

UNIVERSITY OF CENTRAL FLORIDA **SPACE UTILIZATION STUDY**

JUNE 2024



UNIVERSITY OF
CENTRAL FLORIDA



*This document was prepared for the
University of Central Florida*

DLRGROUP

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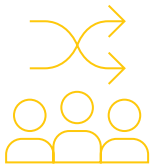
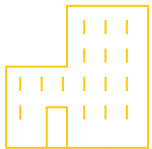
ACADEMIC RESEARCH CLINICS UTILIZATION | HEALTH
CLINICS SPACE INVENTORY | HEALTH CLINICS UTILIZATION

01

INTRODUCTION

PURPOSE AND GOALS | STEERING
COMMITTEE MEMBERS | METHODOLOGY
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INSTITUTIONAL STRATEGIC PLAN



UCF MISSION

UCF is a public research university invested in unleashing the potential within every individual; enriching the human experience through inclusion, discovery, and innovation; and propelling broad-based prosperity for the many communities we serve.

WE ASPIRE TO BE

A leading enterprise for innovative research and creative works

A best place to learn and work

The #1 provider of diverse talent

A campus without boundaries

The University with a high return on investment and engagement

PRIORITIES

Student Success and Well-Being

Discovery and Exploration

Community and Culture

Innovation and Sustainability

STUDY PURPOSE

“The purpose of this study is to evaluate space use in the core of campus to better align with UCF’s strategic visions for an ideal campus environment.”

STUDY GOALS

This Space Utilization Study was developed to accomplish the following goals:

1. Gain a deep understanding of current office, classroom, and lab (teaching and research) space utilization.
2. Recommend policies to improve space utilization (assuming constant enrollment and flexible work arrangements).
3. Increase opportunities for underutilized space to be repurposed, including the potential to generate rental revenue.
4. Implement process improvements to increase real time accuracy of space use data.

By capturing space for re-purposing, UCF will be able to accommodate research and faculty growth, create operational savings, increase lease revenues, and accommodate other space needs to support the strategic plan. It will also ensure that available resources are directed to meet the most pressing needs.





ACKNOWLEDGMENTS

STEERING COMMITTEE

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Jonathon Bates

Assistant Vice President Real Estate & Space Administration

Christy Miranda Perez

Director of Space Administration

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Associate Provost

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Director of Facilities Planning

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Director of Real Estate and Facilities, UCF Foundation

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Space Planning Analyst, CFP

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Architect, DLR Group

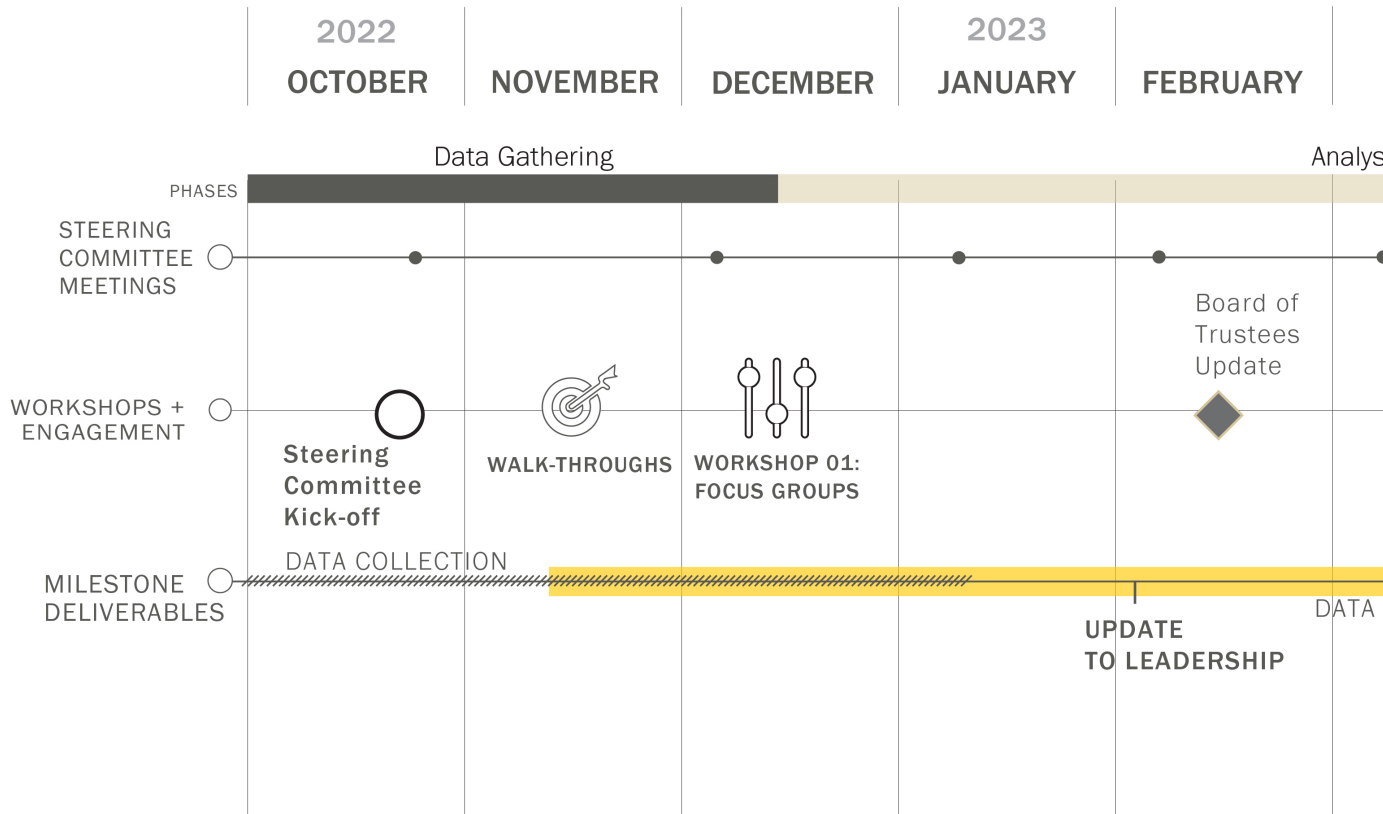
James Palavin

Classroom Utilization Analyst, CFP

David Marsh

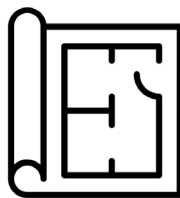
Teaching Laboratory Utilization Analyst, CFP

PLANNING PROCESS



DATA COLLECTION

A robust data collection process paralleled the overall study process, to ensure that the most comprehensive and accurate data possible served as the foundation for this study. Some of this data was being compiled or collected for the first time.



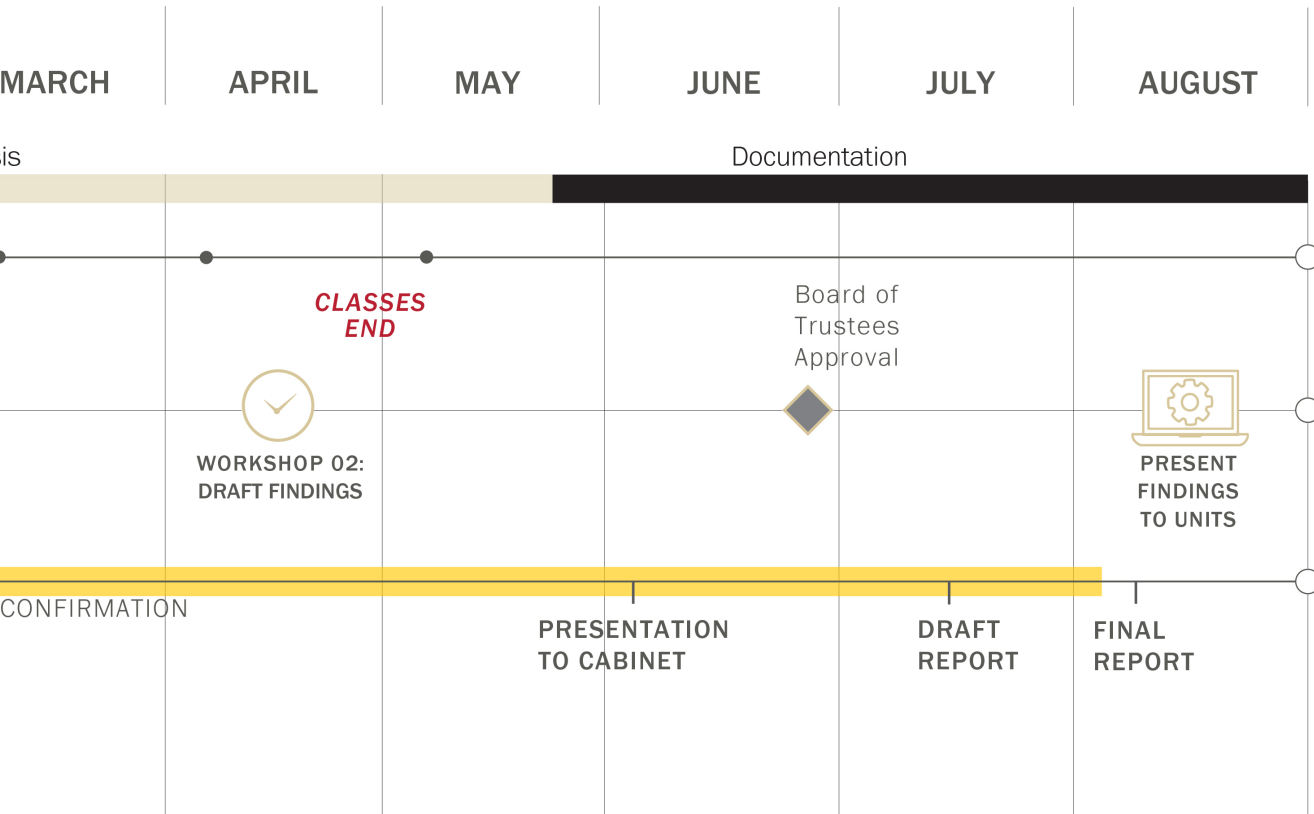
Room data showing use, square footage, and station county for all space types included in study



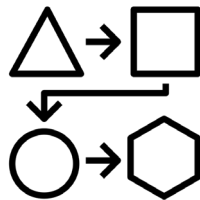
Data confirmed during walk-through and via data verification request



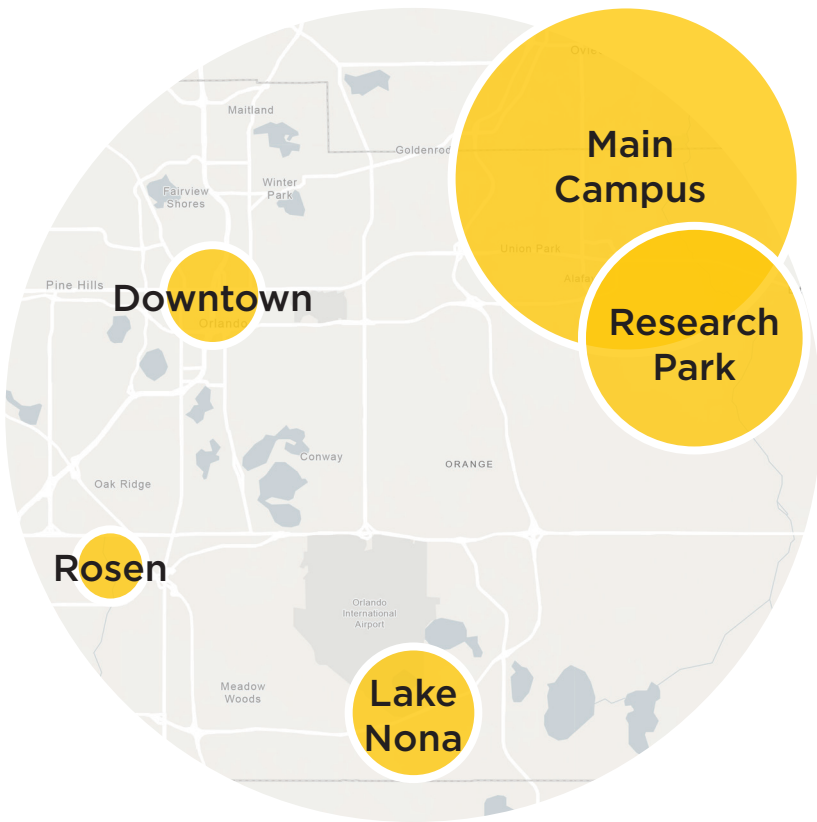
Fall 2022 and Spring 2022 complete course schedule indicating course type, day, time, enrollment, and location



Employee roster showing titles, department, occupancy, and FTE for all UCF employees

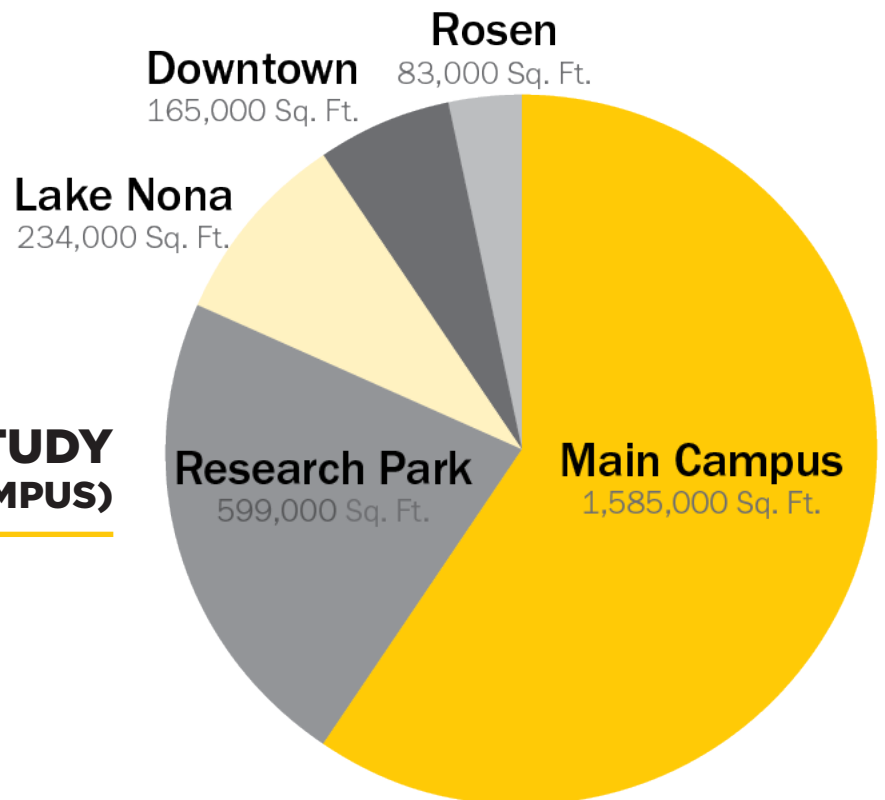


Context provided during focus groups, workshops, and by Steering Committee Review



CAMPUS LOCATIONS (CIRCLE SIZE REFLECTS SQ. FT.)

