

November 16, 2023 Facilities and Infrastructure Committee Board of Trustees Live Oak Event Center Nov 16, 2023 11:15 AM - 11:45 AM EST

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November 16, 2023 Facilities and Infrastructure Committee

Board of Trustees Nov 16, 2023 at 11:15 AM EST to Nov 16, 2023 at 11:45 AM EST Live Oak Event Center, UCF Main Campus Livestream: <u>https://youtube.com/live/egO4OEQLT7o?feature=share</u>

Agenda

I. Agenda	11:15 AM		
Call to Order and Welcome Presenter: Chair McAlpin			
Roll Call			
II. Minutes of the September 27, 2023 meeting Presenter: Chair McAlpin	11:16 AM		
III. Discussion Presenter: Chair McAlpin	11:17 AM		
A. Space Utilization Study: Research Space Analysis Presenters: Jon Varnell, Vice President for Administrative Operations, Dr. Winston Schoenfeld, Interim Vice President for Research and Innovation, Jon Bates, Assistant Vice President for Real Estate and Space Administration			
IV. Information Presenter: Chair McAlpin	11:42 AM		
A. Space Utilization Study Follow-Up			
V. New Business Presenter: Chair McAlpin	11:43 AM		
VI. Adjournment Presenter: Chair McAlpin	11:44 AM		



UNIVERSITY OF CENTRAL FLORIDA

Minutes UCF Board of Trustees Facilities and Infrastructure Committee University of Central Florida September 27, 2023

Trustee Caryl McAlpin, Chair of the Facilities and Infrastructure Committee, called the meeting to order at 9:02 a.m.

She reminded the committee that the meeting was covered by the Florida Sunshine Law and that the public and press were invited to attend.

Danielle Sarris, executive assistant to the vice president for Administrative Operations, called the roll and determined a quorum was present.

The following committee members were present: Caryl McAlpin, Jeff Condello, Danny Gaekwad, Stephen King, John Miklos and Michael Okaty.

Other trustees that attended included Tiffany Altizer, Bill Christy, Brandon Greenaway and Board Chair Alex Martins.

MINUTES

A motion to approve the meetings minutes of the June 28, 2023, meeting was made by Miklos and unanimously approved as submitted.

<u>ACTION</u>

At Chair McAlpin's request, Youndy Cook, vice president and general counsel, confirmed there were no disclosures of conflict of interest from the trustees.

FACC – 1 Biological Sciences Additional Renovation/Remodel – Funding Approval

Jon Varnell, vice president for Administrative Operations, shared that approval of an additional \$10 million of E&G carryforward funds would enable a more comprehensive renovation of the Biological Sciences building for scope not allowed by the existing state-allocated federal funding

Miklos made a motion to approve FACC-1, with King providing the second. The motion was unanimously recommended for approval.

FACC – 2 Chemistry Additional Renovation/Remodel – Funding Approval

Varnell shared that approval of an additional \$10 million of Auxiliary funds for this project would enable a more comprehensive renovation of the Chemistry building not included in the current funding plan.

King made a motion to approve FACC-2, with Condello providing the second. The motion was unanimously recommended for approval.

FACC – 3 FBC Mortgage Stadium Fire Alarm – Funding Approval

Varnell shared that the FBC Mortgage Stadium fire alarm system is in a differed state due to its age and condition. Approval of \$3,050,000 of E&G carryforward funds for this project would provide a critical replacement to avoid a failure of the system.

King made a motion to approve FACC-3, with Okaty providing the second. The motion was unanimously recommended for approval.

FACC – 4 FBC Mortgage Stadium Structural Steel Coating Maintenance – Funding Approval

Varnell shared that approval of \$3,750,000 of E&G carryforward funds for this project would allow the university to take a substantial step forward in addressing the ongoing deferred maintenance needs of the stadium's structural steel coating.

King made a motion to approve FACC-4, with Okaty providing the second. The motion was unanimously recommended for approval.

FACC – 5 UCF at Daytona State College – Funding Approval

Varnell shared that approval of \$10 million of E&G carryforward funds for this project would allow UCF to expand its presence at Daytona State College related to UCF's Insurance and Risk Management programs. Funding will be focused on critical deferred maintenance and interior upgrades of two UCF occupied buildings located on Daytona State College's main campus.

King made a motion to approve FACC-5, with Okaty providing the second. The motion was unanimously recommended for approval.

FACC – 6 Facilities and Infrastructure Committee Charter

Chair McAlpin presented proposed amendments to the Facilities and Infrastructure Committee Charter. The proposed amendments included an updated title for Jon Varnell, vice president for Administrative Operations. King made a motion to approve FACC-6, with Okaty providing the second. The motion was unanimously recommended for approval.

