<b>02 Please list "must-have" items for the College of Business at UK:</b>	
What were your key takeaways to implement at UK? i.e. cafe, collaboration areas, large corridors, classroom sizes	
Art throughout the building (I will communicate this to our Advancement team that we will need an endowment for this). Spacious hallways. Significantly more restrooms. An Innovation Space.	
<b>03 Other Comments or Feedback:</b>	

Stakeholder Name: University of Memphis - College of Business Programming Sandra Richardson <h2 style="text-align: center;">Peer Visits Debrief #1</h2>	
<b>01 Tour Takeaways</b>	
Briefly describe your tour observations. What did you like and dislike? What wouldn't you replicate?	
<b>Day 1: Clemson, SC → Auburn, AL</b>	
[A] Wilbur O. Ann Powers College of Business, Clemson University Liked: <ul style="list-style-type: none"> <li>• Light, there was light everywhere! (offices, meeting areas, classrooms, etc)</li> <li>• Glass office walls (again, light, light, light)</li> <li>• "Food court" and "living room" combined</li> <li>• Tech everywhere (ability to control building entry, class/office/meeting space entry, digital scheduling on doors)</li> <li>• Welcoming, comfortable, student spaces (quiet study area, general student areas, team meeting)</li> </ul>	
[B] Mell Classroom Building, Auburn University Liked: <ul style="list-style-type: none"> <li>• Atrium was bright and open, loved the staircase and "balcony" area combination</li> <li>• Loved the wood accent in the atrium, the décor in the atrium and seating areas was really nice</li> <li>• Wood stair seating</li> <li>• Outlets and charging stations (I liked the charging "Martians")</li> <li>• Outdoor lights in the atrium area, kind of a hint to the old open area where there is a new building now (incorporating building "history")</li> </ul>	
<b>Day 2: Auburn, AL → Birmingham, AL</b>	
[A] Horton-Hardgrave Hall, Auburn University Liked: <ul style="list-style-type: none"> <li>• The philosophy that the building "belongs to the students" was very apparent in the building itself. I LOVED the idea of integrating so many student spaces around the building. Bringing students to the faculty and providing seating for them in every available space in the building</li> <li>• The rooftop terrace was my favorite thing that we saw in any building</li> <li>• Boardroom off the rooftop terrace, meeting room in front of board room, and the attached catering kitchen (this was a really nice arrangement)</li> </ul>	
[B] Collat School of Business, UAB Liked: <ul style="list-style-type: none"> <li>• The staircase!</li> <li>• Bright, open, comfortable atrium</li> <li>• Café near the main seating area in the atrium (food where the students are)</li> <li>• Tech transfer spaces, the layout was great</li> <li>• Offices overlook atrium area</li> <li>• Conference, meeting rooms</li> </ul>	
<b>02 Please list "must-have" items for the College of Business at UM:</b>	
What were your key takeaways to implement at UM? i.e. cafe, collaboration areas, large corridors, classroom sizes	
<b>03 Other Comments or Feedback:</b>	

Stakeholder Name: University of Memphis - College of Business Programming Sandra Richardson <h2 style="text-align: center;">Peer Visits Debrief #2</h2>	
<b>01 Tour Takeaways</b>	
Briefly describe your tour observations. What did you like and dislike? What wouldn't you replicate?	
<b>Day 1: Lexington, KY</b>	
[A] Gatton College of Business, University of Kentucky Liked: <ul style="list-style-type: none"> <li>• Loved the integration of the old buildings with the new. The result was one seamless building.</li> <li>• The open living room was open, airy, and had terrific seating options</li> <li>• I liked the wooden sitting stairs</li> <li>• I like the integration of wood accents in the living room. It was warm while still being bright and welcoming. With that said, it was a little dark, a little too much wood on the walls. Also liked that the existing brick from the old buildings was painted white</li> <li>• I loved that they had 48 student breakout rooms. I especially liked that a handful of the student breakout rooms were associated with classrooms and facilitated class breakouts and communication with professor</li> <li>• Loads of student sitting areas with comfortable furniture</li> <li>• Large auditorium classroom curtains in front of the projector screens/whiteboards (for multiuse), and I LOVED the projector/tech room</li> <li>• No carpet in high traffic areas</li> <li>• Technology everywhere (building &amp; room access, scheduling, classrooms, etc)</li> <li>• Door lock configuration (two swipe combined with keys)</li> <li>• Kitchen off of the main meeting/entertainment area</li> <li>• Permanent projector screens &amp; multiple layers of whiteboards</li> <li>• Café off of the living room</li> <li>• Staircase corner windows</li> <li>• They used some of the wood from trees to create a conference table (integrating some building "history")</li> <li>• Loved the art</li> </ul> Disliked:	  
<b>02 Please list "must-have" items for the College of Business at UK:</b>	
What were your key takeaways to implement at UK? i.e. cafe, collaboration areas, large corridors, classroom sizes	
<b>03 Other Comments or Feedback:</b>	

**Sandi's Campus Benchmarking Tour Feedback**

5-5-2023

**Clemson**

Liked	Disliked
<ul style="list-style-type: none"> <li>Light, there was light everywhere! (offices, meeting areas, classrooms, etc)</li> <li>Glass office walls (again, light, light, light)</li> <li>"Food court" and "living room" combined</li> <li>Tech everywhere (ability to control building entry, class/office/meeting space entry, digital scheduling on doors)</li> <li>Welcoming, comfortable, student spaces (quiet study area, general student areas, team meeting rooms)</li> <li>Tasteful signage (no contrasting colors, donor wall outside)</li> <li>Wood trim from trees (including something old in the new building – incorporating some building "history")</li> <li>Inner offices looked onto atrium</li> <li>Smaller but more efficient offices</li> <li>Large meeting space with welcome (including desk) in front</li> <li>Large board room and catering room combination</li> <li>Faculty lounge with frig, microwave, ice maker, seating, etc.</li> <li>Reconfigurable large flat meeting space</li> <li>Separate lounge rooms for undergraduate, graduate, and faculty</li> <li>Lots of monitors in classrooms</li> <li>No carpet in high traffic areas</li> <li>Vendor agreement to keep furniture looking clean and new</li> </ul>	<ul style="list-style-type: none"> <li>Separating the students from faculty and not including accommodations to make the food area a place that they can hang out.</li> <li>Projector screen and whiteboard configuration</li> <li>Lack of storage</li> <li>Restricted electrical outlets in open sitting areas (intentional use restriction)</li> <li>The entire building was blindingly white/bright, seemed a bit sterile</li> <li>The couldn't get to some areas of the building to clean them (construction dust will remain in some places forever)</li> </ul>

**Mell Classroom Building, Auburn University**

<ul style="list-style-type: none"> <li>Atrium was bright and open, loved the staircase and "balcony" area combination</li> <li>Loved the wood accent in the atrium, the décor in the atrium and seating areas was really nice</li> <li>Wood stair seating</li> <li>Outlets and charging stations (I liked the charging "Martians")</li> <li>Outdoor lights in the atrium area, kind of a hint to the old open area where there is a new building now (incorporating building "history")</li> <li>Seating in the "balconies" overlooking the atrium at every level</li> </ul>	<ul style="list-style-type: none"> <li>Color scheme in classrooms, not crazy about the pastel glass writing boards and monitor "frames"</li> <li>I really liked this building; I have nothing unflattering to say about any of it</li> </ul>
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**Sandi's Campus Benchmarking Tour Feedback**

5-5-2023

<ul style="list-style-type: none"> <li>Comfortable furniture in student study/sitting areas</li> <li>Booth seating on 2<sup>nd</sup> or 3<sup>rd</sup> floor study areas</li> <li>Integrating student sitting areas and classroom areas (student seating right outside of classrooms)</li> <li>Flat large classrooms</li> <li>Whiteboard use design</li> <li>Windows in classrooms</li> <li>Scheduling modules/access technology outside of student meeting rooms</li> <li>Flexible classrooms (furniture and wall that goes up/down)</li> <li>Food court design</li> </ul>	
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**Horton-Hardgrave Hall, Auburn University**

<ul style="list-style-type: none"> <li>The philosophy that the building "belongs to the students" was very apparent in the building itself. I LOVED the idea of integrating so many student spaces around the building. Bringing students to the faculty and providing seating for them in every available space in the building</li> <li>The rooftop terrace was my favorite thing that we saw in any building 😊</li> <li>Boardroom off the rooftop terrace, meeting room in front of board room, and the attached catering kitchen (this was a really nice arrangement)</li> <li>Theater space, with balconies, and retractable seating (I would like to have more open space up front for more flexibility with larger events). Also, all the storage.</li> <li>Flat flex case classrooms with flexible seating and EASL rooms.</li> <li>Great placement of technology in classes and meeting rooms</li> <li>Windows at the end of every hall (opens up the entire building)</li> <li>Open, bright, living room/atrium</li> <li>Wood accents, bright but warm at the same time, great balance</li> <li>Comfortable seating in student areas</li> <li>I really liked the main student seating area in the living room, and the additional sitting areas on every floor overlooking the living room.</li> <li>IT staff space configuration, with "customer counter"</li> </ul>	<ul style="list-style-type: none"> <li>Carpet in some high traffic areas</li> <li>Again, I really liked this building, I have nothing unflattering to say about any of it</li> <li>No computer lab</li> <li>Café located away from the main living room</li> </ul>
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**Sandi's Campus Benchmarking Tour Feedback**

5-5-2023

<ul style="list-style-type: none"> <li>Separate lounge rooms, with kitchenette, for undergrad, grad, and faculty.</li> <li>Departmental faculty lounge with seating, frig, microwave, and ice (who knew that the ice machine was so important?!?!?)</li> <li>Lighting in "living room"</li> <li>Inviting Innovation Room</li> <li>Touchscreen signage, tasteful signage everywhere else.</li> <li>Pictures on the wall, everywhere</li> </ul>	
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**Collat School of Business**