SPACE INCLUDED IN STUDY (BY CAMPUS)



SPACE TYPES IN STUDY

The following types of space were included in this study, along with support or storage spaces that directly served these functions (for example, lab storage or prep areas, conference rooms that support workspaces, or research equipment storage).

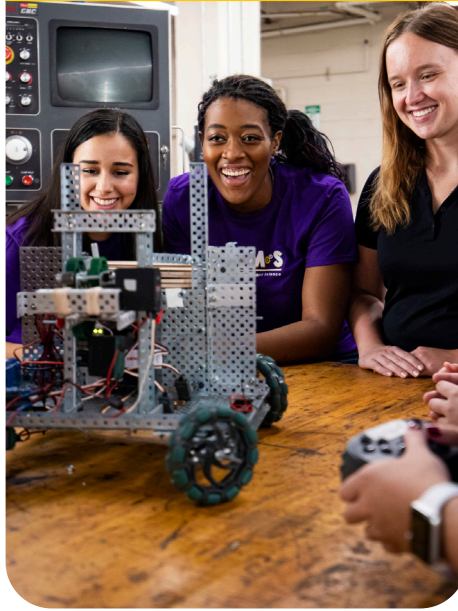
CLASSROOMS

329,000 Sq. Ft.



TEACHING LABS

328,000 Sq. Ft.



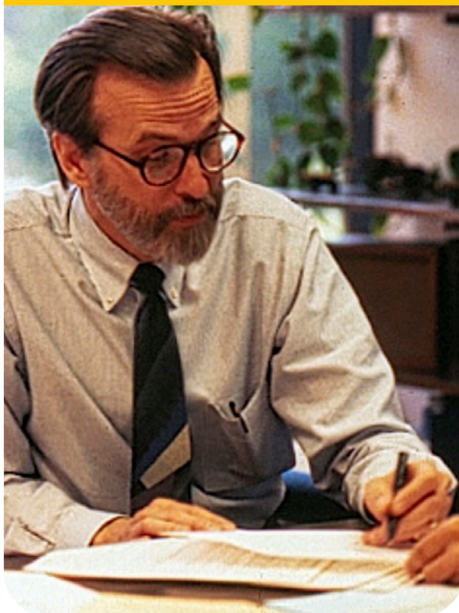
RESEARCH LABS

552,000 Sq. Ft.



WORKSPACE

1,416,000 Sq. Ft.



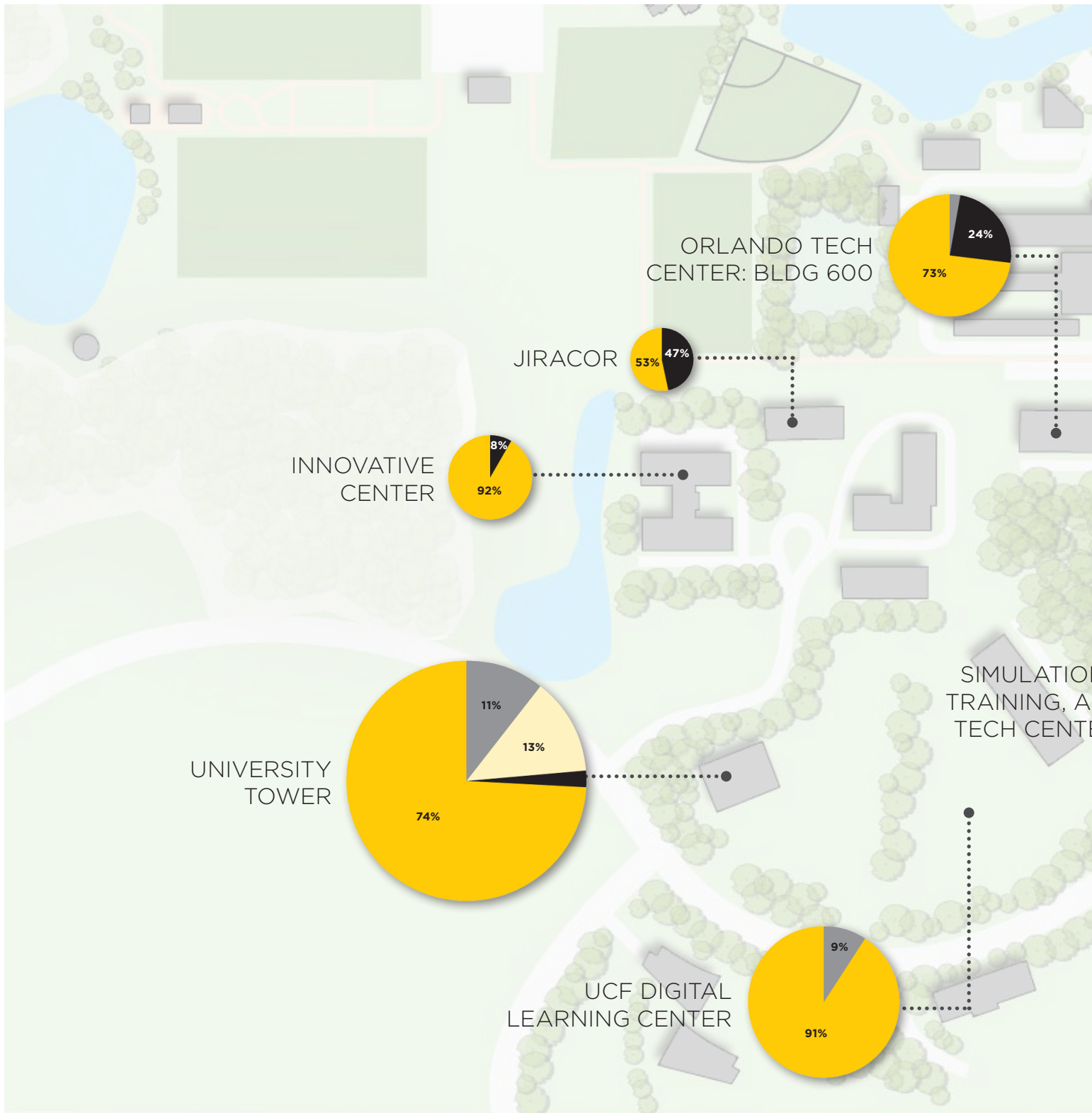
CLINICAL SPACE

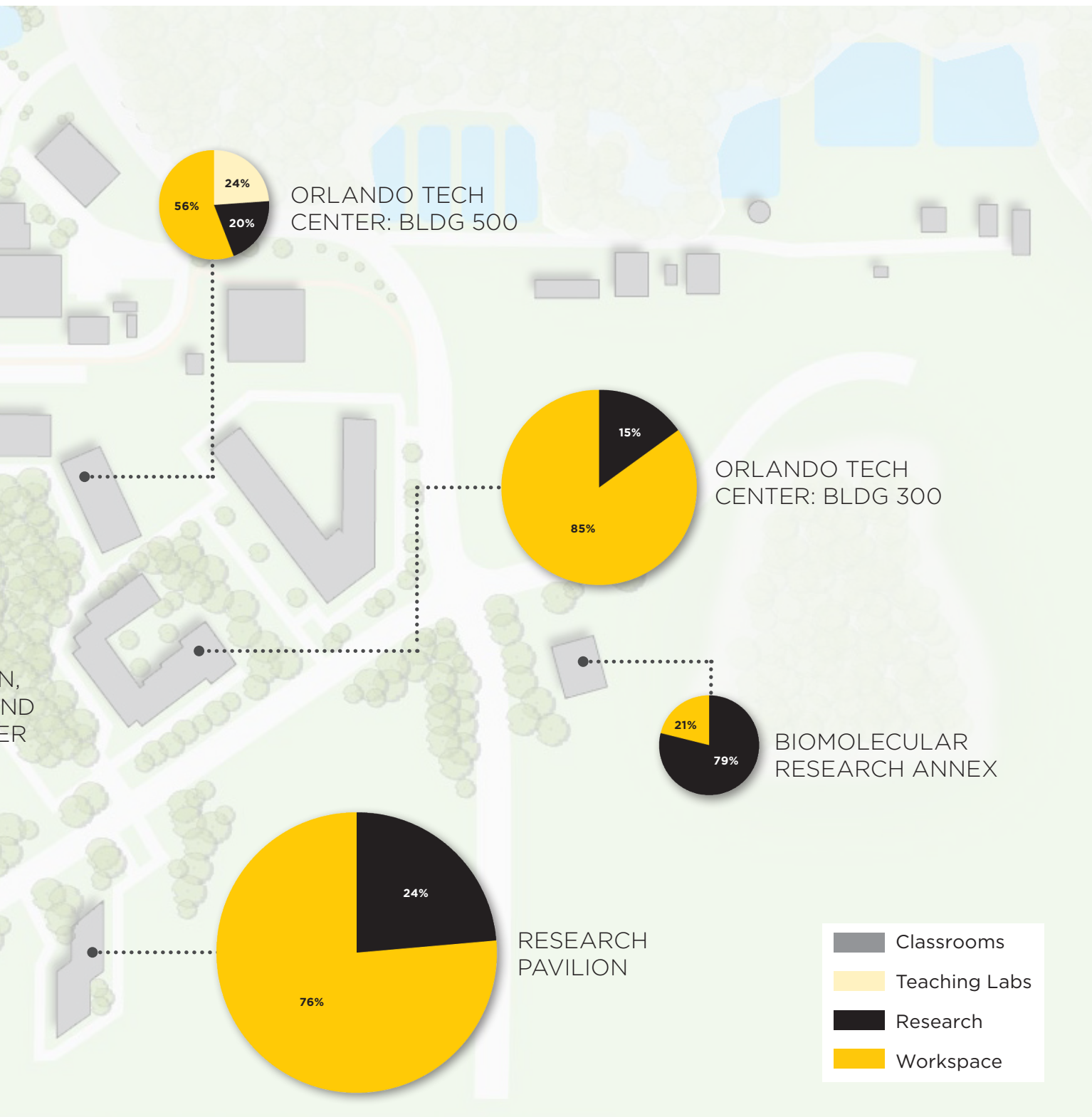
29,000 Sq. Ft.



RESEARCH PARK BUILDINGS

The buildings shown in this diagram represent the buildings within Research Park with significant amounts of space types included in the study. The majority of space shown here is administrative workspace, which was identified in the study as an opportunity to maximize utilization.