DISCUSSION

DISC – 1 2023-2024 Fixed Capital Outlay Budget

Varnell provided an overview of the 2023-2024 fixed capital outlay budget stating that these documents are required by the Board of Governors. He shared that a motion to recommend approval to the Board will come from the Budget and Finance Committee.

DISC – 2 Space Utilization Study Follow-Up

Varnell led a discussion pertaining to the ongoing implementation of the campus-wide space utilization study and the action items presented to the Board in June 2023.

NEW BUSINESS

The committee had no other business to discuss.

ADJOURNMENT

McAlpin adjourned the Facilities and Infrastructure Committee meeting at 9:43 a.m.

Reviewed by:

Caryl McAlpin
Chair, Facilities and Infrastructure Committee

Date

Respectfully submitted:

Michael A. Kilbride Associate Corporate Secretary

Date



Board of Trustees Facilities and Infrastructure Committee

November 16, 2023

Agenda Item

DISC-1: Space Utilization Study: Research Space Analysis

Proposed Board Action

N/A

Authority for Board of Trustees Action

N/A

Supporting Documentation Included Attachment A: Research Utilization Slides

Facilitators/Presenters

Jon Varnell, Vice President for Administrative Operations Dr. Winston Schoenfeld, Interim Vice President for Research and Innovation Jon Bates, Assistant Vice President for Real Estate and Space Administration



Space Utilization Study: Research Space Analysis

EXECUTIVE SUMMARY

Objective

Provide an update regarding the ongoing Space Utilization Study and the action items resulting from the data analysis and initial recommendations. Updates will focus on the following areas:

- Results of the analysis of the research space utilization study. The study goals included the following:
 - o Identify the amount of funded research space by college/unit.
 - Identify opportunities for underutilized space to generate additional externally funded research.
 - Establish an objective process to evaluate research space allocations.
 - Create strategies and action items for achieving elements of the UCF Strategic Plan focused on increasing externally funded grants by leveraging existing space resources.

Summary of Key Observations/Recommendations

 Achievement of the UCF Strategic Plan initiative of total R&D expenditures of \$350M would require a projected portfolio of 985,900 assignable square feet (ASF) of research space. This assumes an expenditure of \$355 per square foot of research space based on the following analysis of University Innovation Alliance (UIA) peer institutions:

UIA Peer Institution	\$/SF	UIA Peer Institution	\$/SF
Ohio State U.	\$403	U. Kansas	\$443
U. Texas, Austin	\$533	Iowa State U.	\$227
Michigan State U.	\$265	Oregon State U.	\$319
Purdue U., West Lafayette	\$308	Georgia State U.	\$956
Arizona State U.	\$489	U. California, Riverside	\$163
Peer Average	\$355		
UCF Average	\$309		

- By taking the 985,900 ASF of projected need minus the existing portfolio of 706,900 ASF there exists a need for 279,000 ASF of additional dedicated research space.
- Assuming that, on average, two-thirds of research space is lab versus office and support space, there exists a need for 188,000 ASF of dedicated lab space.

- The study further suggests that the 188,000 ASF of dedicated lab space could be potentially addressed using a three-prong approach:
 - The re-allocation of unfunded existing lab space;
 - New construction;
 - Or, through the re-allocation of underutilized instructional and office space identified in the earlier phases of the space study.



Research Space Allocation & Assessment

In order to effectively assess existing unfunded research space for reallocation, as well as to ensure a consistent process for evaluating utilization and space assignment going forward, it is recommended that a working group be established under the purview of the University Space Committee and led by the Interim Vice President of Research. This working group would be tasked with the following:

- 1. Development of a research space allocation process.
- 2. Development of a productivity matrix to assist in guiding research space assignments and productivity.
 - a. While external grant funding should be one of the measures within the matrix given its critical place in the UCF Strategic Plan, other factors should be included, such as undergraduate and graduate student engagement, alignment of research activity to strategic priorities, etc.
 - b. Productivity reviews of research lab assignments are recommended to occur a minimum of every three (3) years.

Additional Background

Research laboratory metrics vary based on the institution's research goals and priorities. There is no generally accepted methodology to measure research space utilization due to the diverse areas of study. Several institutions (such as MIT, Washington University, University of Utah Health, and Colorado University) have developed utilization metrics that center on expenditures and personnel contrasted with assigned square feet (ASF). The following metrics were used to evaluate research lab utilization as a part of this study:

- **Expenditures by assignable square feet:** Total external and internal expenditures compared to the net assignable square feet (ASF) of space with reported active grants.
- Average assignable square feet per principal investigator: Average assignable square feet by the principal investigator (PI; also commonly referred to as the faculty researcher) evaluated at the college/unit level.