<ul style="list-style-type: none"> <li>The staircase!</li> <li>Bright, open, comfortable atrium</li> <li>Café near the main seating area in the atrium (food where the students are)</li> <li>Tech transfer spaces, the layout was great</li> <li>Offices overlook atrium area</li> <li>Conference, meeting rooms</li> <li>Computer labs</li> <li>Student services on the first floor near main student seating area</li> </ul>	<ul style="list-style-type: none"> <li>Student spaces not integrated with faculty spaces</li> <li>Freestanding signs everywhere, people have to walk around them</li> <li>Faculty space felt a bit removed from other spaces, felt like faculty were removed from the life of the building</li> <li>Small café, felt like an afterthought</li> </ul>
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**Gatton College of Business, University of Kentucky**

<ul style="list-style-type: none"> <li>Loved the integration of the old buildings with the new. The result was one seamless building.</li> <li>The open living room was open, airy, and had terrific seating options</li> <li>I liked the wooden sitting stairs</li> <li>I like the integration of wood accents in the living room. It was warm while still being bright and welcoming. With that said, it was a little dark, a little too much wood on the walls. Also liked that the existing brick from the old buildings was painted white</li> <li>I loved that they had 48 student breakout rooms. I especially liked that a handful of the student breakout rooms were associated with classrooms and facilitated class breakouts and communication with professor</li> <li>Loads of student sitting areas with comfortable furniture</li> <li>Large auditorium classroom curtains in front of the projector screens/whiteboards (for multiuse), and I</li> </ul>	<ul style="list-style-type: none"> <li>Small event space</li> <li>Too much wood, building was a little dark.</li> <li>No computer labs</li> <li>Did not like the fact that they built actual cabinets for the computers and other technology. We don't want IT to have to bring a drill and deconstruct a cabinet to work on a computer.</li> </ul>
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**Sandi's Campus Benchmarking Tour Feedback**

5-5-2023

<ul style="list-style-type: none"> <li>No carpet in high traffic areas</li> <li>Technology everywhere (building &amp; room access, scheduling, classrooms, etc)</li> <li>Door lock configuration (two swipe combined with keys)</li> <li>Kitchen off of the main meeting/entertainment area</li> <li>Permanent projector screens &amp; multiple layers of whiteboards</li> <li>Café off of the living room</li> <li>Staircase corner windows</li> <li>They used some of the wood from trees to create a conference table (integrating some building "history")</li> <li>Loved the art</li> </ul>	
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# Space Programming Questionnaire

University of Memphis

Fogelman College of Business

March 10, 2023

The purpose of this questionnaire is to solicit input from stakeholders regarding the exciting new addition and renovation of the University of Memphis, Fogelman College of Business and Economics. The College is embarking on the renovation of the existing facility and the design of a new building addition. The first step is to develop a space program document which will summarize a vision for the project and all the spaces required in the building.

Unit heads are encouraged, with faculty and staff in each, to help respond to the questionnaire. Once the questionnaires are returned, the architects will meet with you to review the information and discuss the programmatic requirements in more detail. Thank you for your assistance in gathering important information and feedback to inform the design and programming process.

**Please allow at least 30 minutes to take this survey and return the questionnaire no later than March 30th.**

\* Required

\_\_\_\_\_

**1**  
**Name: \***

\_\_\_\_\_

**2**  
**Unit: \***

- Dean's Office
- UoM Facilities / FCBE Facilities Management
- Department of Economics
- Department of Finance, Insurance and Real Estate
- Department of Business Information & Technology
- Department of Marketing & Supply Chain Management
- Department of Management
- Crews School of Accountancy
- Fogelman Center for Professional Career Development
- Crews Center for Entrepreneurship
- Center for Workplace Diversity & Inclusion
- Methodist LeBonheur Center for Healthcare Economics
- Forthcoming Center for Arts Integration in Business Performance
- Forthcoming Supply Chain Management Center for Excellence
- Undergraduate Student Services
- Graduate Programs Office
- Doctoral Students
- Undergraduate Students

**3**  
**Position / Title: \***

\_\_\_\_\_

**4**  
**Email: \***

\_\_\_\_\_

**5**  
**Phone:**

\_\_\_\_\_

\_\_\_\_\_

**6**  
What messages should a future Fogelman College of Business and Economics (FCBE) building convey to students and faculty, as well as to the community?

\_\_\_\_\_

**7**  
What are the most important features and spaces the future FCBE building should have in general?

\_\_\_\_\_

**8**  
What features does a new building need to enhance and/or transform the educational experience compared to the current spaces in the building or on campus?

\_\_\_\_\_

**9**  
What vision and goals do you see for the FCBE in the next 5 – 15 years and how do you see this project positioning the College to achieve that vision?

\_\_\_\_\_

\_\_\_\_\_

**10**  
The project will include a new addition and extensive renovation of the existing buildings. What improvements to the existing buildings would you like to see?

\_\_\_\_\_

**11**  
What works well about the existing buildings that you would like to see retained?  
This can include classrooms, offices, common areas, or any aspect of the existing building.

\_\_\_\_\_

**12**  
What doesn't work well about the existing buildings that you would like to see improved?  
This can include classrooms, offices, common areas, or any aspect of the existing building.

\_\_\_\_\_

**13**  
What successes or improvements are needed relative to the exterior image, appearance, and entrance experience of the existing building?

\_\_\_\_\_

**14**  
What success or improvements are needed relative to the interiors of the existing buildings?

\_\_\_\_\_

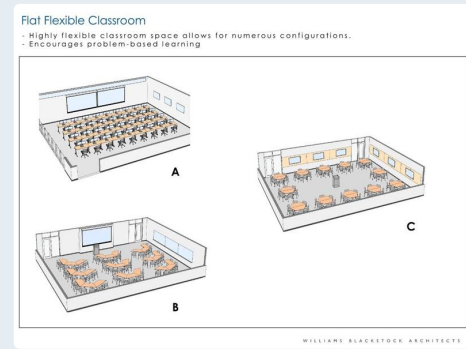
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What type of classroom instructional space is needed for your current teaching methods as well as for changing/unknown future pedagogies?  
Reference the attached classroom types exhibit for visual descriptions of each space type.

	Not Required Space	Would Like to Have Space	Required Space
Flat Flexible Classroom Space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hybrid Classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Case Study Classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classroom in the Round	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Lab	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Lab / Active Learning Classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexible Multi-Floor Classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lecture Hall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

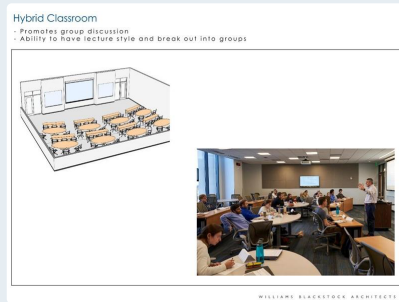
16

How many **flat flexible classrooms** are required?  
What size classrooms are needed? (Number of seats)



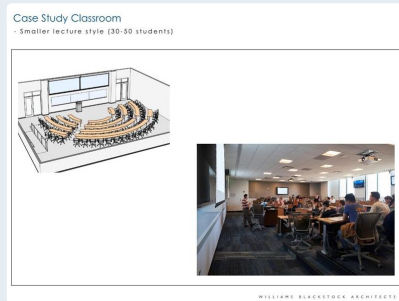

17

How many **hybrid classrooms** are required?  
What size classrooms are needed? (Number of seats)



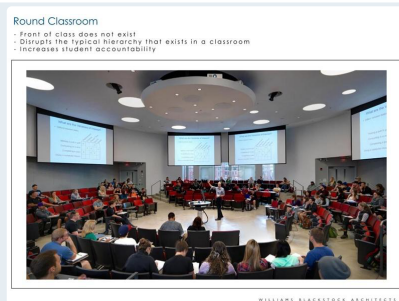

18

How many **case study classrooms** are required?  
What size classrooms are needed? (Number of seats)



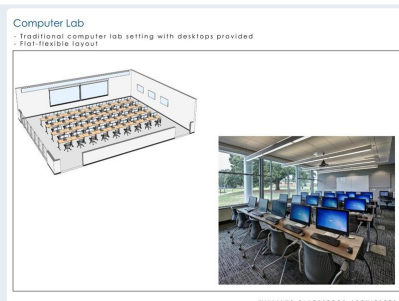

19

How many **classrooms in the round** are required?  
What size classrooms are needed? (Number of seats)



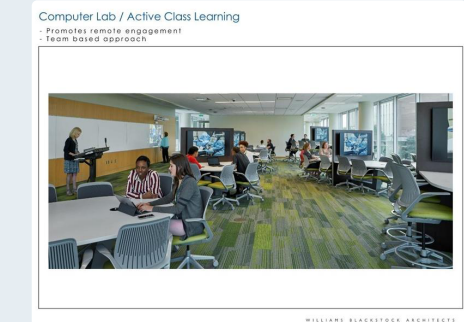

20

How many **computer labs** are required?  
What size classrooms are needed? (Number of seats)



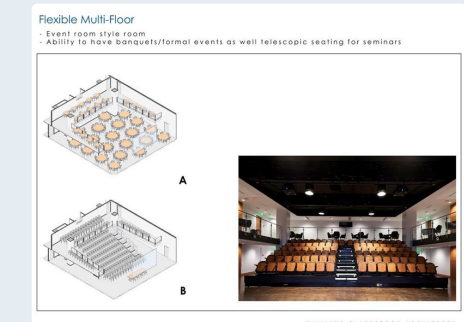

21

How many **computer lab / active learning classrooms** are required?  
What size classrooms are needed? (Number of seats)



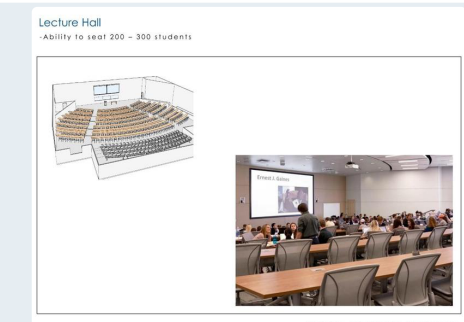

22

How many **flexible multi-floor classrooms** are required?  
What size classrooms are needed? (Number of seats)




23

How many **lecture halls** are required?  
What size classrooms are needed? (Number of seats)




24

What level of flexibility is desired in classrooms for team projects and interactions?