02

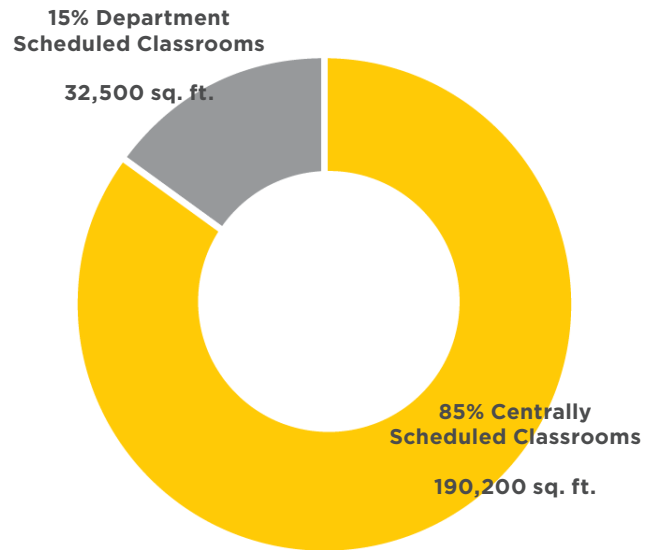
CLASSROOM UTILIZATION

CLASSROOM INVENTORY | PEDAGOGY &
DESIGN | CLASSROOM SCHEDULED HOURS
| CLASSROOM SEATS FILLED | WEEKLY
HOURS BY CAMPUS

MAIN CAMPUS CLASSROOM INVENTORY: FALL 2022

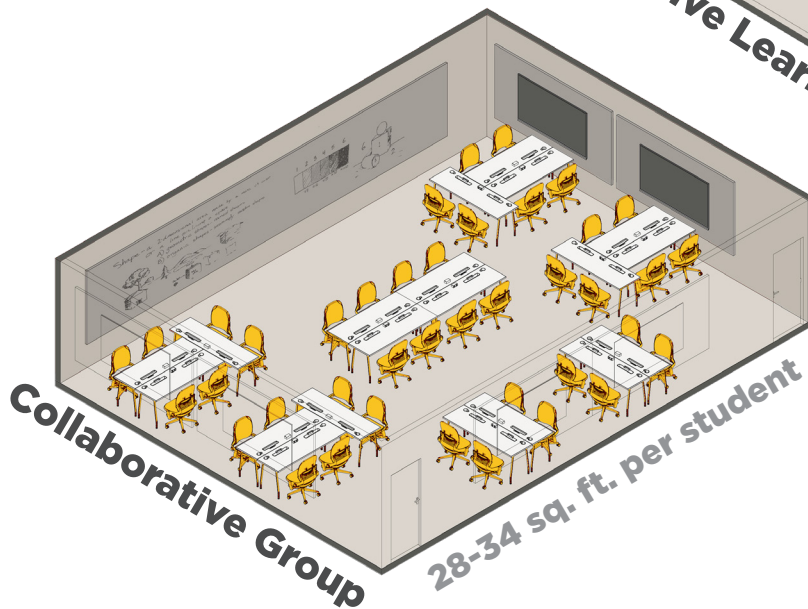
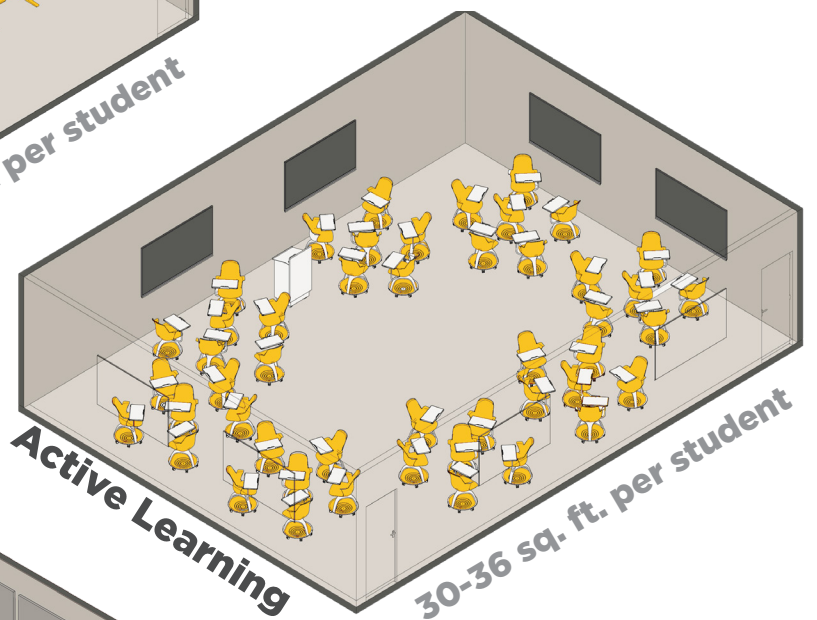
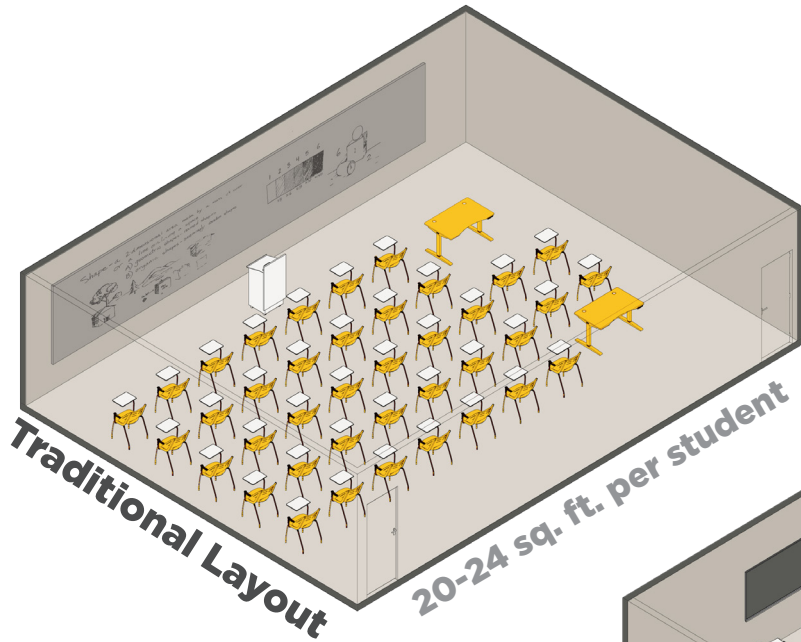
UCF has over 220,000 square feet of classroom space with 196 classrooms on the Main Campus and 261 on all campuses included in this study. The majority of these (85%) are centrally scheduled by the Registrar.

CLASSROOM INVENTORY BY SCHEDULING TYPE



PEDAGOGY AND CLASSROOM DESIGN

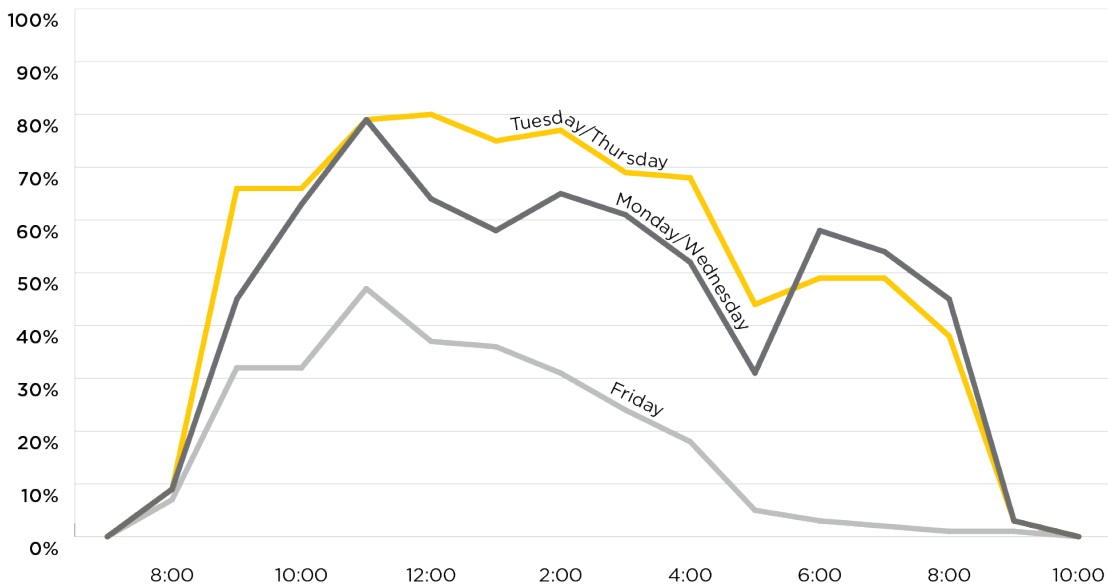
Institutions need a variety of classroom layouts to support various teaching modalities, but UCF's current classroom inventory is designed almost exclusively for didactic teaching in traditional layouts. More square footage is needed per student for more interactive room layouts and teaching formats.



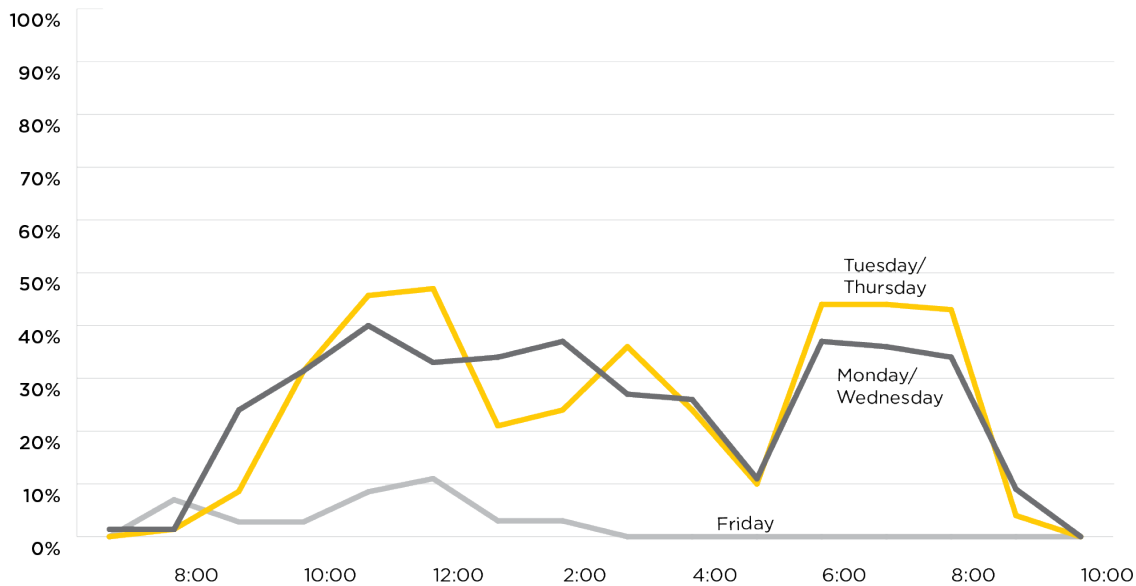
CLASSROOM SCHEDULED HOURS

Classrooms are scheduled heavily during weekday mornings and mid-day, but less so on Fridays and after 5:00 p.m. Downtown Campus classroom utilization is low throughout the day. The charts below show the total percentage of classrooms with scheduled use at each point during the day.

CLASSROOM UTILIZATION: MAIN CAMPUS (FALL 2022)



CLASSROOM UTILIZATION: DOWNTOWN CAMPUS* (FALL 2022)

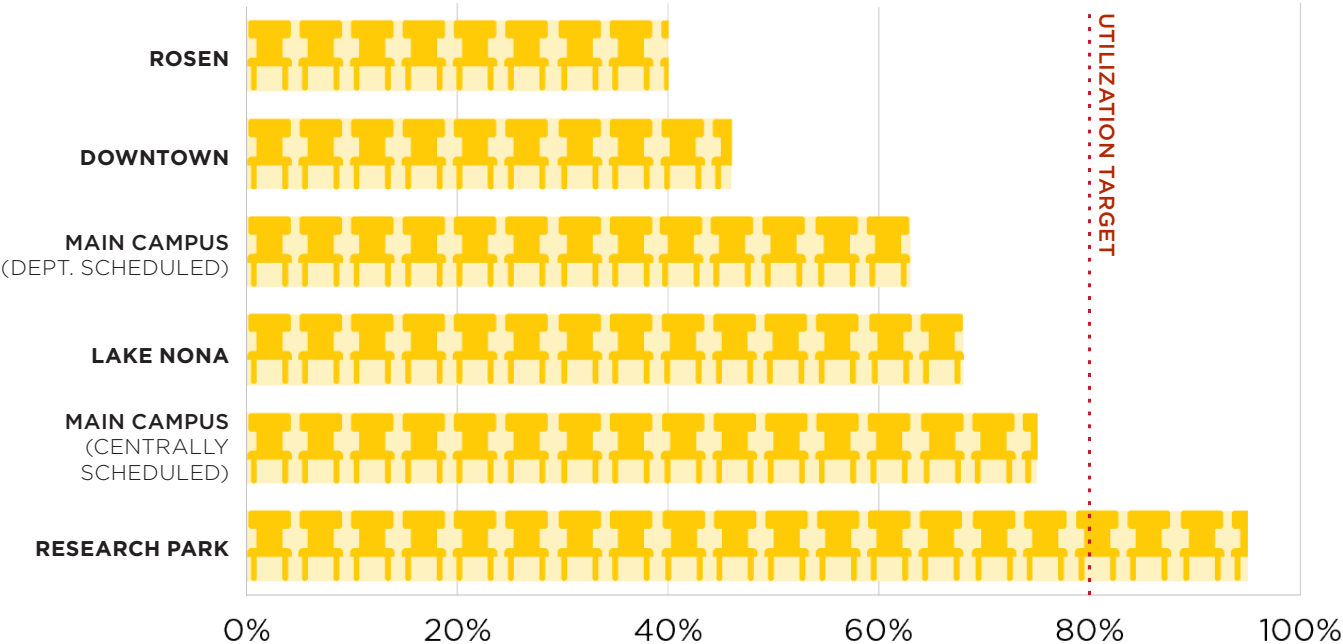


*Includes classrooms shared with Valencia College

CLASSROOM SEATS FILLED

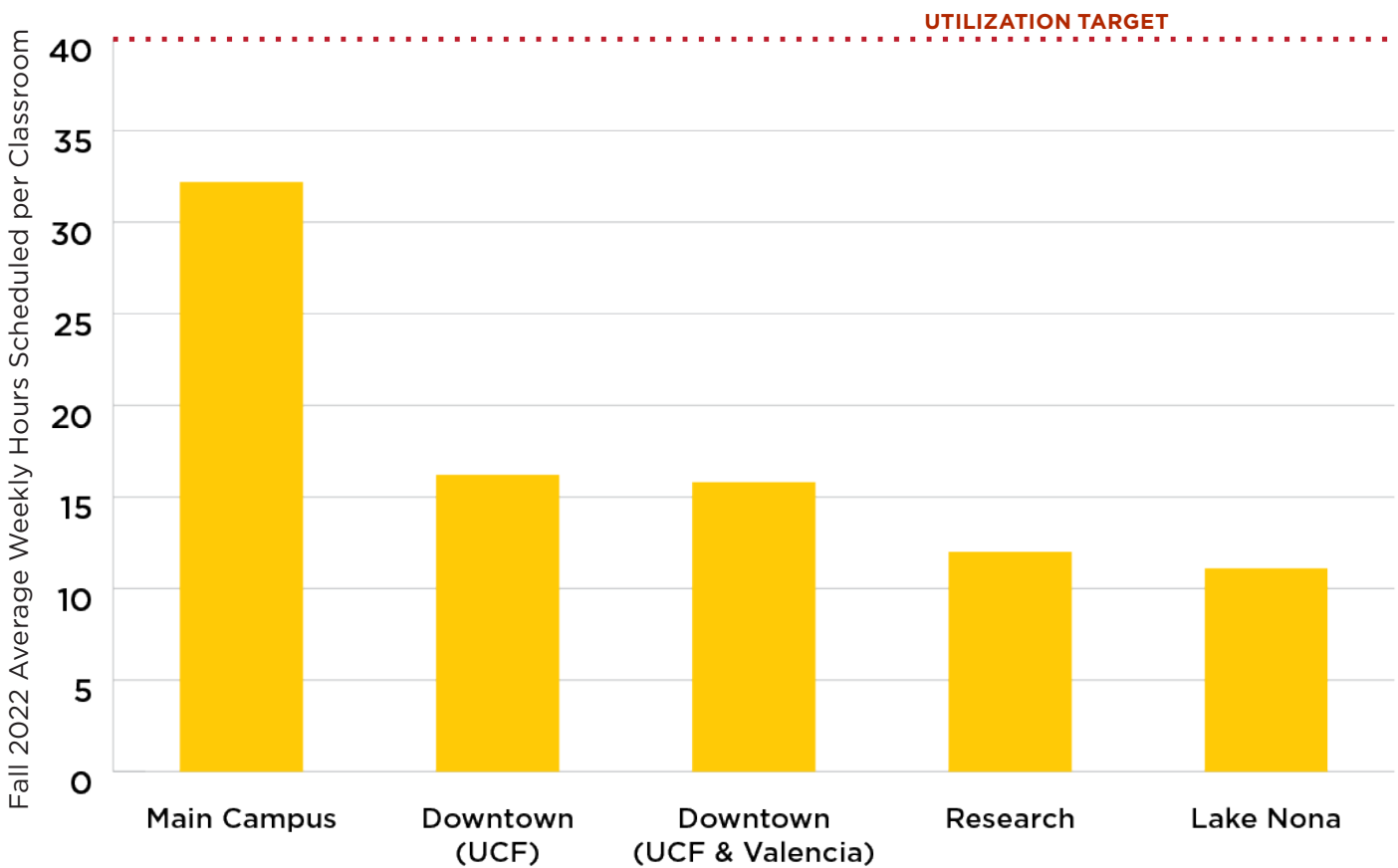
Seats on the Main Campus in scheduled classrooms are generally full but fall short of the 80% utilization target. The Downtown and Rosen campuses have fewer than half the seats filled in their classrooms on average.