Data Analysis Results – Funded vs Unfunded Space Use

Over several rounds of data collection and validation with the colleges and units, the following statistics were developed:

Unit	Active Expenditures	Total ASF of Research Lab Space	Research Lab ASF w/ Active Grants	Pl's Conducting Research	Expe	/erage nditure \$ r ASF	Average ASF per PI Active Grants	Research Lab ASF without Active Grants
CAH	\$715,461	20,650	16,585	56	\$	43	296	4,065
CBA	\$255,436	3,903	3,375	4	\$	76	844	528
CCIE	\$13,714,141	10,646	10,514	56	\$	1,304	188	132
CECS	\$25,642,260	96,211	72,979	183	\$	351	399	23,232
CHPS	\$3,758,264	11,898	9,654	46	\$	389	210	2,244
COM	\$11,670,152	72,125	40,529	58	\$	288	699	31,596
COS	\$20,401,362	102,969	70,435	198	\$	290	356	32,534
CON	\$2,085,897	282	-	26	\$	-	-	282
CREOL	\$14,044,634	41,135	18,175	65	\$	773	280	22,960
IST	\$12,276,688	38,096	30,631	44	\$	4,088	696	7,465
NSTC	\$5,399,201	25,582	23,979	21	\$	208	1,142	1,603
FCI	\$3,715,460	37,956	19,244	45	\$	193	428	18,712
TOTAL	\$112,963,495	461,453	316,100	802	\$	357	394	145,353

The following chart further depicts the utilization of research lab space based on externally funded grants. The represented space without assigned expenditures is viewed as a potential opportunity for further analysis with the potential for re-assignment:



Future Needs Analysis Completed

An additional calculation looking at projected research space needs by specific colleges and departments was completed to further aid in identifying areas for additional study and the development of recommendations. This calculation used the following methodology:

- An ASF allocation was applied to each forecasted additional PI conducting lab-based research.
- The ASF allocation was team-based and was thereby assumed to provide sufficient research lab space resources to accommodate the PI and any associated researchers (i.e., co-PIs, post-docs, grad students, etc.).
- The ASF allocations were developed by the consultant team using a weightedaverage approach based on recent space planning principles.
- Additionally, the ASF allocations were tested against current UCF ASF averages per PI and adjusted as appropriate.



The following chart summarizes these more specific needs by college and department:

Notable findings derived from this analysis are summarized as follows:

• College of Engineering & Computer Science (CECS) shows the largest calculated future need for research lab space. Within CECS, the departments of Civil,

Environmental and Construction Engineering and Mechanical and Aerospace Engineering are driving a significant portion of that future need.

- Existing research space without affiliated external grants is equal to 67% of the future space need.
- The new College of Nursing building will include 3,800 ASF of research space.

Rationale

Appropriate and aggressive utilization of the university's space assets is required to fully realize the success of the UCF Strategic Plan. Through new construction, as well as capturing underutilized research, office, and instructional space for re-purposing, we can accommodate research and faculty growth to support achievement in the initiative of \$350 million in annual research expenditures, preeminence in the State of Florida, and acceptance into the Association of American Universities (AAU).

Implementation Plan

As individual action items are further evaluated, individual timelines will be established and communicated to the Committee as appropriate.

Resource Considerations

Capital investments will be required to implement many of the identified action items. These capital investments will be identified as action items that are further evaluated and communicated to the Committee as appropriate.

Conclusion

Based upon the analysis of available data, the following recommendations provide a framework for ensuring the effective and efficient use of research space assets to achieve preeminence within the State of Florida, successful implementation of the UCF Strategic Plan, and inclusion in the American Association of Universities:

• Utilization Action Items:

- Detailed needs analysis for targeted colleges/units to understand gaps in data results and observations during site inspections (CREOL, NSTC, IST).
- CECS shows the greatest need for research space. Further analysis to quantify and detail this need should be conducted.

Administrative Action Items:

- Establish a link between databases within the Office of Research and Space Administration to provide a regular report of grant data.
- Establish a methodology for tracking off-campus and community-based grants.
- Establish a working group, under the purview of the University Space
 Committee and led by the Interim Vice President for Research, that is tasked with research allocation and productivity assessments.
- Increase staffing within the Space Administration to support a more robust and ongoing assessment process.