25

If possible, what would you change/improve in the classrooms you currently teach in?  
Examples – AV, flexible seating/tables, movable furniture, tiered vs. flat, finishes, lighting/windows, etc.?)

26

How many **faculty offices or staff offices** do you need for your unit?

27

From the above number, how many **enclosed offices** (walled) are needed?

28

From the above number, how many **open offices** (furniture, cubicle type office space) are needed?

29

What **conference or collaboration space** is needed for your unit?  
This includes conference rooms, huddle space, team rooms, etc. Please designate if this space can be shared between the entire building / multiple units or is to be solely used for a particular unit.

30

List all other **ancillary support spaces** your unit needs.  
(Storage, equipment, print / copy facilities, etc.)

31

What **shared common area spaces** do you need / prefer in the building?

Rank in order of preference.  
If other common areas are desired, please respond to the next question.









32

Other Common Area Spaces:  
Additionally, how many of these spaces are needed?

33

How many **open collaboration spaces** are needed?

34

How many **enclosed collaboration spaces** are needed?

35

How many **shared conference rooms** are needed?  
Please specify if a certain seat count is desired for these spaces.

36

How many **study areas** are needed?

37

How many **team rooms** are needed?  
These spaces are typically sized to accommodate 4-6 students. Please specify if an alternative group size should be accommodated.

38

How many / what type of **food venues** are needed?

39

What teaming areas and collaborative tools do you need for students to meet for projects and interactions outside of the classroom?  
Spaces could include informal huddle space, dedicated team rooms (specify size), or open space to interact and problem solve outside of the classroom. Collaborative tools could include markerboards, AV solutions, etc.

40

What units / centers / groups would you like to be adjacent to that would provide a better collaborative learning environment and educational synergies?  
For example, the relationships between classrooms, faculty offices, unit offices, lobbies, collaborative / teaming space, and commons areas, or other unit areas.

41

What adjacencies would you like to see between faculty offices and classroom / instructional spaces?

42

What improvements to circulation inside the building would be helpful?

43

Describe specialized equipment you need in your unit.  
This may include specialized IT, electrical or mechanical, security or utility requirements.

44

Describe your current use of classroom AV technologies and what additional technologies you will need in the new building.  
Options could be laptop presentation projection, web conferencing, video conferencing, lecture capture, and test monitoring or other.

45

How would you like to see the **interior of the building** transformed from an aesthetic or artistic standpoint? Do you have specific ideas for improving the sensory experience of being in the building?

46

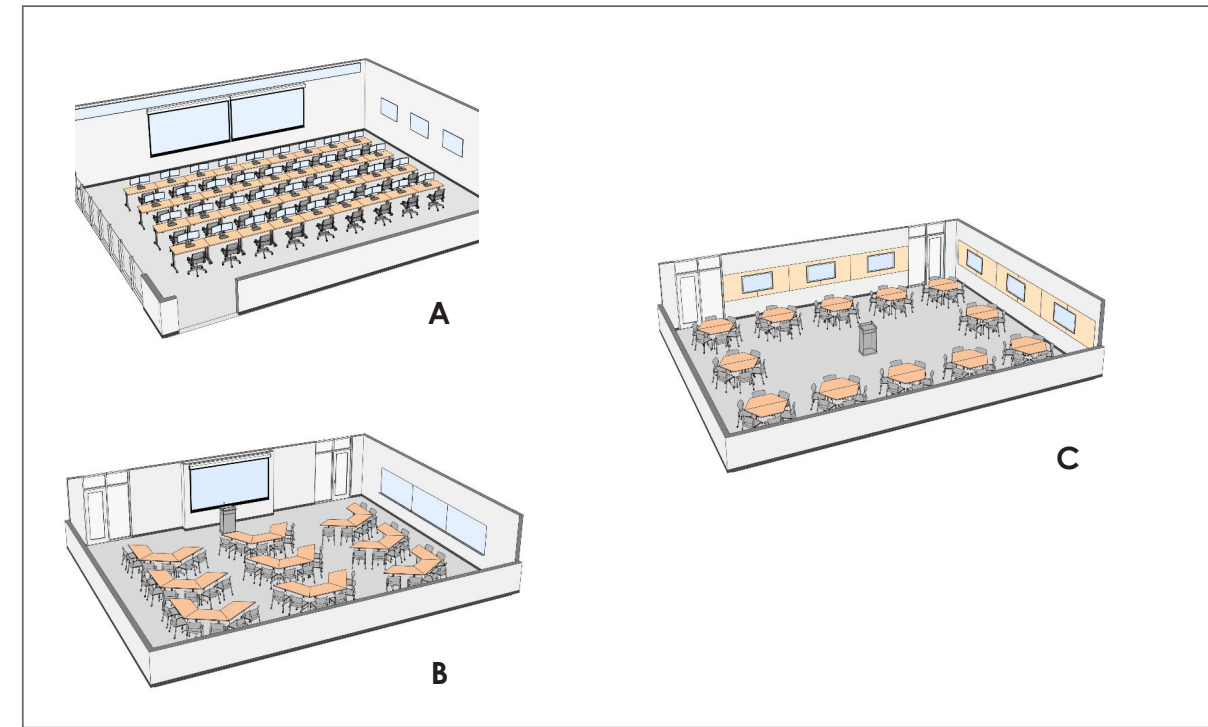
How would you like to see the **exterior of the building** transformed from an aesthetic or artistic standpoint? How should the exterior appearance integrate with campus and community context?

47

Please note any open-ended thoughts or commentary you might have about the new addition and renovations to the Fogelman College of Business and Economics.

Flat Flexible Classroom

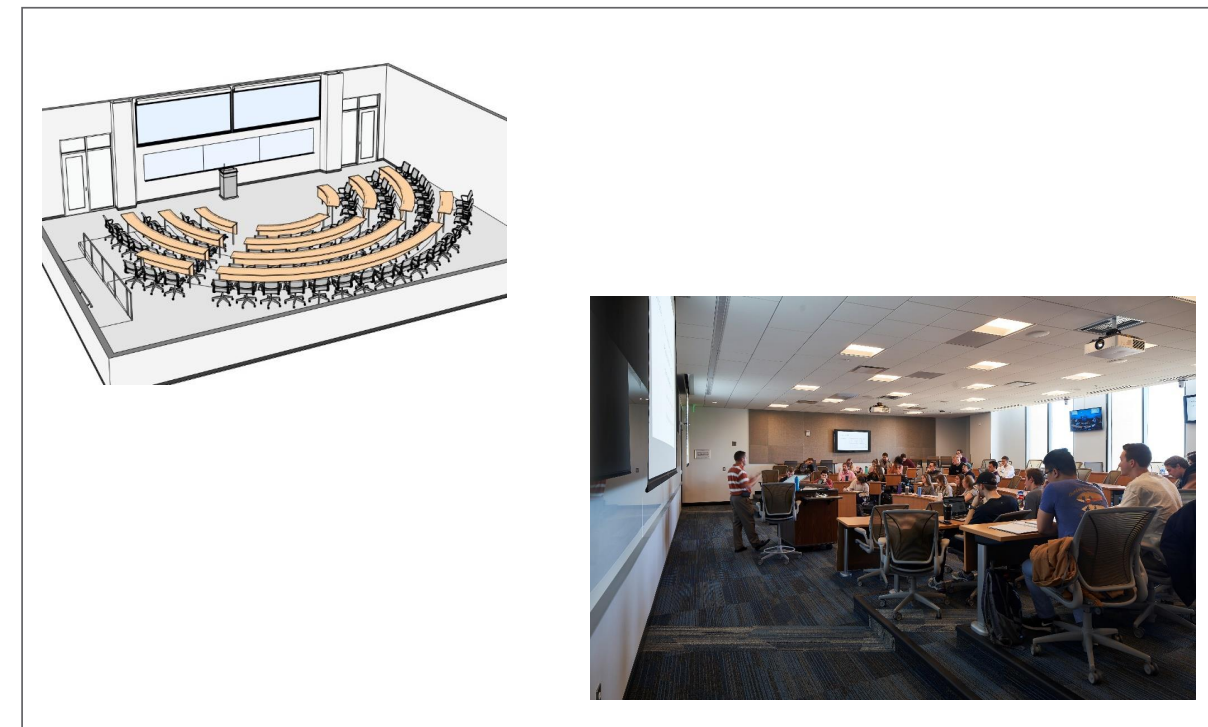
- Highly flexible classroom space allows for numerous configurations.
- Encourages problem-based learning



WILLIAMS BLACKSTOCK ARCHITECTS

Case Study Classroom

- Smaller lecture style (30-50 students)



WILLIAMS BLACKSTOCK ARCHITECTS

Hybrid Classroom

- Promotes group discussion
- Ability to have lecture style and break out into groups



WILLIAMS BLACKSTOCK ARCHITECTS

Round Classroom

- Front of class does not exist
- Disrupts the typical hierarchy that exists in a classroom
- Increases student accountability