CLASSROOM SEATS FILLED BY CAMPUS (FALL 2022)



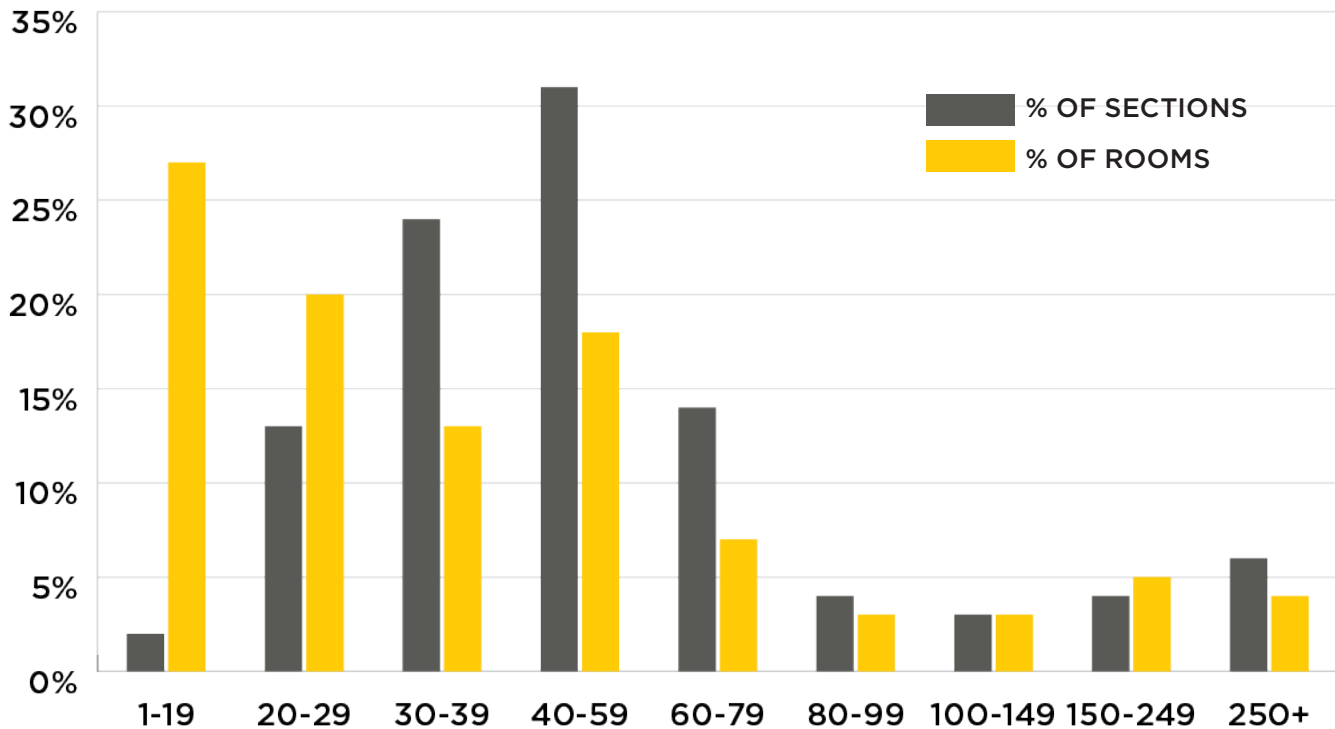
WEEKLY CLASSROOM HOURS BY CAMPUS

During the Fall 2022 semester, classrooms on average were scheduled less than the 40-hour per week utilization target on all campuses. Utilization was significantly lower beyond the Main Campus. Classrooms by definition do not include specialized equipment and therefore should be easily scheduled by classes from a variety of disciplines.



As shown in the chart below, many smaller courses are being taught in larger classrooms, indicating a mismatch between classroom seat capacity and section size that could be resolved with improved scheduling, ensuring that the balance of classroom sizes more closely matches the courses being taught.

COURSE SECTION TO CLASSROOM SIZE MISMATCH (FALL 2022)



CLASSROOM UTILIZATION OVERVIEW

METRIC	FINDINGS
Scheduled Use	Weekly hours are below the minimum target, especially for dept. scheduled classrooms
Time of Day	Classes are not fully scheduled throughout the day and week
Seats Filled	Dept. scheduled classrooms are below the minimum target
Station Size	Existing area per seat is below SREF standard

CONCLUSION

There is a surplus of 91 classrooms (46 on the Main Campus). UCF could save \$81.5M (\$41M on Main Campus) by repurposing these spaces rather than building new.

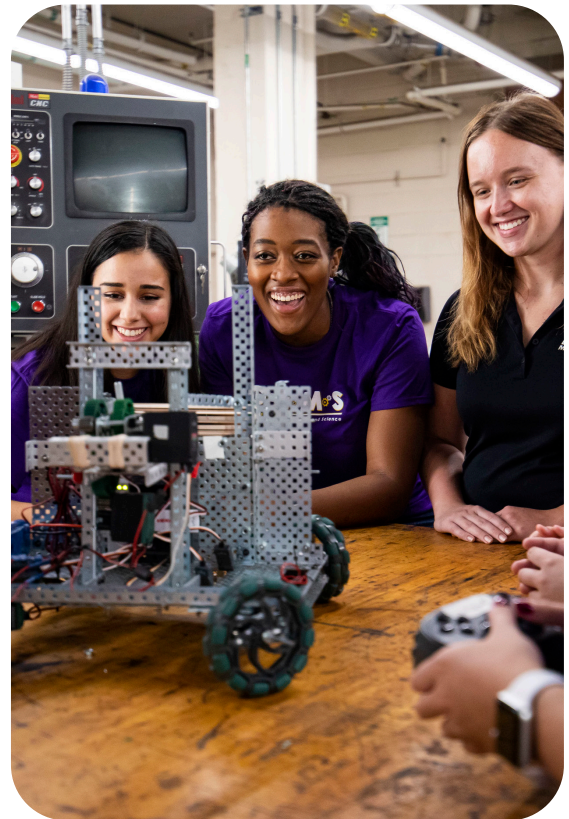
03

TEACHING LABORATORY UTILIZATION

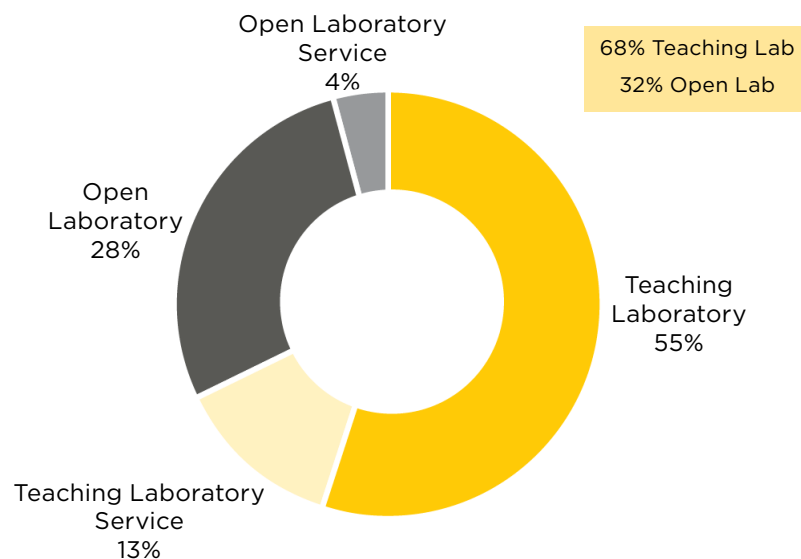
OBSERVATIONS | UTILIZATION BY TIME OF
DAY | HOURS SCHEDULED | OVERVIEW

TEACHING LAB OBSERVATIONS

- Unlike classrooms that may be shared, teaching labs are often specialized facilities with less consistent utilization
- Unique labs must be available in the inventory, even if to satisfy demand for only a single section
- Due to limited interchangeability across departments, some labs cannot meet the utilization targets
- Issues of curriculum design and faculty availability often place an uneven demand on labs across semesters

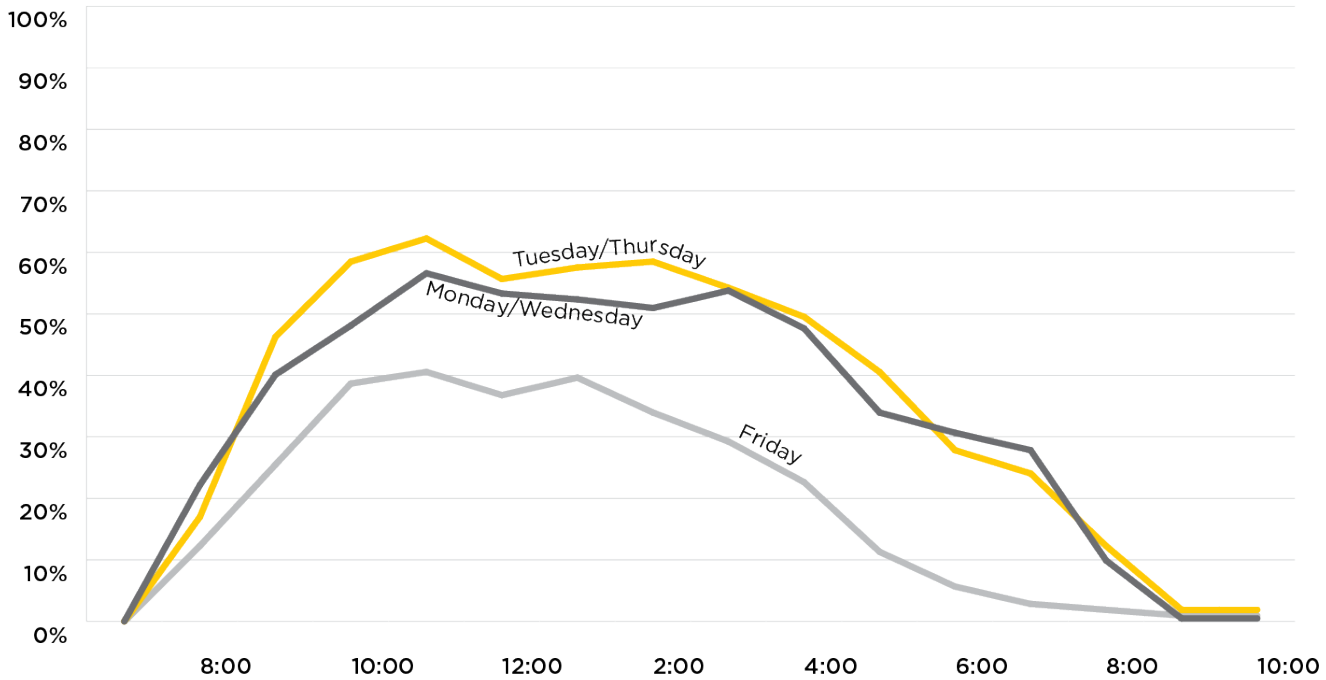


**TEACHING LABORATORY SPACE BY ROOM TYPE
(ALL STUDY CAMPUSES)**

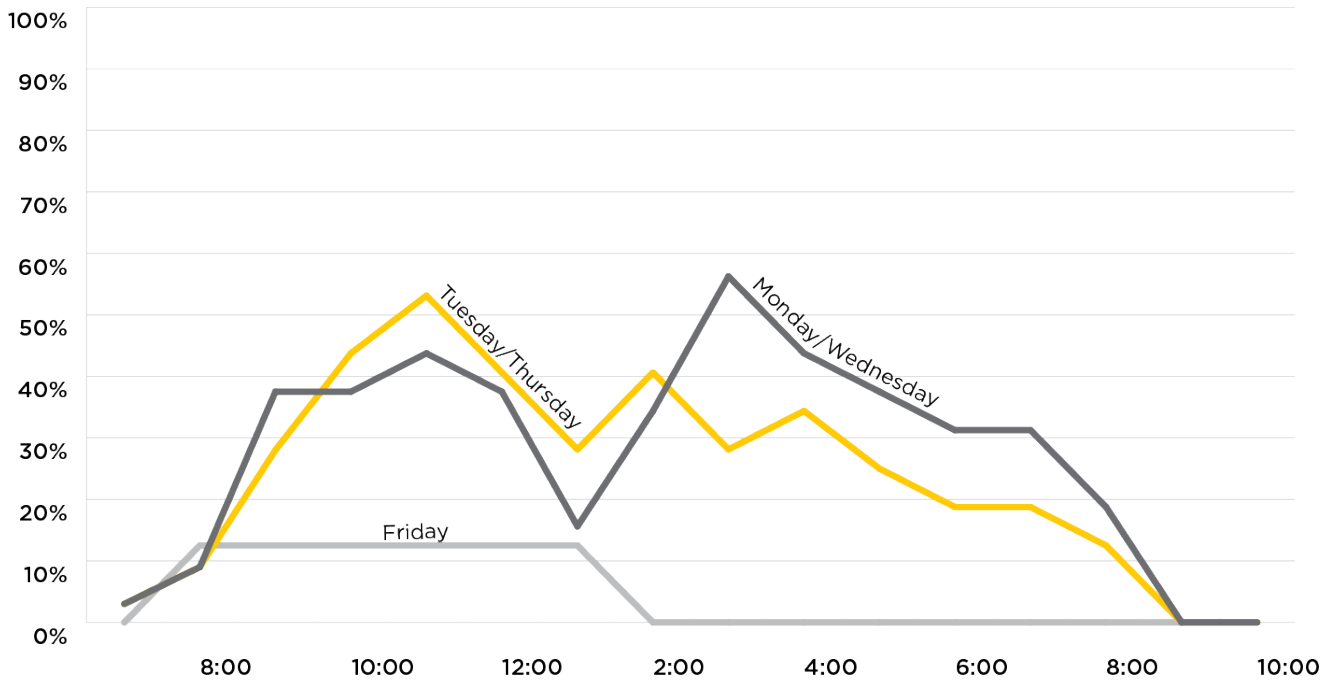


As shown in the charts below, scheduled teaching lab utilization is high throughout the day, but low in early mornings and late afternoon/evening. Specialized labs are difficult to fully schedule, so these charts show a relatively high percentage of labs in use at many given times of day. Data includes both lower and upper division labs. Utilization on the Downtown campus is similar, but much lower on Fridays.