Attachment A





EXISTING RESEARCH LAB SQ. FT. BY CAMPUS





OVERALL RESEARCH SPACE NEEDS TO ACHIEVE UCF STRATEGIC GOALS

- Peer analysis methodology used NASF research expenditure and space data for the 10 UCF UIA peers to estimate future research space needs to support Strategic Plan research goals.
- Resulting avg. peer expenditures per square foot of research space \$355/ ASF applied to goal of \$350 Million to generate a total research space need of 985,900 ASF.

Future need is an additional 279,000 ASF that includes all space types.

 Applied existing research space ratio of two-thirds of existing research space classified as research lab. Assuming same ratio can be applied to future needs yields approximately <u>188,000 ASF for additional research labs.</u>

UIA Peer Institution Research				
Name	Avg. \$/ASF			
Ohio State U.	\$403			
U. Texas, Austin	\$533			
Michigan State U.	\$265			
Purdue U., West Lafayette	\$308			
Arizona State U.	\$489			
U. Kansas	\$443			
Iowa State U.	\$227			
Oregon State U.	\$319			
Georgia State U.	\$956			
U. California, Riverside	\$163			
Average	\$355			
UCE	\$309			

POSSIBLE OPPORTUNITIES FOR MEETING RESEARCH SPACE NEEDS

- The study identifies potential opportunities to meet the 188,000 ASF of research lab space through:
 - existing research lab space re-allocation
 - new construction (focused on specialized space needs)
 - through re-allocation of underutilized instructional and office space identified in space study



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RESEARCH SPACE ALLOCATION AND ASSESSMENT

- Establish a working group, under the purview of the University Space Committee and led by the Interim Vice President for Research, that is tasked with development of the following:
 - 1. A research space allocation process
 - 2. A research productivity matrix to evaluate ongoing space assignments
 - Productivity evaluations of lab assignments should occur a minimum of every (3) years.



RESEARCH LAB -ALLOCATION & ASSESSMENT CONSIDERATIONS

- Alignment of research activity to University strategic priorities.
- High impact, mission-oriented research and creative activity.
- Proportion of research and creative activities supported by external funding.
 - Faculty who have had external funding during the previous three-year period.
- Faculty who have a productive research program and optimally utilize their assigned research space during the previous three-year period should retain their assigned space.
- Research and creative activities involving postdoctoral trainees, professional degree students, master degree students, visiting scientists or other research staff.
 - Postdoctoral measures are critical to achieving preeminence.
- Number of undergraduate students engaged in research and creative activities.
- Research and creative activities that interface instruction and research.



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Findings:

- STEM based research contains
 the highest allocation of space
 without affiliated external
 funding.
- 123,000 ASF of existing research space does not have external funding.

Note: OOR (Office of Research) includes the Faculty Cluster Institute, Florida Space Institute, and Nanoscience Technology Center.

COMPARISON OF UIA PEERS



RESEARCH EXPENDITURES per SQUARE FOOT RESEARCH SPACE

Findings:

- Eight out of ten UIA peers have greater total research expenditures than UCF.
- Five out of ten UIA peers have a greater research expenditure dollar per square foot than UCF.
- Success in the \$350M goal will require both:
 - Increasing expenditures/sf
 - Increasing sf assigned to research activities.
- Critical to keep an eye to 10-year targets associated with AAU attainment of ~\$600M.

FUTURE NEEDS ANALYSIS

TOP RESEARCH AREAS IDENTIFIED

UCF Strategic Plan Areas of Focus

- Space Technologies and Systems (CECS, COS)
- Entertainment and Immersive Experiences (CECS, CAH)
- Health and Human Performance (CHPS, CON, COM)
 Energy and Sustainability (CECS, COS)
- Transformative Technologies and National Security (CECS, COS)

Additional PI Hire Estimates to Support Research Growth

	Through 2024	Need After 2024	Total PI Growth
CECS	56	47	103
CHPS	0	4	4
СОМ	6	17	23
CON	0	7	7
COS	13	42	55
CREOL	9	15	24
IST	5	11	16
OOR*	0	13	13
Total	89	156	245

*Includes FCI, FSI and NSTC

Average Team PI ASF Estimates

College	As Range
FCI	900
NST	1300
САН	180
СВА	300
CCIE	300
CECS	250-900
IST	750
CHPS	450-600
СОМ	1300
CON	250
CREOL	750
COS	150-750

Findings:

- Using the NSF data of UCF's ten UIA peers, an estimated ASF allowance per PI Team was developed.
- Each department is assigned an estimated square footage to support research allocation process. These ASF by department vary significantly but the college as a whole may have a wide range.
- Shared facilities can help to reduce ASF requirements as well as increase expenditures/ASF.
- This ASF per department was used to develop the research space needs for each college.