WILLIAMS BLACKSTOCK ARCHITECTS

Lecture Hall

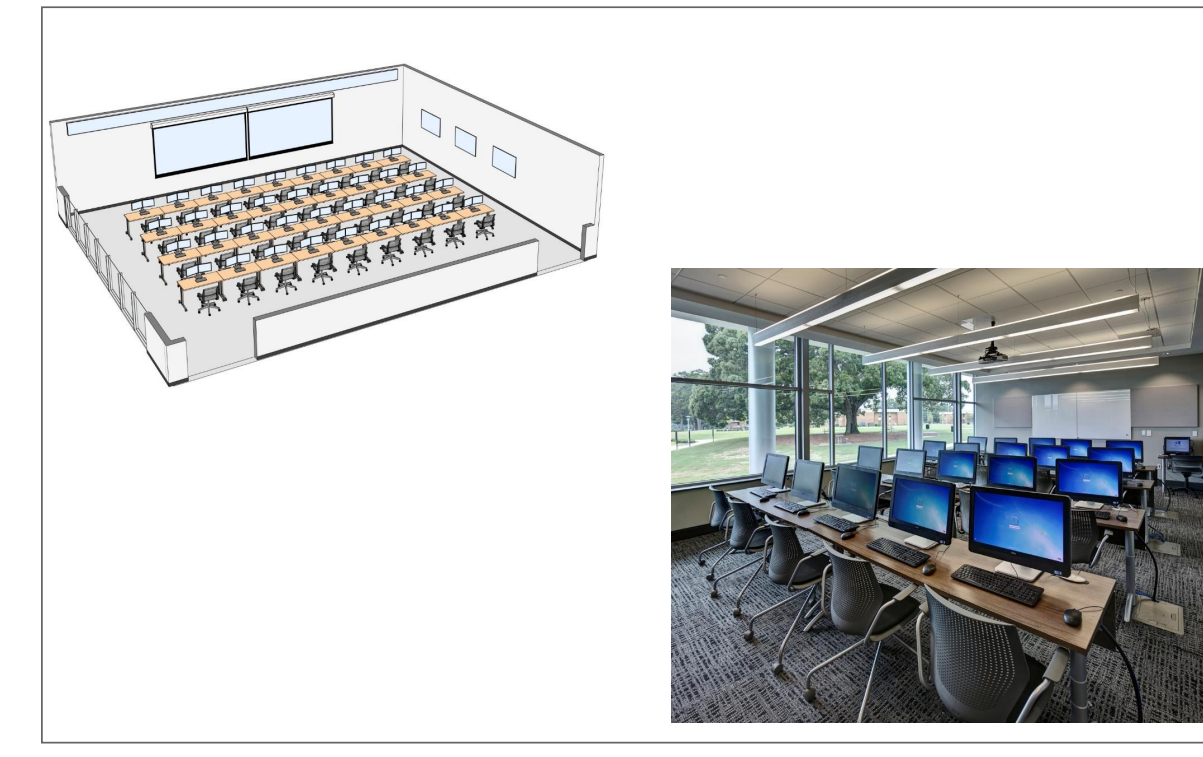
- Ability to seat 200 - 300 students



WILLIAMS BLACKSTOCK ARCHITECTS

Computer Lab

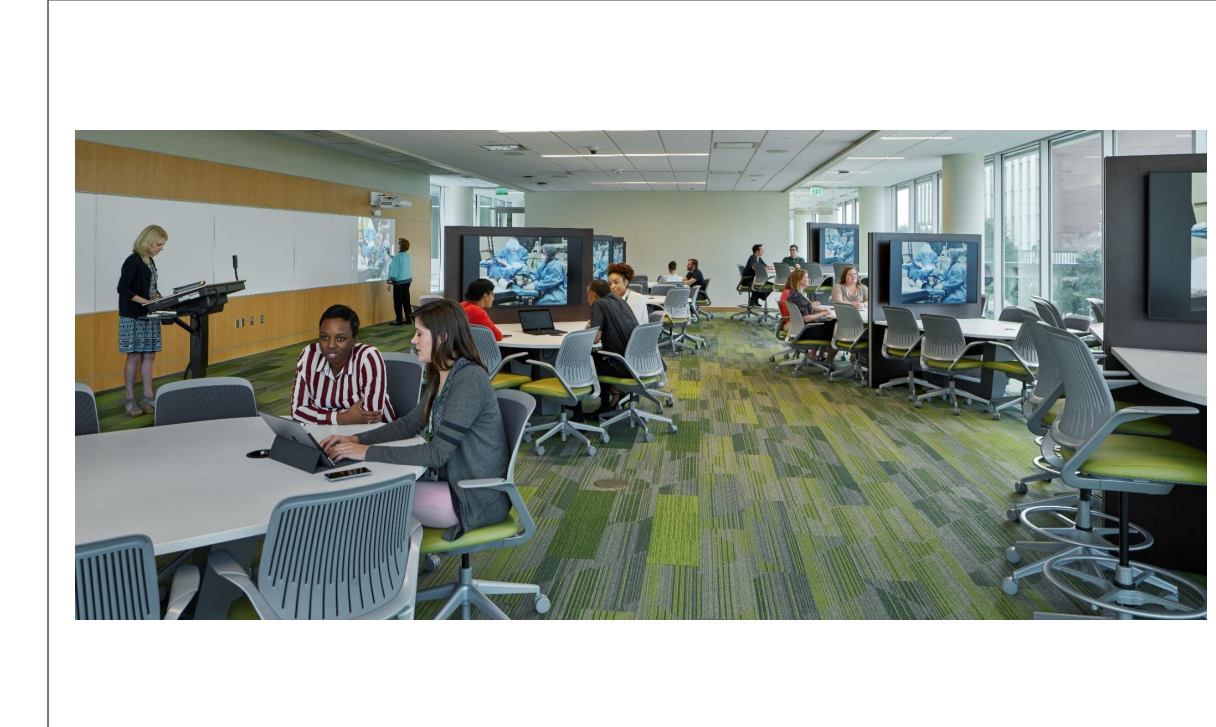
- Traditional computer lab setting with desktops provided
- Flat-flexible layout



WILLIAMS BLACKSTOCK ARCHITECTS

Computer Lab / Active Class Learning

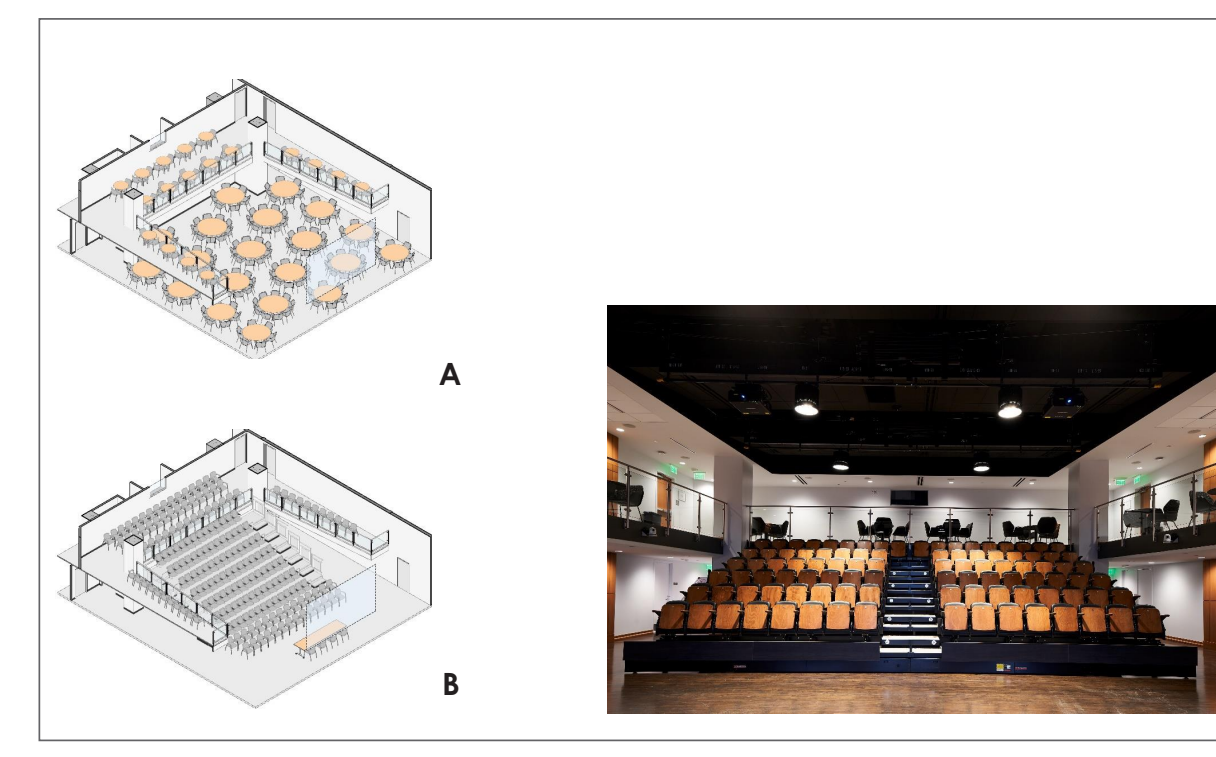
- Promotes remote engagement
- Team based approach



WILLIAMS BLACKSTOCK ARCHITECTS

Flexible Multi-Floor

- Event room style room
- Ability to have banquets/formal events as well telescopic seating for seminars



WILLIAMS BLACKSTOCK ARCHITECTS

6

What messages should a future Fogelman College of Business and Economics (FCBE) building convey to students and faculty, as well as to the community?

Resources for competency and career

Fun but resourceful learning environment : Hollywood style experience.

The future FCBE messages should convey our mission, vision, and ability to be an innovative technology driven college.

That we are a world-class research and teaching institution; that we value diversity and inclusion of different backgrounds, perspectives, and ideas; that we are creative, forward thinking, and progressive.  
Professionalism. A place in which everyone (not only FCBE faculty, staff, and students but also others on campus and in Memphis community) want to spend time and can interact, learn, and grow.

Functional, professional, innovative, in-touch, sleek, clean.

A place in which everyone (not only FCBE faculty, staff, and students but also others on campus and In Memphis community) want to spend time and can interact, learn, and grow.