WEEKLY LAB UTILIZATION: MAIN CAMPUS FALL 2022



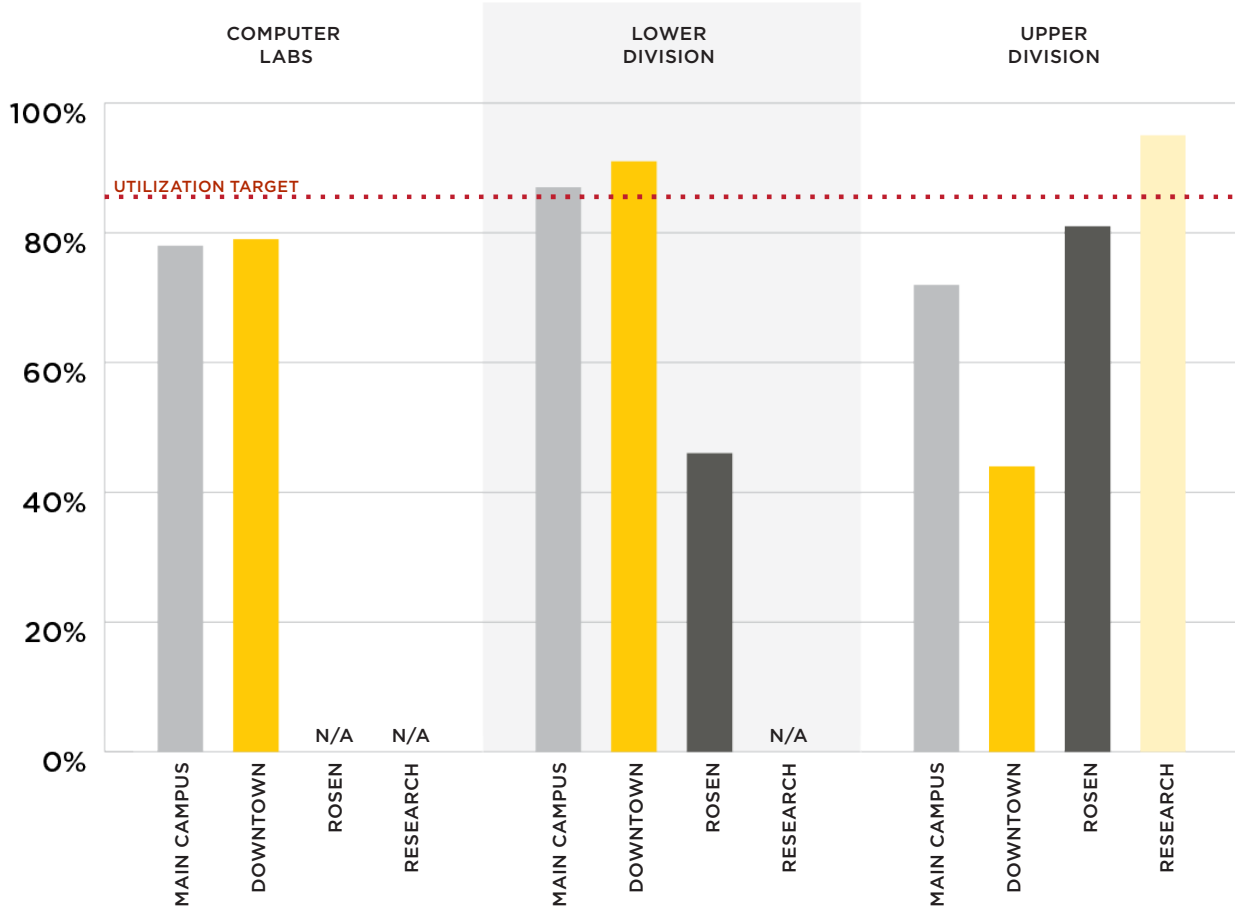
WEEKLY LAB UTILIZATION: DOWNTOWN CAMPUS FALL 2022 (INCL. VALENCIA)



TEACHING LAB UTILIZATION

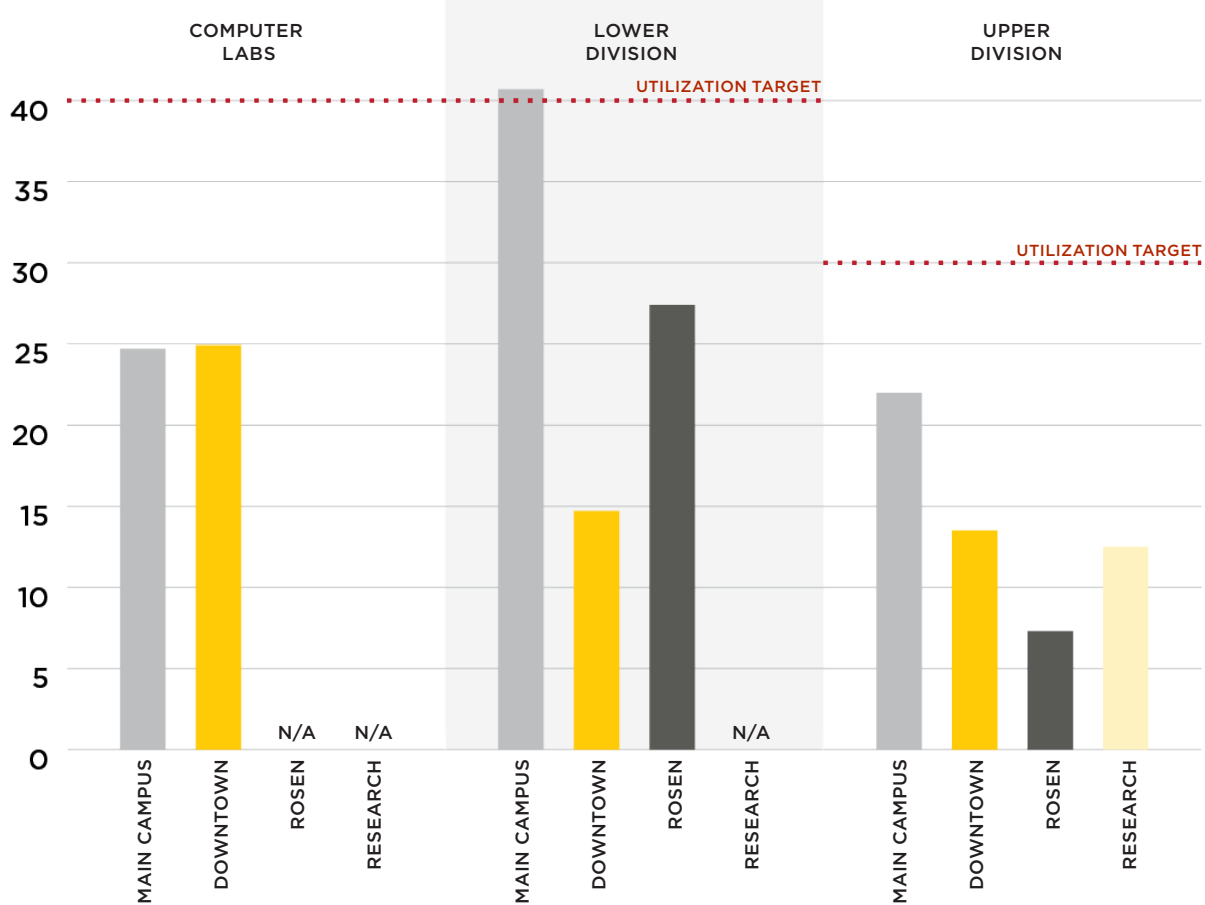
Station occupancy (the average percentage of seats or stations filled) in teaching labs on the Main Campus is in general close to the target for computer labs and lower division labs. Upper division labs are less full but this may be the result of smaller section sizes. Utilization is lower at the Downtown and Rosen campuses.

TEACHING LABS STATION OCCUPANCY BY CAMPUS



The number of weekly hours scheduled in teaching labs exceeds the minimum utilization target only for lower division labs on the Main Campus. Labs on other campuses in the study are below their respective targets. Computer labs in particular should be able to be more fully scheduled due to their flexibility and lack of specialized equipment.

AVERAGE WEEKLY TEACHING LAB HOURS SCHEDULED BY CAMPUS



TEACHING LAB UTILIZATION OVERVIEW

METRIC	FINDINGS
Scheduled Use: Lower Division	Weekly hours are near the minimum target for lower division labs on the Main Campus, but below the minimum target at other campuses
Scheduled Use: Upper Division	Weekly hours are below the minimum target
Scheduled Use: Computer Labs	Weekly hours are 40% below minimum targets
Time of Day	Classes are not fully scheduled throughout the day and week
Seats Filled	Lower and upper division labs (except for computer labs) are below the minimum target of 85% seat fill

CONCLUSION

Teaching laboratories are generally well used but there may be opportunity to increase lab utilization by evaluating shared use potential; particularly for computer labs, lower division labs, and labs located outside of Main Campus.

04

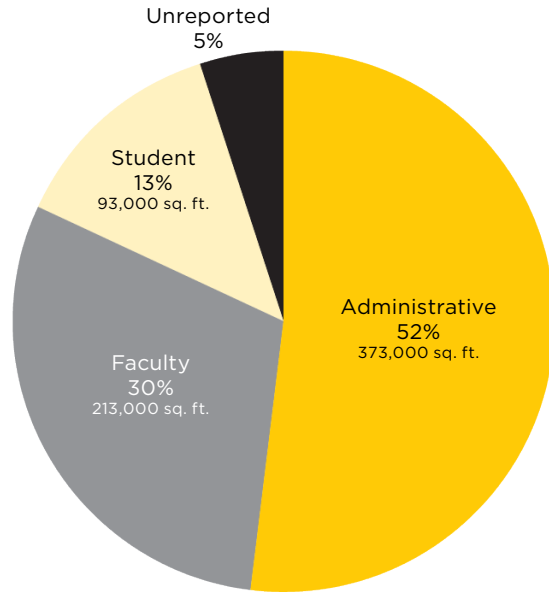
WORKSPACE UTILIZATION

WORKSTATION INVENTORY | VACANT
WORKSTATIONS | REMOTE WORK |
WORKSTATION AREA & COUNTS | WORK
MODALITIES | WORKSPACE DESIGN

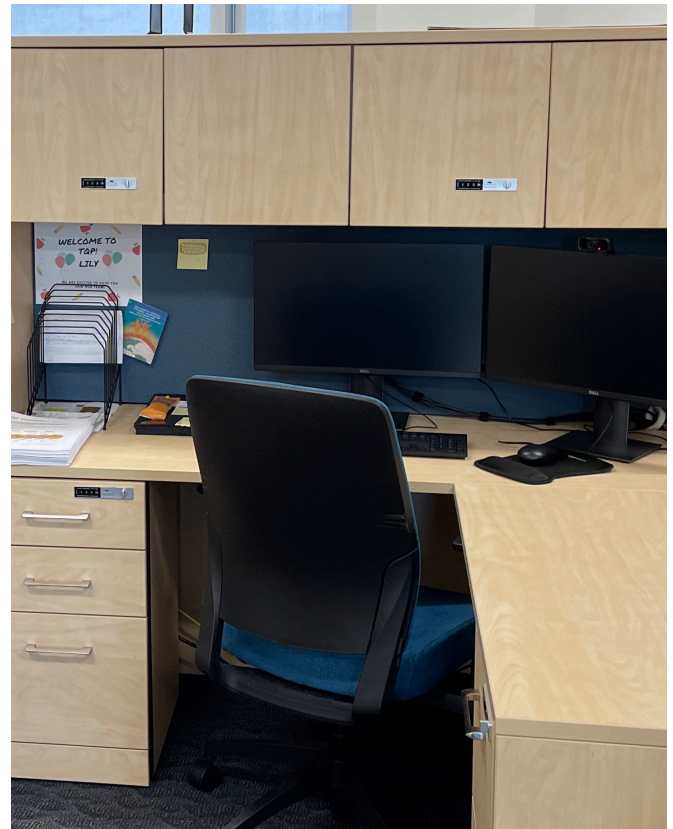
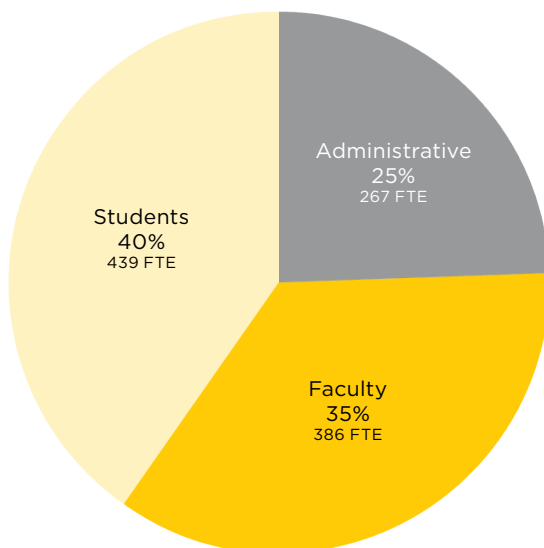
WORKSTATION INVENTORY

More than half of the existing workstations (which includes offices, shared offices, cubicles, and other similar workstations) on the Main Campus (including Research Park) are administrative. This indicates that there may be significant opportunities to improve utilization of this large amount of space.

EXISTING WORKSTATION INVENTORY: MAIN CAMPUS & RESEARCH PARK



PERSONNEL NEEDING A WORKSTATION MAIN CAMPUS & RESEARCH PARK

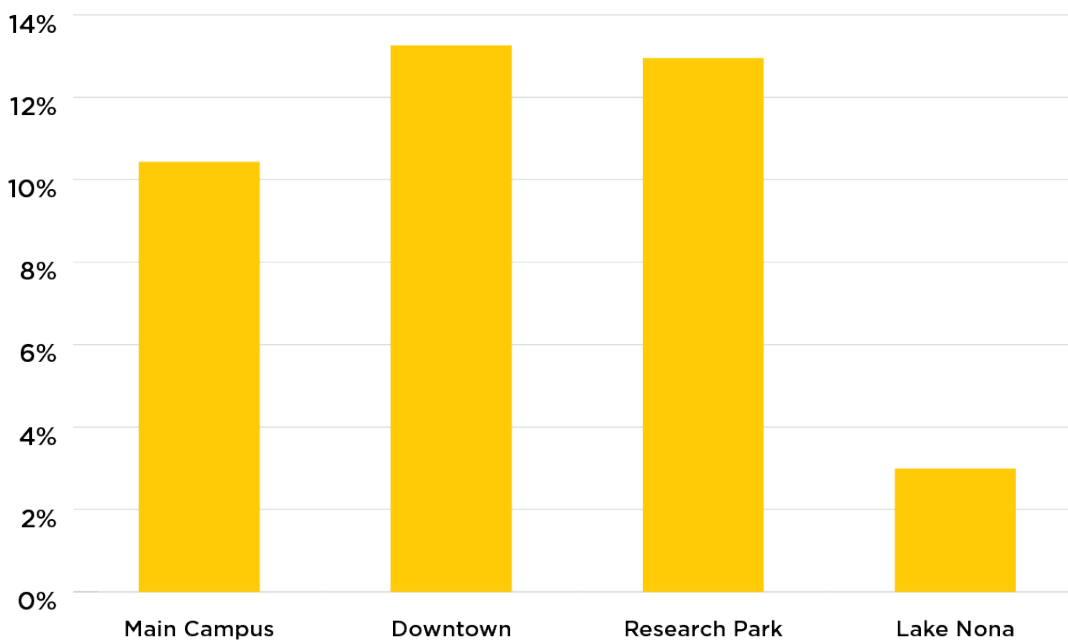


VACANT WORKSTATIONS

Personnel records were connected to workstations to determine which workstations were unassigned. These were assumed to be vacant, although due to the changing nature of personnel, new hires have likely filled some of these workstations since the timeline of the study.