Findings:

- Projected Research Lab
 Need = 183,000 ASF
- Total Existing Research Lab w/o Affiliated Funding = *123,000 ASF*

Note: OOR (Office of Research) includes the Faculty Cluster Institute, Florida Space Institute, and Nanoscience Technology Center.

CONCLUSIONS

CONCLUSIONS

- Success in *realizing the UCF Strategic Plan, achieving preeminence,* and *inclusion in the AAU* requires aggressive analysis of effective and efficient use of all resources, including space.
- Establish working group focused on development of *research space allocation and assignment processes and periodic reviews*.
- Address *identified deficit of 188,000 of research space* through either:
 - re-allocation of under-utilized office and instructional space
 - re-assignment of unfunded research space
 - new construction



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Board of Trustees Facilities and Infrastructure Committee

November 16, 2023

Agenda Item

INFO-1: Space Utilization Study Follow-Up

Proposed Board Action

No action required, for information only.

Authority for Board of Trustees Action

N/A

Supporting Documentation Included N/A

Facilitators/Presenters

Jon Varnell, Vice President for Administrative Operations Jon Bates, Assistant Vice President for Real Estate and Space Administration



Space Utilization Study Follow-Up

EXECUTIVE SUMMARY

Objective

Provide an update regarding the ongoing Space Utilization Study and the action items resulting from the data analysis and initial recommendations.

Summary of Key Observations/Recommendations

Since the presentation of the study results during the last committee meeting and in alignment with the data and recommendations from June, the following actions have taken place:

- Analysis of the *clinical space portfolio* has been ongoing, with additional data validation with units finalizing. Analysis results and recommendations have been delayed and are now planned to be shared with the committee during the February 2024 meeting.
- *Eighteen (18) short-term consolidations and relocations* previously identified are in process, and planning efforts with impacted colleges/units are being finalized. It is projected that these efforts will be completed within the next three (3) to twelve (12) months, resulting in the following:
 - Reduction of 37,838 rentable square feet in UCF Foundation properties, primarily within the Research Pavilion, University Tower, and Orlando Technology Center.
 - Annual operating expense reduction of \$1M in the following areas:
 - Annual base rent: \$643k
 - Annual CAM charges: \$352k
- *Fourteen (14) long-term opportunities* requiring advanced planning efforts have been identified and are being scoped and funding identified. Of note are the following:
 - The design of a co-working hub to support administrative functions within building 16F within the Facilities & Safety complex has kicked off. A timeline for the project is being developed.
 - The project is targeting administrative units currently occupying 43,200 rentable square feet in UCF Foundation buildings.
 - Advanced planning for the Rosen Campus has resulted in a focus on the renovation of the existing facility versus the construction of a 37,000 gross sf new building.
- Negotiations with four (4) non-UCF tenants for space in UCF Foundation buildings (Research Pavilion and Orlando Technology Center) are finalizing. These leases will result in the following:
 - 15,389 rentable square feet
 - Annual base rent of ~\$387k
- The *Classroom Utilization Working Group* has identified ten (10) underutilized classrooms on the main campus. These have been removed from the scheduling process to evaluate impacts.

Additional Background

The following key findings were previously presented to the Committee during its June 2023 meeting:

- Excess capacity of classroom space can be utilized more effectively, particularly through centralized scheduling and scheduling classes outside of peak hours.
 - Based on the recommended utilization target, up to 91 classrooms could be repurposed for other uses or serve as an opportunity for programmatic growth.
- Because teaching and open labs are generally discipline-specific, there are limited opportunities to increase utilization and, therefore, have limited ability to be repurposed or reassigned.
- Utilization of the current research space can be improved through flexible working and collaborative spaces (shift from dedicated lab benches to spaces that can be shared and/or "rented" by researchers on an ad-hoc basis).
- Applying the UCF workspace guidelines indicates the opportunity to reduce workspace allocations by approximately 350,000-400,000 assignable square feet (ASF) across all locations and free up 123,000 ASF in the Research Park for future research activity or monetization strategies targeting non-UCF rental revenue.

Rationale

Appropriate and aggressive utilization of the university's space assets is required to fully realize the success of the UCF Strategic Plan. By capturing underutilized space, we're able to accommodate research and faculty growth, create operational savings, increase lease revenues, and accommodate other space needs that support our strategic plan.

Implementation Plan

N/A

Resource Considerations

N/A

Conclusion

Development and implementation of actionable projects resulting from the Space Utilization Study data is continuing to occur and progress. Many opportunities have been identified and will continue to be developed, resulting in a significant positive impact on the goals of the UCF Strategic Plan.