The building should convey that we provide a contemporary education that prepares students to meet the needs of the modern business world. We are open and welcoming to students, faculty, and to the community. The messages of the FCBE building should convey modernity, functionality, and openness.

7

What are the most important features and spaces the future FCBE building should have in general?

Good PHD spaces, including some smaller seminar rooms for PhDs. Classrooms that can have chairs moved into different configurations for more group work activities. A coffee shop so that students can stay and work at FCBE, with a (limited) seating area. Right now have to go over to FIT, and people don't know it's there. generally colleges are in a very bad place, so anything that improves access for recruiters/employers to have internships and training programs that will help with hiring is good.

Interactive Computer labs. Cafe style learning spaces

Computer Lab, Presentation room, Collaborative Team Space, Meetin/Event Space, Adequate Lighting, Adequate Electrical Outlets and capabilities

Climate control; more natural lighting throughout the building; a modern asethetic; advanced safety features (smarter systems for locking/unlocking classrooms/offices/building entrances); panic buttons in case of emergencies, etc.); smart classrooms and work, office, and lab spaces; pretty updated not blue flooring; renovated bathrooms with automated sinks, soap dispensers, and paper towel dispensers; an actual legitmate coffee shop with plenty of seating and more elevated food options; working and well stocked vending machines; classrooms where students can effectively learn (tiered, electrically controllable screens, power outlets at "every" seat); team rooms that students can use for group study/discussion; offices for faculty and staff with temperature control function and large windows; more restrooms on each floor (at least one in faculty/staff area and another in classroom area); faculty/staff lounges at least one on each floor with sink, microwave, fridge, and tables; atrium/lobby with a coffee shop and study areas. Need one one-stall unisex restroom per floor for individuals who are uncomfortable using a single-sex restroom.

From the Graduate Program's Office's perspective, the most important feature is the area for undergraduate and graduate student services offices. These offices must be attractive and consistent with FCBE branding, and functional for advisors.

1) classrooms where students can effectively learn (tiered, electrically controllable screens, power outlets at "every" seat); 2) team rooms that students can use for group study/discussion; 3) offices for faculty and staff with temperature control function and large windows; 4) more restrooms on each floor (at least one in faculty/staff area and another in classroom area); 5) faculty/staff lounges at least one on each floor with sink, microwave, fridge, and tables!; 6) artrium/lobby with a coffee shop and study areas.

Classrooms/computer labs/faculty offices

A business school should have a modern design. The new school of music looks like a box in which to store cotton; don't do that. As much glass as possible. Maybe a full glass exterior, so people inside can see out, but people on the outside can't see in.  
The interior space should use bright colors and be as open as possible.  
Offices and classrooms should have big windows to take natural light. Currently we have narrow T-shaped apertures that permit very little natural light at all. However, there should be curtains for blocking light as well.  
We need an HVAC system that actually works! Currently the heat is running in the summer and the AC is running in the winter. Seriously!

Natural light. Utilization of technology to access the building and offices (ex. key fobs, ID card access) Updated signage and an electronic directory. Security measures put in place to monitor building traffic.

8

What features does a new building need to enhance and/or transform the educational experience compared to the current spaces in the building or on campus?

Aesthetics would be nice. Not loud impersonal echoey spaces.

Cafe style learning spaces

Study/Interview Rooms, Computer Lab, Team Meeting Space, Study Areas for students  
Smarter more modern classrooms and meeting spaces; student labs and meeting spaces; classrooms where students can effectively learn (tiered, electrically controllable screens, power outlets at "every" seat); team rooms that students can use for group study/discussion

1) classrooms where students can effectively learn (tiered, electrically controllable screens, power outlets at "every" seat); 2) team rooms that students can use for group study/discussion

A large auditorium room would be useful

There should be some group study rooms with media functions and glass doors/walls. Currently students are spread out in the building and sitting everywhere. It would be nice if they had enclosed areas to study.  
Every floor should have at least one conference room in the faculty office area.  
We have some large classes, so we need at least two large classrooms (200 students at least).

There should be at least one store that sells coffee, possibly with at cafe seating area. Ideally there would be some food, preferably not the fast-food junk across campus."

Space for students to collaborate and gather together and eat. Areas for breastfeeding mothers. Access for students to scan and print documents without going to a computer lab. Students need rooms for mock interviews and places to practice giving presentations. Space should also be provided for students to make content for social media platforms--pod casts, video blogs, etc.

Functional well designed class rooms, case rooms, seminar rooms.

9

What vision and goals do you see for the FCBE in the next 5 – 15 years and how do you see this project positioning the College to achieve that vision?

FCBE needs to be a sober-minded alternative to other universities, one that puts the top goal of students - competency and accreditation for their careers -- at the top of our priorities. The Fogelman Professional program has been a great start. Better attention to polish and competency would help. Students need to pass the "exams" of any of the disciplines in say finance or marketing. They need a professional "portfolio" product for marketing. They need internship/ leadership/public speaking training for management. Putting out professional-ready students instead of the latest fad will lead to long-term positive reputation. We want employers to come here, especially local employers. We should be proud of our region, our people and our industries, and that would not be a bad idea in regards to "decorating" the walls of the school.

Become the best business school to drive the future of business innovations and strong work ethic.

Expanding our footprint here at the university and in the community. The project will serve as a step towards reimagining the FCBE experience.

A magnet for recruiting top faculty and students. A space that we feel proud to host guest speakers, job candidates, and prospective graduate students

Grow together (with our students, staff, faculty, and community) and help each other to succeed. This project will help us all achieve this vision by creating spaces for everyone to come/get together and interact.

The goals for the next 5-15 years should be our College preparing students to be successful in the buiness world. The modern and progressive nature of FCBE should be obvious to anyone driving down the street past our building.

Becoming a highly regarded source of highly skilled, knowledgeable, professional talent.

10

The project will include a new addition and extensive renovation of the existing buildings. What improvements to the existing buildings would you like to see?

Walls that are interesting and positive. So far, we have some good stair murals at the front stairs. That's about it. Pictures of donors is just demotivating.

Computer labs, Cafe style learning spaces

Interior and Exterior painting, add additional lighting, close stairwells off, add additional restrooms, secure access, additional seating and study areas for students, updated Faculty/Student lounge, update air/heat distribution"

Climate control; more natural lighting throughout the building; a modern aesthetic; advanced safety features (smarter systems for locking/unlocking classrooms/offices/building entrances); panic buttons in case of emergencies, etc.); smart classrooms and work, office, and lab spaces; pretty updated not blue flooring; renovated bathrooms with automated sinks, soap dispensers, and paper towel dispensers; an actual legitimate coffee shop with plenty of seating and more elevated food options; working and well stocked vending machines; modernized classrooms and team rooms, atrium/lobby, faculty/staff lounges at least one on each floor, lots of big windows, more and larger restrooms in more locations. Remove the restrooms on ground floor with exterior entrance; these are potentially unsafe due to easy access from street.

- Touchless wave sensors for all doors in the building. This is important for accessibility reasons and for hygiene reasons.
- Handicapped parking spots outside the building for staff and visitors. Currently, the only available ones are in the parking garage.

Modernized classrooms and team rooms, atrium/lobby, faculty/staff lounges at least one on each floor, lots of big windows, more restrooms, etc.

I think the building could use as many glasses as possible, both for interiors and exteriors. In addition, a modern design would be nice.

See above. A good HVAC system and roof and windows that do not leak.

Natural light throughout the entire building and windows in all offices. New flooring and paint. The restrooms on the first floor should be enclosed. There should be a water fountain near the restrooms on the first floor that allows students to fill up water bottles, etc., when they are coming in from the garage. Entrance doors to the building should be sliding doors in order to help students and staff that have mobility problems.

Functional class well designed class rooms with advanced technology and presentation facilities. Now everything is cheap and tacky. Get rid of the blue and grey cheap look. Compare to Community Health building.

11

What works well about the existing buildings that you would like to see retained?

This can include classrooms, offices, common areas, or any aspect of the existing building.

They all seem to be fine, it's just that no one is on campus anywhere anymore. Might ask students better what they need for themselves and in relation to their professors.

Most of it works well

Nothing

(no responses)

N/A

Not much.

Advising (student services) is separate from classroom building. Individual offices for advising staff to meet with students and maintain confidentiality standards. Outside space. Our office is currently enclosed in glass, this is beneficial because we can see who is entering the lobby area before they come through the door. TV monitors with FCBE related information "

Nothing. Rooms are odd shaped dysfunctional boxes with poor acoustics and poor line of sight. Difficult to engage students at any level. Offices are too small, poorly planned electric, HVAC, windows. Public spaces are dysfunctional and unattractive.

12

What doesn't work well about the existing buildings that you would like to see improved?

This can include classrooms, offices, common areas, or any aspect of the existing building.

Just not attractive at present. That we do not have departmental morale or community.

Lack of water fountains, collaborative learning spaces.

Atrium, 4 stairwells, faculty lounge, and restrooms

Faculty offices organized by department instead of people from different departments being randomly scattered throughout the building - it would be really helpful if my office were in close proximity to my MGMT colleagues. Each department should have their own common area space with their own administrative assistant and space for meetings; better safety/security features; functioning heating and cooling throughout the building. Need bathroom temperature controlling system (heater, A/C), offices with too small windows in the classroom building. Need more and larger restrooms in multiple locations. Need more elevators. Design of building is too accessible and not secure; existing building would be a nightmare in an active shooter situation.

- All building restrooms, especially those on the 1st floor, need to be modernized, with automated faucets and soap & towel dispensers (similar to the restrooms at the University Center).
- Restrooms with several stalls are needed in the classroom building. The only restrooms available in each floor are in the administrative (office) building, and are too few during peak class times.
- The 1st floor offices, elevator, stairs and restrooms need to be enclosed for weather and safety.
- The elevator needs updating. It is frequently out of order, and people have got stuck inside several times.