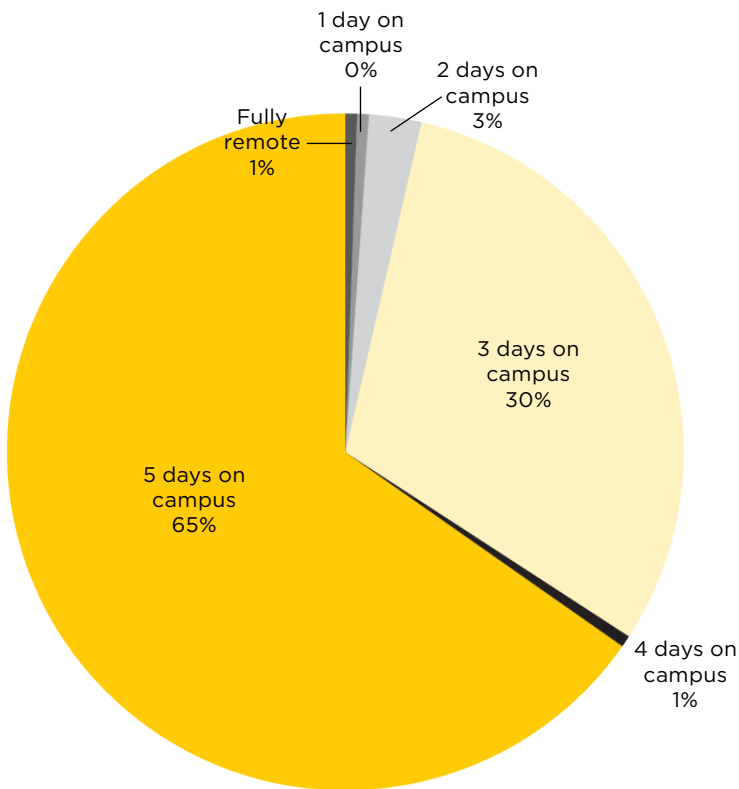


WORKSTATIONS REPORTED AS VACANT



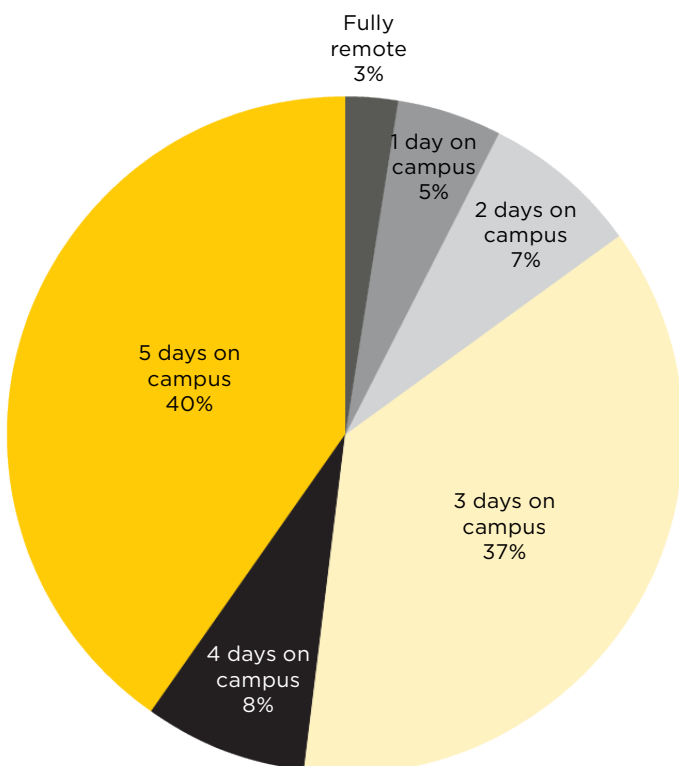
REMOTE WORK

REPORTED DAYS ON SITE: FACULTY



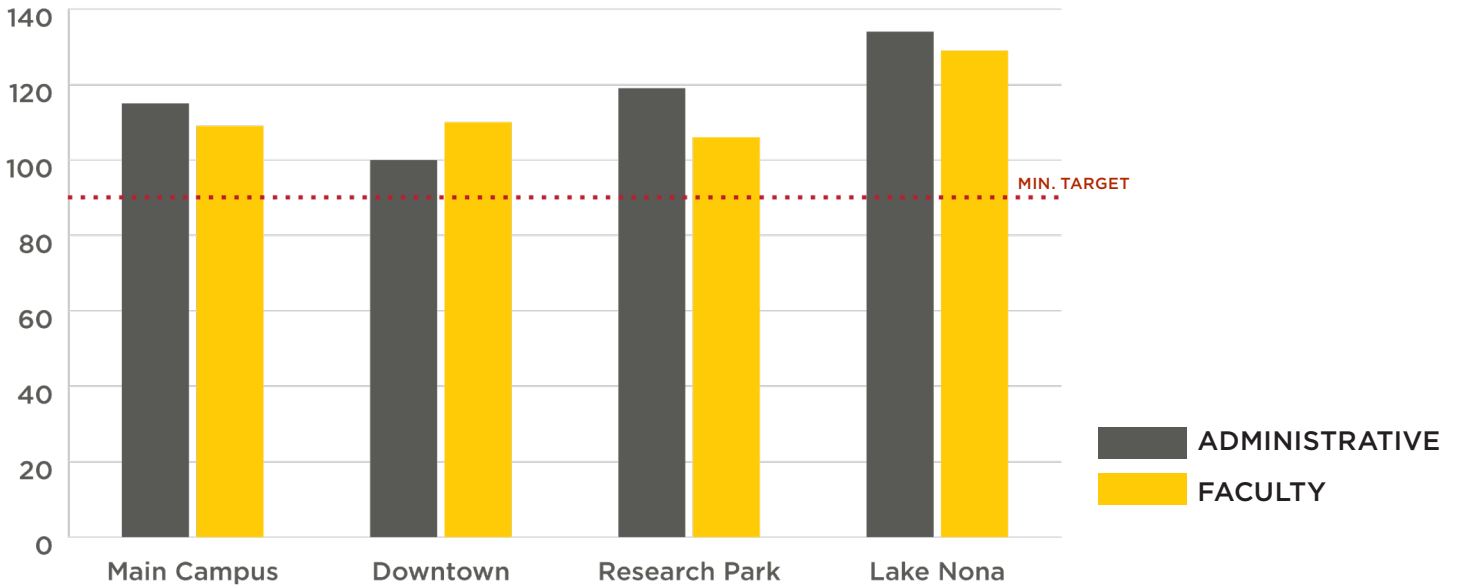
Each unit at the University was asked to report the number of days that each of its staff and faculty report to work on campus. The results indicate that the vast majority of employees were reported as working on site three or more days per week, but that hybrid work is a reality, especially for staff.

REPORTED DAYS ON SITE: STAFF



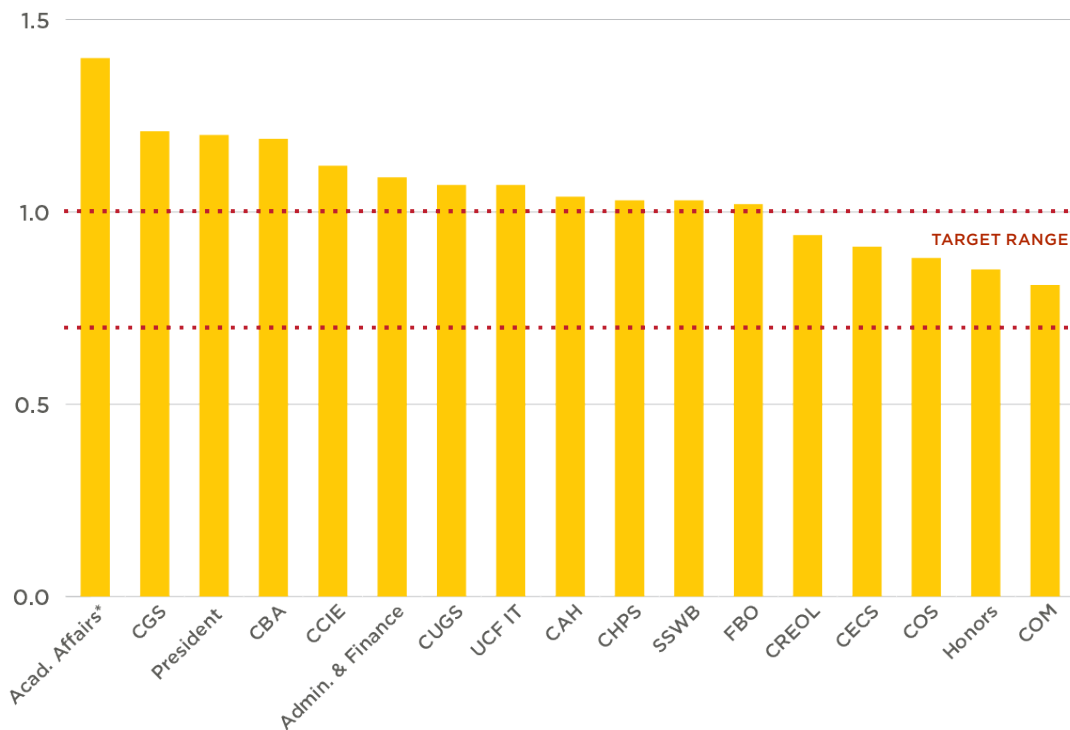
WORKSTATION AREA AND COUNTS

AVERAGE WORKSTATION AREA (SQ. FT.)

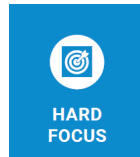
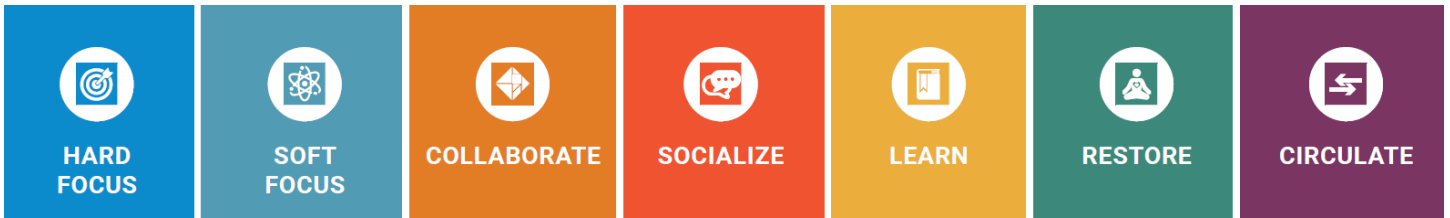


On average, the number of square feet per workstation is above the minimum target, indicating that the size of offices and cubicles is larger than the target. The number of workstations per full-time equivalent employee also indicates that not every workstation is occupied, especially in departments with significant numbers of hybrid or remote employees.

NUMBER OF WORKSTATIONS PER FTE EMPLOYEE

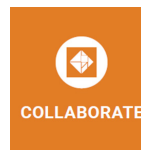


WORK MODALITIES

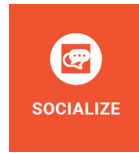


- Calculate
- Write
- Research
- Analyze
- Produce

- Review
- Produce
- Brainstorm
- Write

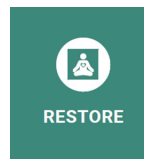
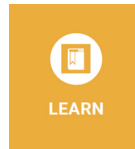


- Discuss
- Combine
- Meet
- Iterate
- Connect virtually



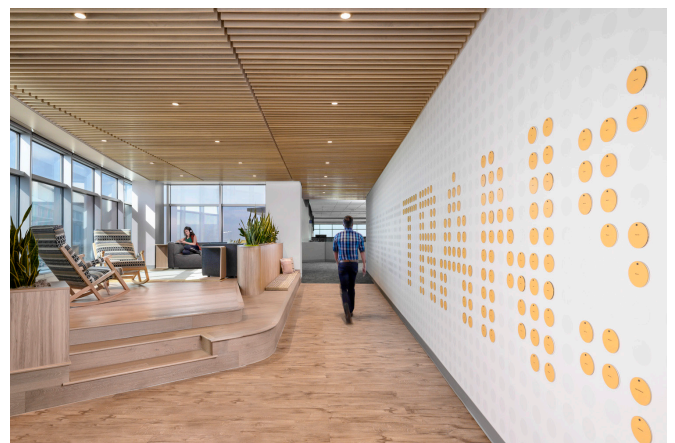
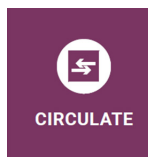
- Personal updates
- Get/give advice
- Joke
- Build trust
- Network

- Train
- Mentor/be mentored
- Seek input
- Continuing education



- Balance mood
- Regain focus
- Reflect
- Refuel attention span
- Reset executive function

- Transition
- Travel
- Impromptu encounters
- Movement breaks
- Join or break from group



WORKSPACE DESIGN

Beyond the metrics, a number of crucial workspace design elements were considered as part of this study. An existing opportunity with the Rosen College of Hospitality Management provided an opportunity to design



CONVENTIONAL WORKSPACE



- 13 employees
- 230 sq. ft. per person
- All private walled offices
- Conventional conference rooms

COLLABORATIVE WORKSPACE



- 15 employees
- 215 sq. ft. per person
- Mix of walled offices and open workstations
- Conference rooms and collaborative spaces

COMMUNAL WORKSPACE



- 20+ employees
- 150 sq. ft. per person
- All open workstations
- Conference room and variety of collaborative spaces