Classrooms with lack of power outlets for students, not working temperature controlling system (heater, A/C), offices with too small windows, lack of collaboration spaces for students

See above

Natural light throughout the entire building and windows in all offices. New flooring and paint. The restrooms on the first floor should be enclosed. There should be a water fountain near the restrooms on the first floor that allows students to fill up water bottles, etc., when they are coming in from the garage. Entrance doors to the building should be sliding doors in order to help students and staff that have mobility problems.

See above and note stairways are terrible waste of space, dark, poorly lit and floors are slippery. Outside flooring is very slippery when wet. Elevators are often in disrepair.

13

What successes or improvements are needed relative to the exterior image, appearance, and entrance experience of the existing building?

Security has unfortunately become important, but nothing is welcoming about looking like you are entering a prison. So wedding the two concerns of feeling like you have an embracing access but that you are also secure is a tough ambition.

Reflective surfaces, green energy solar panels,

Entire facelift and updates to the exterior...more modern design.

Needs to be/look more modern and have more natural light; I am envisioning a similar look to the new music building. Modern exterior with lots of windows, spacious atrium/lobby with artwork (paintings, sculptures), a coffee shop, and study areas

Remove the tiled outdoor lobby for safety of walking (especially when it rains). There have been accidents in the past.

Modern exterior with lots of windows

Should look modern. I think using glasses would be useful. If possible, classrooms and offices should big windows to look outside. But, the glasses should have the function that people from inside the building can see outside. but people outside the building should not see what is inside of the building.

See above

Signage that can easily be seen from the street and identifies FCBE in a unique way. Signage that allows anyone entering the building to be able to quickly find directions of where they need to go. Entrance doors to the building should be sliding doors in order to help students and staff that have mobility problems. Elevators need updating so that they are more reliable.

Very unattractive. Needs more functional windows and natural lighting.

14

What success or improvements are needed relative to the interiors of the existing buildings?

Fixed chair rooms can look very professional, but they have to be wedded to classes that do not have group activities.

New paint, collaborative spaces

New carpet, new paint, new lighting, and new furniture in the common area. (The interiors of the existing building should have the same setup as the University Center (UC).

Blue floors look cheap. Modernized classrooms and team rooms, faculty/staff lounges at least one on each floor, more restrooms.

Modernized classrooms and teamrooms, faculty/staff lounges at least one on each floor, more restrooms, spacious atrium/lobby with artwork (paintings, sculptures), a coffee shop, food venues

Brighter color might be used for walls. Glasses should be used anywhere possible. See above

HVAC. Flooring and Paint. Artwork that reflects FCBE's mission to identify as a modern innovative entity. Improved lighting and security measures. The stairwells have murals that are strange and artwork that is outdated. They do not feel secure

See above. Basically everything looks cheap and tacky.

15

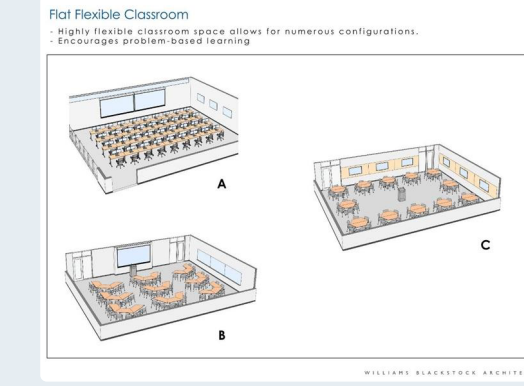
What type of classroom instructional space is needed for your current teaching methods as well as for changing/unknown future pedagogies?

Reference the attached classroom types exhibit for visual descriptions of each space type.

	Not Required Space	Would Like to Have Space	Required Space
<b>Flat Flexible Classroom Space</b>	<input checked="" type="radio"/> x3	<input type="radio"/> x0	<input checked="" type="radio"/> x6
<b>Hybrid Classroom</b>	<input type="radio"/> x1	<input checked="" type="radio"/> x2	<input checked="" type="radio"/> x5
<b>Case Study Classroom</b>	<input checked="" type="radio"/> x3	<input checked="" type="radio"/> x2	<input checked="" type="radio"/> x3
<b>Classroom in the Round</b>	<input checked="" type="radio"/> x2	<input checked="" type="radio"/> x5	<input type="radio"/> x0
<b>Computer Lab</b>	<input checked="" type="radio"/> x2	<input checked="" type="radio"/> x2	<input checked="" type="radio"/> x5
<b>Computer Lab / Active Learning Classroom</b>	<input checked="" type="radio"/> x3	<input checked="" type="radio"/> x2	<input checked="" type="radio"/> x4
<b>Flexible Multi-Floor Classroom</b>	<input checked="" type="radio"/> x3	<input checked="" type="radio"/> x3	<input checked="" type="radio"/> x3
<b>Lecture Hall</b>	<input type="radio"/> x1	<input checked="" type="radio"/> x3	<input checked="" type="radio"/> x5

16

How many **flat flexible classrooms** are required?  
What size classrooms are needed? (Number of seats)



40

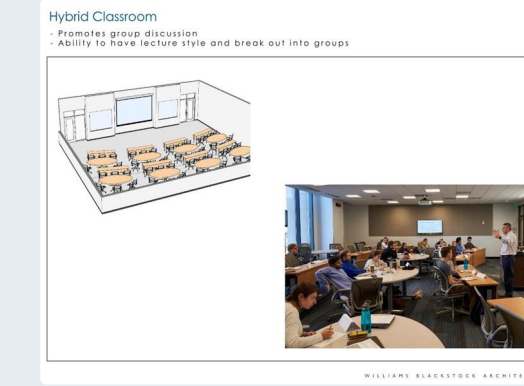
At least several, with 40+ seats.

None

This is what we would use mostly, although we also need a couple large lecture halls. We have at least one class running all day TR and MW afternoons (for some reason there are no classes MW mornings). This question is better answered by Ashley Rose. She schedules all the classrooms for the entire College; this really is a College-level allocational issue.

17

How many **hybrid classrooms** are required?  
What size classrooms are needed? (Number of seats)



40

5

20-30

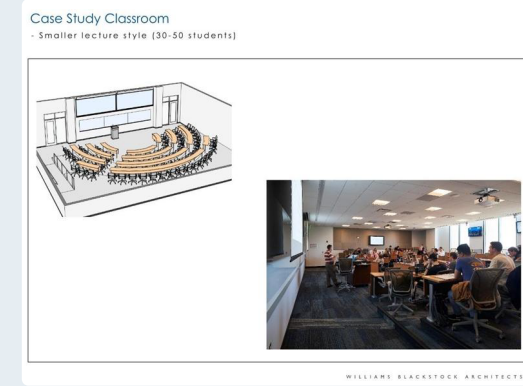
At least several, with 40+ seats.

Maybe about 5% of the classrooms with 40-50 seats (or average class size at FCBE)

Maybe one if the need arises. Again this is more of a College question.

18

How many **case study classrooms** are required?  
What size classrooms are needed? (Number of seats)



70

1

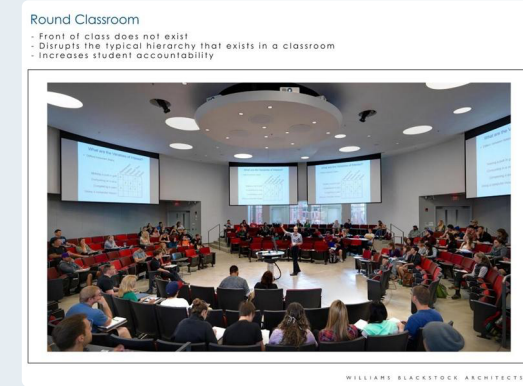
None needed

Personally, I think most of the classrooms (70-80%) should be this type (with tiered) with 20-50 seats. From my experience, this type of classroom is the most flexible both for instructors and students.

None for us in Econ, but this won't be true for other Departments

19

How many **classrooms in the round** are required?  
What size classrooms are needed? (Number of seats)



0

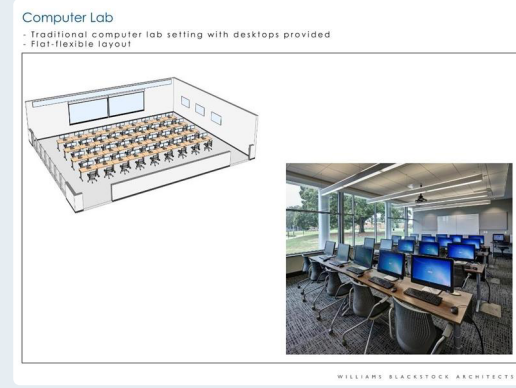
2

At least several, with 40+ seats.

It would be great to have this type of classroom, maybe 1 or 2 in the building.

20

How many **computer labs** are required?  
 What size classrooms are needed? (Number of seats)



5 (40)  
 10  
 1 (5)  
 At least several, with 40+ seats.  
 Personally I don't need it, but it depends on the needs of different departments (BIT, finance, etc.)  
 maybe 1

At least one on each floor with the ability to conduct group advising sessions for at least 25 students at a time

21

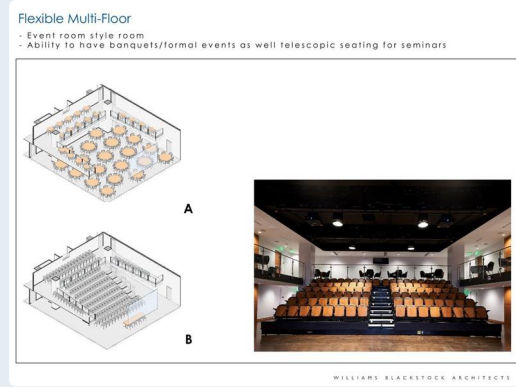
How many **computer lab / active learning classrooms** are required?  
 What size classrooms are needed? (Number of seats)



0  
 10  
 1  
 At least several, with 40+ seats.  
 Personally I don't need it, but it depends on the needs of different departments (BIT, finance, etc.)  
 maybe 1  
 At least 3

22

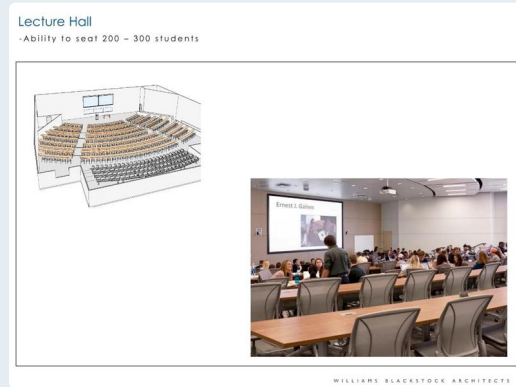
How many **flexible multi-floor classrooms** are required?  
 What size classrooms are needed? (Number of seats)



0  
 3  
 1  
 At least several, with 40+ seats.  
 It would be great to have this type of classroom, maybe 1-2 in the building.  
 probably not

23

How many **lecture halls** are required?  
 What size classrooms are needed? (Number of seats)



3 (75) 1 (150)  
 2  
 1  
 At least several, with 100+ seats.  
 1-2 lecture halls in the building with 200-300 students (the maximum number of seats should depend on the number of students of the largests courses offered at FCBE)  
 2  
 At least two with around 200 seats. We regularly have classes of more than 160.  
 As staff, unsure of classroom needs

24

What level of flexibility is desired in classrooms for team projects and interactions?

High

As much as possible

I think class study classroom (tiered) could be used in various ways, just with movable or turnable chairs.

Staff would like to have classroom space to meet with current and potential students as well as conducting information sessions to inform groups on academic related issues

25

If possible, what would you change/improve in the classrooms you currently teach in?

Examples – AV, flexible seating/tables, movable furniture, tiered vs. flat, finishes, lighting/windows, etc.?)

flexible seating. TEMPERATURE CONTROL.

better furniture, charging stations for interactive learning

Windows; tiered seating (in lecture classrooms).

tiered, more windows, electrically controllable screens, a lot more power outlets for students to charge their laptop

Odd shapes, better AV, multiple screens and white boards. Better acoustics.

26

How many **faculty offices or staff offices** do you need for your unit?

25

4 Staff offices and 2 desk for interns

One per faculty member; we don't want shared offices. Most faculty spend very little time in their offices; there are some faculty who work almost exclusively at home and rarely come to their office in a semester. Large faculty offices are a huge waste of space. Give more space to students and less space to faculty.

Currently, 4 offices. Given the current and expected growth in our graduate programs, an additional office would be needed, for a total of 5 offices.

1-2

10 - 12

8-10 staff offices

27

From the above number, how many **enclosed offices** (walled) are needed?

15

4

Each faculty member should have their own enclosed office with door.

4 walled offices, one for each advisor. Offices need to be large enough to accommodate advising meetings with students under social distancing protocols. Glass walls are not suitable for advisor offices, as sensitive subjects are discussed during advising appointments (e.g., failing grades, personal issues, feedback regarding instructors or classes, etc.) Having walls is important to maintain the privacy of students during advising appointments, as required by FERPA. Given the high levels of stress experienced by GPO Advisors, it is important to have windows in offices to increase natural light and keep them from feeling too stressed. Advisors are exposed to the stress levels of up to 400 students each, which increases each semester. Please note that, if the college plans to grow graduate enrollments, more advisor offices with these characteristics will be needed.

1-2

10 - 12

All USSO offices need to be enclosed to protect individual student confidentiality

28

From the above number, how many **open offices** (furniture, cubicle type office space) are needed?

0

10

2 open offices space

One, common to all GPO advisors, that includes a supplies cabinet, storage closet, and shared printer/copier/scanner. For privacy reasons, it's important to keep this open office accessible only to advisors, and separate from the student waiting area.

0

Only the Department Office

Lobby area for receiving visitors, open space for reception area. Open area can be used for copy machine and general work space



29

What **conference or collaboration space** is needed for your unit?

This includes conference rooms, huddle space, team rooms, etc. Please designate if this space can be shared between the entire building / multiple units or is to be solely used for a particular unit.

At least one

conference rooms

1 conference room that seat 10-12 (NOT SHARED)  
1 collaborative space that seats 30-40 (NOT SHARED)

(1) We should have dedicated space for the CWDI. (2) Each department doesn't need their own conference room. Instead, have several conference rooms of varying sizes that can be reserved by departments as needed. Most meetings are on Zoom anyway. We don't need much space for on-campus meetings.

A conference room that can accommodate 12-15 people with a computer and projector is needed for weekly scheduled staff meetings. USSO and GPO can share the conference room area for space saving purposes. Having this area available will be important for meetings that must be held in person in case social distancing protocols have to be adopted in the future.

1 or 2 conference room would be nice

A departmental conference room that can hold 15 - 20 people. Full media functions.

Conference space for 20 is needed specifically for USSO for weekly Staff meetings and small group meetings. Shared space is needed for all Staff as a breakroom or area to meet casually and eat lunch so that staff will not have to eat in their offices or leave the building. Shared space is needed for recruitment purposes as a gathering space for potential students, parents, counselors after tours to discuss FCBE's options. Shared space is needed with computers so that we can conduct group advising sessions with 25-30 students at one time.

Well equipped large seminar rooms. Well designed Kitchenette with sink, room for fridge, microwave, coffee maker, etc. private dedicated faculty lounge

30

List all other **ancillary support spaces** your unit needs.

(Storage, equipment, print / copy facilities, etc.)

none

Storage, equipment, print / copy facilities

1 Storage room, 1 print/copy room

Ample storage space for supplies. Print/copy area that faculty can access and use even if departmental office is closed and locked.

- Storage space or cabinet for office supplies.
- Storage room or closet for any additional items (e.g., seasonal) that need to be stored, and cleaning supplies (broom, vacuum, cleaners, etc.).
- Counter space or furniture to hold large printer/copier/scanner with cabinets for ink and paper supplies in common area for advisor offices only.

Storage, Print/copy facilities

One room with a multifunction machine would be useful

Department Office for our Admin with storage area

Enclosed storage room for USSO equipment, recruitment materials, etc.

31

What **shared common area spaces** do you need / prefer in the building?

Rank in order of preference.  
If other common areas are desired, please respond to the next question.

Large open common areas (atriums/lobbies)	#1 Response Overall
Open collaboration space	#5 Response Overall
Enclosed collaboration space	#2 Response Overall
Study areas	#6 Response Overall
Shared conference rooms	#7 Response Overall
Team rooms (typically 4-6 students per room)	#4 Response Overall
Food venues	#3 Response Overall
Other (Describe below)	#8 Response Overall

#1 CHOICE	#2 CHOICE	#3 CHOICE	#4 CHOICE	#5 CHOICE	#6 CHOICE	#7 CHOICE	#8 CHOICE
Enclosed collaboration space	Food venues	Study areas	Shared conference rooms	Team rooms (typically 4-6 students per room)	Large open common areas (atriums/lobbies)	Open collaboration space	Other (Describe below)
Large open common areas (atriums/lobbies)	Open collaboration space	Enclosed collaboration space	Food venues	Study areas	Team rooms (typically 4-6 students per room)	Shared conference rooms	Other (Describe below)
Team rooms (typically 4-6 students per room)	Large open common areas (atriums/lobbies)	Open collaboration space	Food venues	Enclosed collaboration space	Study areas	Shared conference rooms	Other (Describe below)
Large open common areas (atriums/lobbies)	Team rooms (typically 4-6 students per room)	Food venues	Study areas	Enclosed collaboration space	Shared conference rooms	Open collaboration space	Other (Describe below)
Food venues	Other (Describe below)*	Shared conference rooms	Study areas	Open collaboration space	Large open common areas (atriums/lobbies)	Enclosed collaboration space	Team rooms (typically 4-6 students per room)
Large open common areas (atriums/lobbies)	Team rooms (typically 4-6 students per room)	Food venues	Shared conference rooms	Enclosed collaboration space	Open collaboration space	Study areas	Other (Describe below)
Large open common areas (atriums/lobbies)	Team rooms (typically 4-6 students per room)	Enclosed collaboration space	Shared conference rooms	Food venues	Open collaboration space	Study areas	Other (Describe below)
Large open common areas (atriums/lobbies)	Enclosed collaboration space	Open collaboration space	Study areas	Food venues	Shared conference rooms	Team rooms (typically 4-6 students per room)	Other (Describe below)
Enclosed collaboration space	Large open common areas (atriums/lobbies)	Shared conference rooms	Open collaboration space	Study areas	Team rooms (typically 4-6 students per room)	Food venues	Other (Describe below)
Large open common areas (atriums/lobbies)	Shared conference rooms	Study areas	Food venues	Team rooms (typically 4-6 students per room)	Enclosed collaboration space	Open collaboration space	Other (Describe below)
Large open common areas (atriums/lobbies)	Open collaboration space	Enclosed collaboration space	Study areas	Team rooms (typically 4-6 students per room)	Food venues	Shared conference rooms	Other (Describe below)
Large open common areas (atriums/lobbies)	Enclosed collaboration space	Food venues	Team rooms (typically 4-6 students per room)	Open collaboration space	Study areas	Shared conference rooms	Other (Describe below)

32

Other Common Area Spaces:

Additionally, how many of these spaces are needed?

\* A break area with a sink, counter space, full-size fridge and microwave for GPO and USSO members (nearly 25 people) to keep their lunch in, eat, and clean-up afterwards. There are similar setups in FIT, and Wilder tower (2nd floor outside of UG Admissions and Offices). This is important for hygiene reasons, as currently containers, cups, etc. are being washed in the restroom. Small cupboard area to keep mugs/cups with a coffee pot or Keurig and an ice machine in the GPO/USSO break room area, like the one FCBE 2nd floor used to have.