05

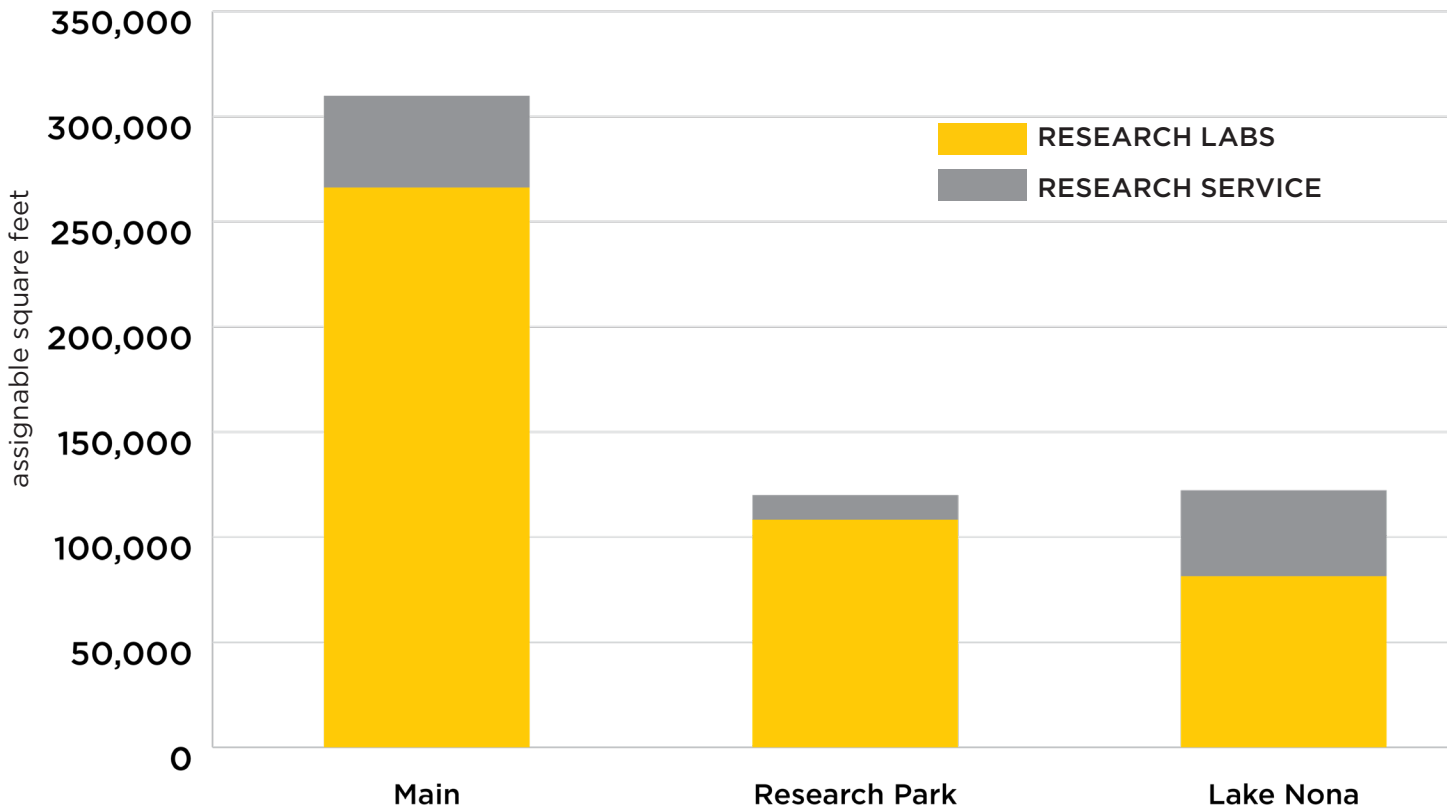
RESEARCH LAB UTILIZATION

RESEARCH SPACE INVENTORY | RESEARCH
EXPENDITURES | RESEARCH SPACE NEEDS

RESEARCH LAB INVENTORY BY CAMPUS

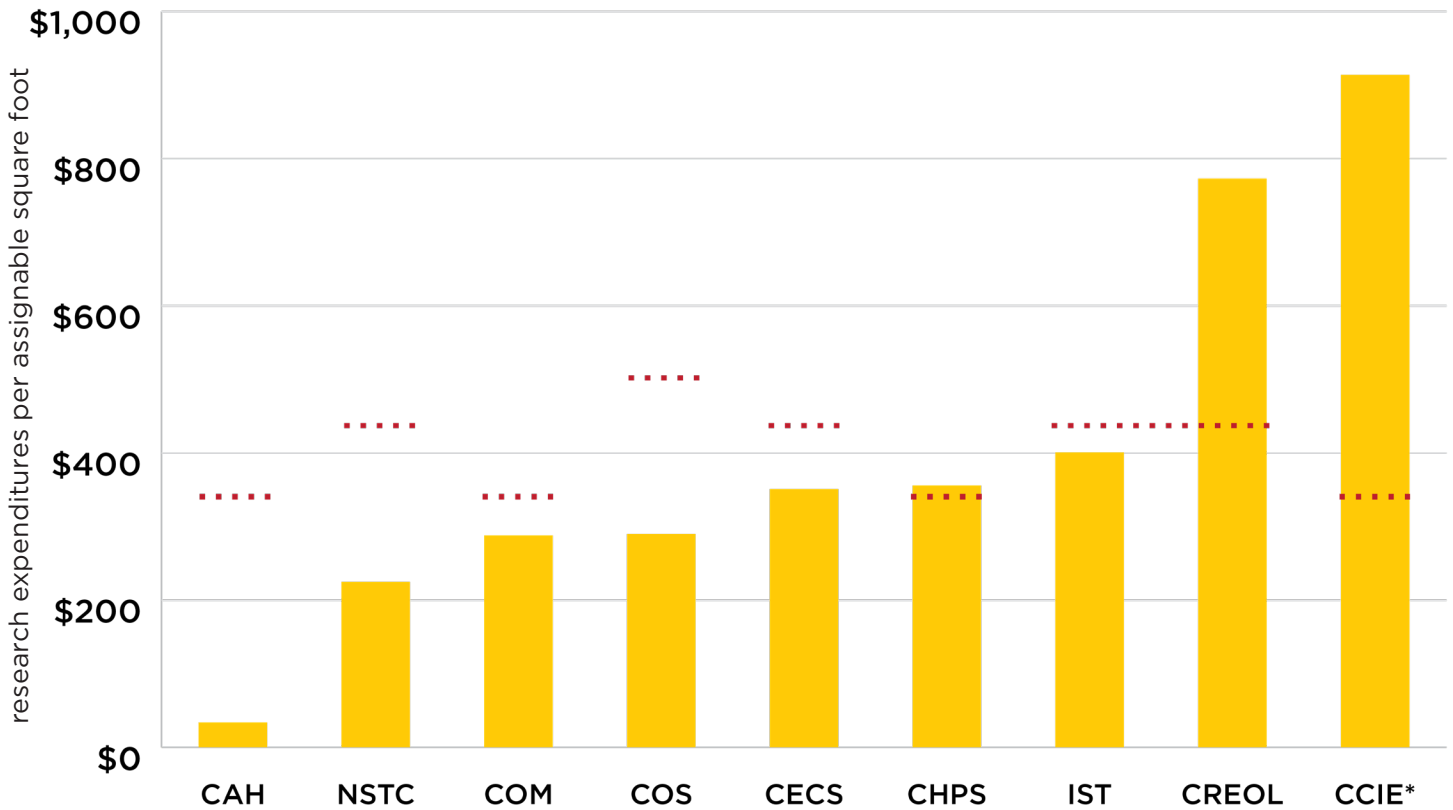
Existing research space totals more than half a million assignable square feet on the campuses included in this study, as shown in the chart below. Service space includes storage and other functions that serve areas designed for research.

RESEARCH SPACE INVENTORY



One measure of research space utilization is the amount of research expenditures from active grants per square foot of research space. The chart below shows these metrics as an average by college, although many individual labs have higher or lower expenditures. The chart counts only square feet that are part of research labs with active grants. Dotted red lines show minimum targets, which are also shown in the table below and are based on National Science Foundation University Innovation Alliance peer data.

RESEARCH EXPENDITURES PER SQ. FT. BY COLLEGE



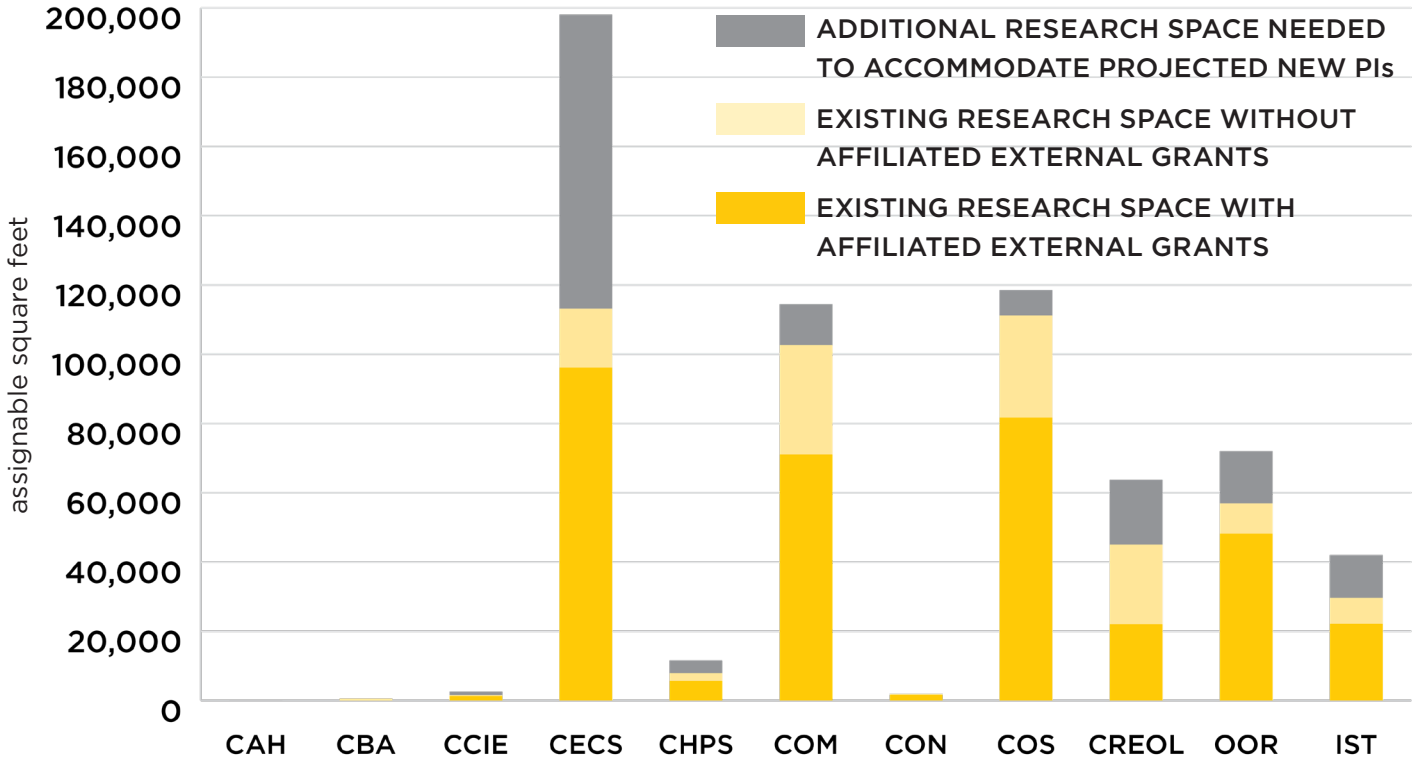
*Only includes expenditures related to on-site research space.

MINIMUM RESEARCH SPENDING TARGETS PER SQ. FT.

RESEARCH LAB TYPE	ASSUMED MINIMUM TARGET (EXPENDITURES PER SQ. FT.)
Engineering Math Computer Science	\$425
Sciences Psychology	\$506
Overall	\$355

The chart below shows the amount of existing research space with and without grants for each unit, along with the calculated amount of additional research space needed. The total height of each bar reflects the total amount of research space needed by unit. Calculations are based on assigning a space need to each principal investigator (PI) projected by each unit.

CALCULATED RESEARCH SPACE NEEDS



187,500

SQ. FT. OF NEEDED ADDITIONAL RESEARCH LAB SPACE

Based on the calculations above, there is a need for additional research space at UCF. Up to 21% of these space needs could be addressed with existing underutilized research labs, as well as underutilized instructional and workspace. The proposed Research 2 building will also provide approximately 47,000 sq. ft. of additional research space

FINDINGS AND RECOMMENDATIONS

UCF's Strategic Plan has a significant focus on expanding research, as part of the goal to be among the Top 25 public research universities in the country, and eligible for membership in the Association of American Universities (AAU) by 2033. Areas of focus include the following

- Space Technologies and Systems
- Entertainment and Immersive Experiences
- Health and Human Performance,
- Energy and Sustainability
- Transformative Technologies and National Security

This study recommends that a working group be established to develop a research space allocation process and research productivity matrix. These will help UCF make the best use of existing research spaces. A series of priority hierarchy considerations will help with decision making as to which research spaces are prioritized and how these are assigned.