33

How many **open collaboration spaces** are needed?

2

0, it can be replaced with study areas in atriums/lobbies, and other lounges on each floor

2

34

How many **enclosed collaboration spaces** are needed?

3

0, it can be replaced with team rooms with varying sizes

3

35

How many **shared conference rooms** are needed?

Please specify if a certain seat count is desired for these spaces.

3

0

1

36

How many **study areas** are needed?

1 Computer lab for 5 students

As many as possible for our students

several

37

How many **team rooms** are needed?

These spaces are typically sized to accommodate 4-6 students. Please specify if an alternative group size should be accommodated.

1

We need a lot of team rooms; not sure of exact number.

As many as possible for our students

20 students

38

How many / what type of **food venues** are needed?

A good coffee shop

Smart Market types for coffee or quick snack/lunch.

Coffee shop! Not like the pseudo starbucks in FedEx; an actual coffee shop - similar to the starbucks at the bookstore with elevated food items, like a French Truck or Panera. Also a convenience store. Faculty/staff lounges, at least one on each floor, with sink, microwave, fridge, and tables.

A break area with a sink, counter space, full-size fridge and microwave for GPO and USSO members (nearly 25 people) to keep their lunch in, eat, and clean-up afterwards. There are similar setups in FIT, and Wilder tower (2nd floor outside of UG Admissions and Offices). This is important for hygiene reasons, as currently containers, cups, etc. are being washed in the restroom. Small cupboard area to keep mugs/cups with a coffee pot or Keurig and an ice machine in the GPO/USSO break room area, like the one FCBE 2nd floor used to have. Food venues/kiosks within FCBE building available for staff/faculty use, especially when students are not on campus (winter break and summer term). Having this type of break area near offices also increases efficiency in time use by allowing advisors to take their lunch break at their convenience. Otherwise, time will be wasted having to wait for availability of other shared spaces that may be further away from their offices.

Coffee shops, something like Panera for quick grab

Coffee at least. No junk food outlets.

something with fresh and healthy food options. Taco Bell, Chick-fil-a, southern cuisine

39

What teaming areas and collaborative tools do you need for students to meet for projects and interactions outside of the classroom?

Spaces could include informal huddle space, dedicated team rooms (specify size), or open space to interact and problem solve outside of the classroom. Collaborative tools could include markerboards, AV solutions, etc.

Team rooms, with the collaborative tools.

Smart blackboard or marker boards, screen that can be connected with laptops

Separate study areas with media access, marker boards, etc. The number is a College issue. overhead projectors, smart boards

40

What units / centers / groups would you like to be adjacent to that would provide a better collaborative learning environment and educational synergies?

For example, the relationships between classrooms, faculty offices, unit offices, lobbies, collaborative / teaming space, and commons areas, or other unit areas.

Since faculty seldom come in, putting their offices amongst everything would create dead spaces. The daily attending admin need to be mixed in with classrooms/resources.

Department Faculty should all be close to each other and to the departmental conference room to facilitate research collaboration.

Graduate Student advising should be adjacent to USSO  
Computer lab or registration kiosks should be adjacent to USSO so that students can leave directly from advisor's offices and go register for classes

41

What adjacencies would you like to see between faculty offices and classroom / instructional spaces?

None, nobody goes to the office. It is a ghost town. And no one wants to be forced to put in "face time" - commutes etc.

Some distance/separation between faculty offices and classrooms. One idea is to place all the classrooms on lower levels, so they could be more approachable for students and put all the faculty/staff offices on upper floors, so they could enjoy more quiet and peaceful work environment.

I'd like some distance/separation between faculty offices and classrooms. One idea is to place all the classrooms on lower levels, so they could be more approachable for students and put all the faculty/staff offices on upper floors, so they could enjoy more quiet and peaceful work environment.

42

What improvements to circulation inside the building would be helpful?

Anything and everything to connect the students to employers.

Note: Not sure if this means traffic circulation or heating/cooling circulation."

Adjustable heating and air  
Air filtration system

43

Describe specialized equipment you need in your unit.

This may include specialized IT, electrical or mechanical, security or utility requirements.

none

Hybrid broadcasting is needed

Computer, AV, Printers, Overhead, TV Screen

There should be key cards for entrance to the building after hours.

Separate entrance door for GPO staff, with card swipe, so they can feel safer entering/exiting the building. This entrance door would be only for advising staff to enter and exit, not for main student traffic.

We need to be able to control who enters our office and need an obvious security camera. We also need a system for our students to be able to check-in to let their advisor know they are here without having to talk to someone at the front desk every time. Individual offices need updated computers with desks that can be used while standing or sitting. we have to turn our monitors around to discuss information with students. A setup that will position a monitor for sharing facing the students would be ideal. Chairs with no arms for guests that are roomy enough and comfortable for everyone. No keys! Too easily lost, too difficult and time consuming to replace and eventually they get stuck in the doors and door locks.

44

Describe your current use of classroom AV technologies and what additional technologies you will need in the new building.

Options could be laptop presentation projection, web conferencing, video conferencing, lecture capture, and test monitoring or other.

Just powerpoints with multimedia access.

Hybrid broadcasting is needed

Laptop Presentation projection, web conferencing, video conferencing, and lecture capture

laptop presentation projection, web/video conferencing

Frequent use of Canvas, videos, lecture capture - although the latter is really clunky now.

45

How would you like to see the **interior of the building** transformed from an aesthetic or artistic standpoint? Do you have specific ideas for improving the sensory experience of being in the building?

Want to feel good about being in Memphis and safe. Promote music history (How about some tech that allows background Memphis music to be played in certain areas?). Promote Fedex. Promote St. Jude. Promote AutoZone.

Promote Holiday Inn. Promote biotech. Allow these employers to pay for supportive art. Promote local beauty (trees/most beautiful city for years) Have some nature in the building (garden walls), figure out how to not make it dead inside, Make sure there are sunlight windows with nice benches to sit it. Promote ALL races by not making pointed divisions and comments about any races, instead make the space about becoming competent and professional. "

Put more gadgets with electronic information display

The interior of the building should be transformed to mirror the modern business office space.

Big paintings and sculptures by local and student artists in the atriums/lobbies.

Some big paintings and sculptures (maybe by local artists?) in the atriums/lobbies and here and there would be great!

Improved lighting and more modern colors that are not so neutral. Modular furniture. Touch pad for a building directory. Universal, "artsy" signs for office and classroom numbers. Mid-century moder aesthetic

More sophisticated design and attractive furnishings. Better lighting.

46

How would you like to see the **exterior of the building** transformed from an aesthetic or artistic standpoint? How should the exterior appearance integrate with campus and community context?

Make it look like a part of campus, but not hard to enter. BUT secure. solar panels

The exterior of the building should be cutting edge with metal gloss finish.

Similar vibe to the new music school; lots of glass and natural light; modern clean lines; lots of big windows.

Very simple and modern exterior with lots of big windows please!

See above, first page

Not as much red brick. Glass enclosure of the building with large, tinted windows, similar to FIT. Distinctive signage on all sides of the building

47

Please note any open-ended thoughts or commentary you might have about the new addition and renovations to the Fogelman College of Business and Economics.

Don't know what students want anymore in spaces, and faculty all over the US are going remote most of the time. I would concentrate on student competency, and making FCBE a place where employers want to visit and hire and contribute. We need to strengthen the message that what they learn is actually important, they seem to want to learn only things they like, and teaching students that toughing up their learning will actually give them self-esteem is important. Most important, it will allow them to join the society after they leave. In that vein, I would love FCBE to have a community-available space where people could come in and get help on business projects.

The new FCBE Building addition and renovations should provide an experience which is conveyed, through the architecture and design. When our faculty, staff, students, donors, and community approach 3675 Central Avenue they should be intrigued about what's happening at FCBE.

- Undergraduate and Graduate student services can be combined into one large office area with a glass front in the space of the current Undergraduate Student Services Office (USSO).

- An inviting and professional waiting room for students can be shared by GPO and USSO. If shared, please include 2 separate front desks: one for undergraduate student services, and one for graduate students, as both offices offer different services to their respective students.

- Both GPO and USSO become high traffic areas during peak advising periods. The resulting increase in noise level becomes disruptive to those in their offices, interferes with the quality of services provided, and limits privacy and discretion to discuss student questions or concerns. For this reason, it is requested that advisor offices and break room be kept separate from the student waiting area.

- Down the road, we would be interested in seeing options for office furniture to choose if allowed, such as stand-up desks vs. L-shaped, etc.

One business school complex I'd like to recommend as a reference point is Louisiana State University's business school. I worked there for six years and I saw that the entire complex was so much loved and enjoyed by everyone there. Specifically, I liked that all the auditoriums, classrooms (mostly tiered), and team rooms were located on the first floor and all the offices for faculty/staff were at 2nd or upper floors, so the classrooms were more approachable for students and faculty/staff could enjoy more quiet and peaceful work environment. Also, the atrium/lobby in the rotunda was always enjoyed by students, faculty, and staff for meeting, studying, and working. The mini quad in the middle of the complex was also enjoyed by students to get some sun light & fresh air between classes.

It would be nice to have space for entrepreneurship students to have a space inside the business building to work on their venture. Washington University has a program that allows their students to operate a business on campus and I think a similar program here, even if on a smaller scale, could bring a lot of life into the building.

Emergency kiosks should be located inside and outside of the building

The garage elevator needs updating so that they can be more reliable. The doors to the floors in the garage should be more accessible and it is very easy to hit a pedestrian when pulling out of the garage because the brick enclosure doesn't allow you to see to the right.



THANK YOU!

ROBERT AND AVRON FOGELMAN BUSINESS COMPLEX

*Programming Study Update 2024*