06

CLINICAL SPACE UTILIZATION

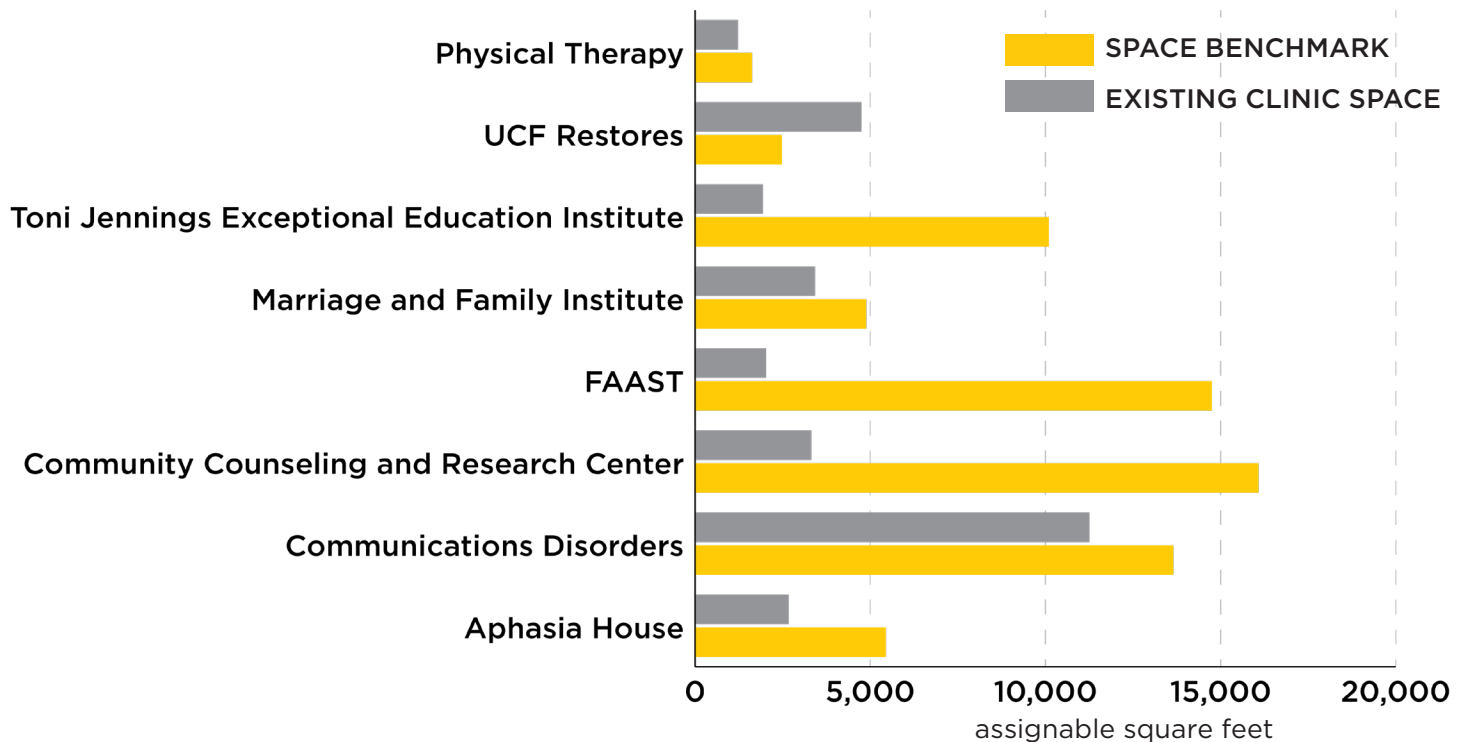
ACADEMIC RESEARCH CLINICS
UTILIZATION | HEALTH CLINICS SPACE
INVENTORY | HEALTH CLINICS UTILIZATION

CLINICAL SPACE UTILIZATION

Clinical space blends functions of patient diagnosis, treatment, and consultant with instruction, research, and public service. UCF operates a number of clinics that provide a wide variety of functions, but are generally divided into academic research clinics and UCF Health clinics.

Each clinic's purpose and operational characteristics are unique, so it is difficult to determine space utilization. For this study, utilization metrics for academic research clinics were developed based on an understanding of the general functions of these spaces. Based on these metrics, most clinics show more space than the metric, but this may not reflect the reality of the needs of each clinic.

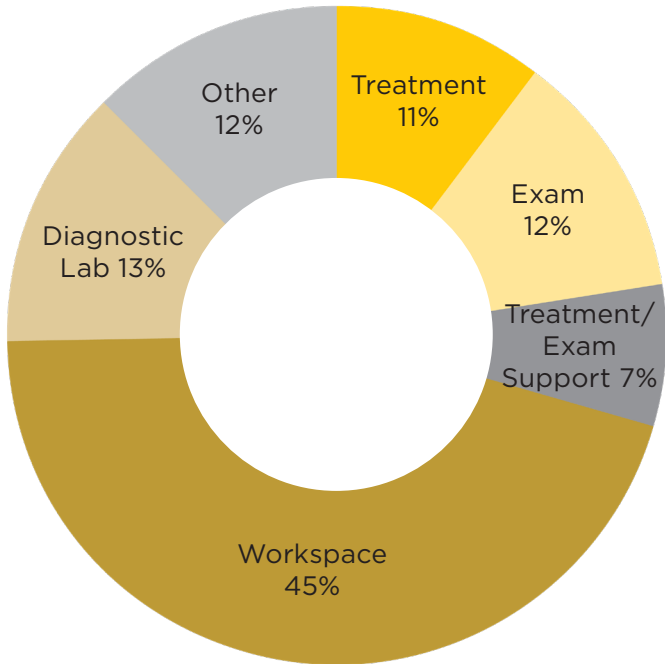
CLINIC UTILIZATION



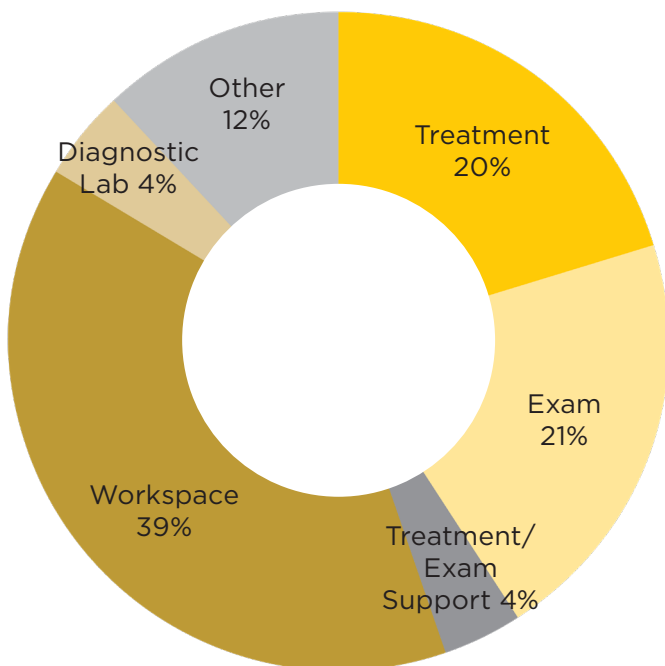
UCF HEALTH CLINICS

UCF Health operates two community health clinics, one on Quadrangle Boulevard just west of the Main Campus, and another off of Narcoossee Road in Lake Nona. The charts below show their existing space inventory by use. While the majority of space is workspace, the utilization analysis focused primarily on treatment and exam (patient) rooms.

EXISTING SPACE INVENTORY (QUADRANGLE)



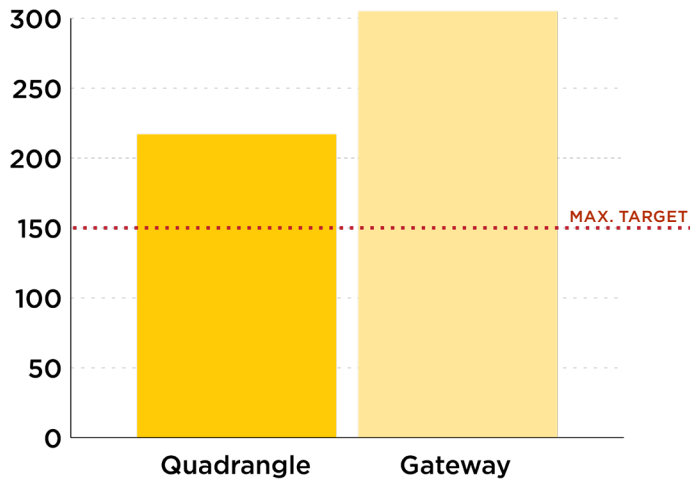
EXISTING SPACE INVENTORY (GATEWAY)



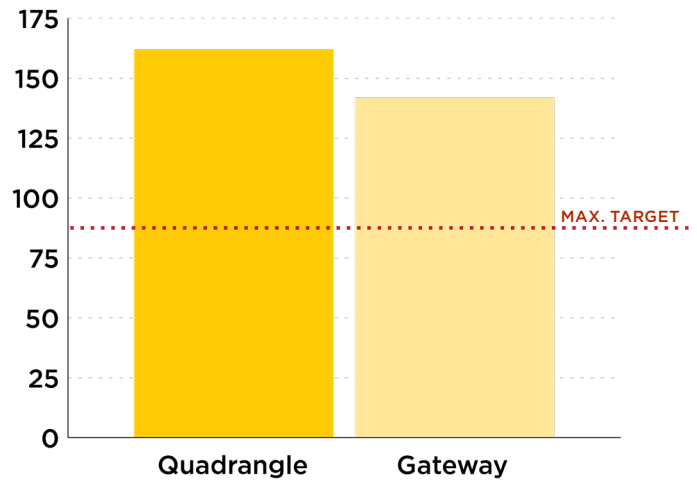
UCF HEALTH CLINICS UTILIZATION

There is not an industry standard utilization benchmark for university health clinic spaces, so several different metrics were developed based on best practices and in discussion with UCF Health. The first two charts below compare existing patient room sizes to benchmarks and show that existing space is larger than needed.

AVG. TREATMENT ROOM SIZE

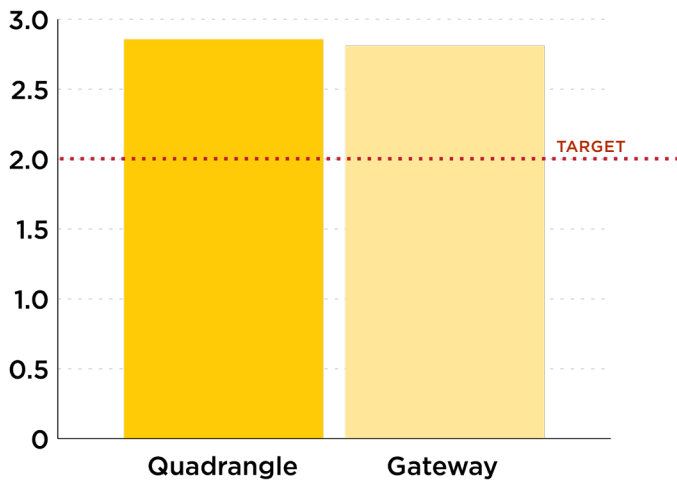


AVG. EXAM ROOM SIZE



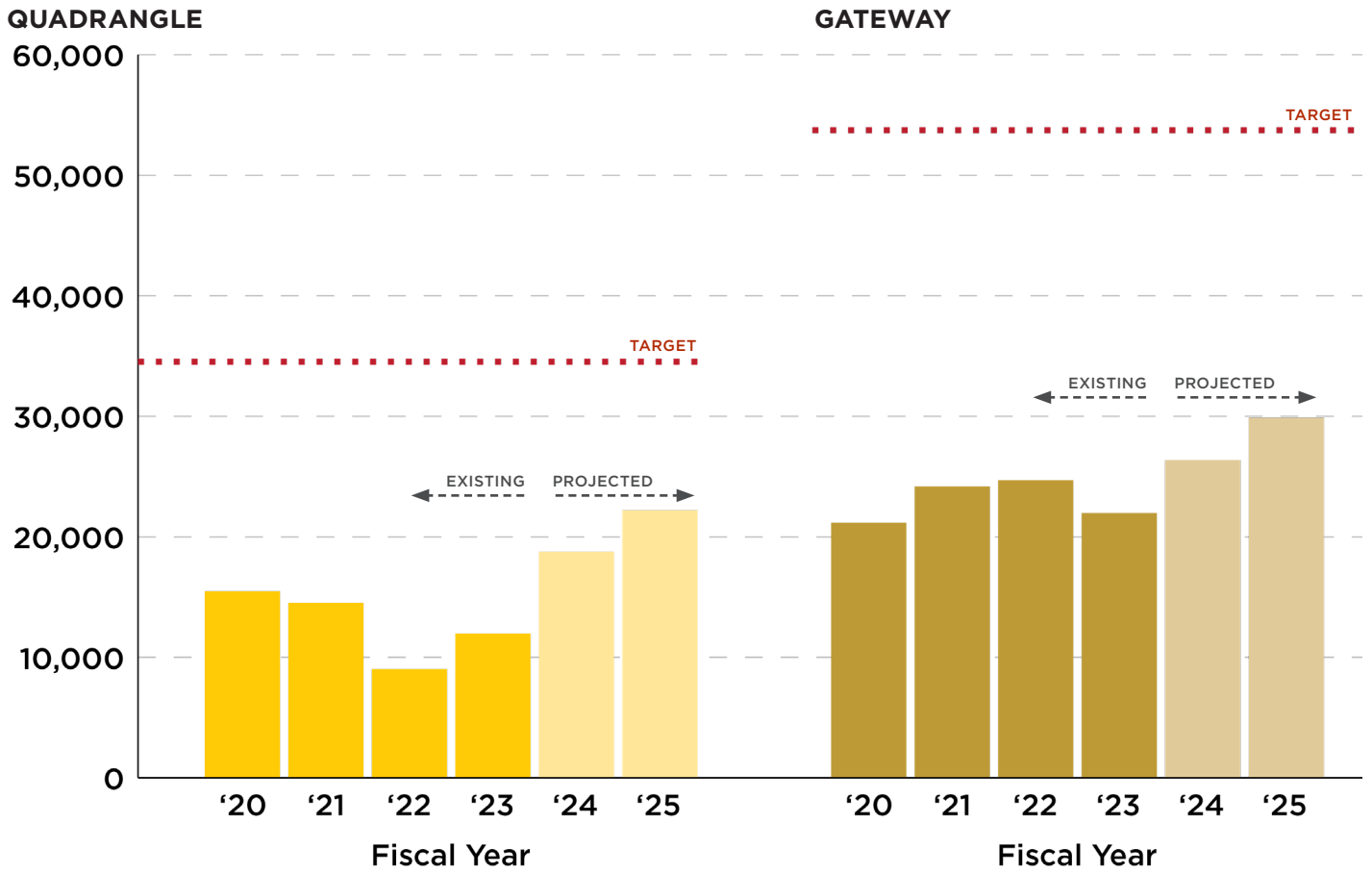
The chart below shows the number of exam rooms per full-time equivalent clinician. The agreed upon target was 2 rooms per clinician, but a target of 3 may be more appropriate for dermatology or other specialized disciplines. The existing number of exam rooms per clinician is above the target at both locations.

EXAM ROOMS PER CLINICIAN



Another utilization metric is the number of annual patient encounters. The chart below shows recent and projected patient encounters for both locations. The targets are based on 70% of the rooms and open hours being used, with the understanding that 100% utilization is not achievable, but existing utilization falls well below those targets. Overall, the utilization - show significant capacity at both locations to serve additional patients and/or support strategic initiatives

ANNUAL IN-PERSON BILLED PATIENT ENCOUNTERS





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