UTSA

The University of Texas at San Antonio Campus Master Plan

Space Needs Assessment

May 2019

Page/

FACILITY PROGRAMMING AND CONSULTING

Introduction

Process

Facility Programming was engaged by Page to perform a space needs assessment for the University of Texas at San Antonio (UTSA) campus master plan. UTSA desires to increase its total headcount enrollment at both the Main Campus and Downtown Campus from approximately 30,700 students, in Fall 2017, to 45,000 students.

Between July and September 2018, over 30 interviews were conducted with UTSA leadership, faculty, staff, and student representatives to better understand the issues facing the university as a whole, at each of the campuses, and within individual departments. Meetings were conducted with each of the college deans to discuss potential new academic programs and future space needs; similar meetings were conducted with university leadership to understand projected administrative growth and space needs.

The information gathered during these interviews was utilized to understand which programs or departments might experience growth and to determine potential future priorities. Projected growth and space needs were validated during a series of meetings and workshops with the university's Senior Leadership Team. Several themes emerged through the engagement process and the following priority objectives were articulated for the future campus program:

- Provide spaces to support the projected enrollment growth across both campuses
- Focus on facilities to support rapidly expanding research programs across all Colleges to assist the institution to become a nationally recognized research university
- Grow the Downtown Campus to create synergies with municipal, high-tech, and other industry partners, as well as the community

Using the information gathered in the interviews plus population projections for students, faculty, and staff provided by UTSA and the Texas Higher Education Coordinating Board (THECB), growth scenarios for each campus were developed.

Methodology

To project the minimum required space to support the target enrollment, the "Space Projection Model for Higher Education Institutions in Texas," developed by the THECB, was utilized. Space needs were analyzed and projected in the following five education & general (E&G) space categories per the THECB:

- Instruction
- Research
- Office
- Library
- Support

The model predicts the net assignable square feet (NASF) of E&G space an institution needs in each of the categories above and are incorporated into the state legislature funding formulas for general academic institutions.

The following existing baseline elements, as reported by UTSA to THECB in Fall 2017, and goals outlined by leadership were utilized to both project space and examine shortfall in each of the five categories:

- E&G NASF by Campus
- Faculty Full-Time Equivalent (FTE)
- Student FTE
- E&G Capital Expenditure
- Research Expenditure

Space need in each of the five areas is primarily calculated from projected quantity of FTE student; the historic average ratio of headcount to FTE was utilized to calculate the projected FTE student population. FTE faculty to FTE student ratio was adjusted from the historic ratio (1:18) to 1:15, where applicable in calculations. Support is calculated at 9% the total of the other four factors, per THECB guidelines.

Auxiliary functions are not predicted by the THECB model and were projected using a different methodology. Auxiliary functions such as food service, child care, lounge, retail, recreation, student meeting, and clinic were generated using the Council of Educational and Facility Planners International (CEFPI) guidelines and included later in this report. A concurrent study for the Athletics Master Plan includes projections for the athletics facilities.

Underlying Assumptions

For planning purposes in the models which follow, it is assumed the Downtown Campus will target a minimum 15,000 student enrollment. UTSA also desires to significantly grow its masters level programs in order to better align with peer institutions. In addition, the university desires to decrease the faculty to student ratio; this will result in a larger office space demand for both full-time/ tenure track and part-time/non-tenure track (adjunct) faculty. It is also understood that a percentage of students will continue to take courses at both the Main Campus and Downtown Campus in order to complete their degree.

All of these desires, along with the potential growth in online course availability (anticipated to be approximately 3 to 5 years from fully operational), will impact the space needs on a given campus.

Academic Program Growth

To predict future E&G space needs for both campuses, the following analysis was performed:

- Future E&G space needs were projected using the THECB model.
- Future space needs were allocated among Colleges based on proposed enrollment percentages and space utilization patterns.
- Recommendations are based on findings from interviews held with deans and vice presidents and on known re-allocations of programs and activities from the Main Campus to the Downtown Campus.

Research

$300 Million in total research expenditure by 2028 per the President's vision ("Strategic Plan - A Vision for UTSA").

Library

Stack space sized at projected space need for Fall 2017 population (per THECB model) to accommodate both existing collections and expansion of special collections.

- Additional flexible library space calculated per student and faculty FTE.

Office

Space need for FTE faculty and FTE staff is calculated per THECB model.

- 190 NASF per FTE faculty
- 170 NASF per FTE staff
- Projected number of FTE staff is calculated at a factor of 1.8 per FTE faculty.

Current Building Projects

The following buildings were either in design or under construction during this study:

- Science and Engineering Building
- Large Scale Testing Facility
- National Security Collaboration Center
- School of Data Science

Underlying Assumptions

Ratios and Overall Composition

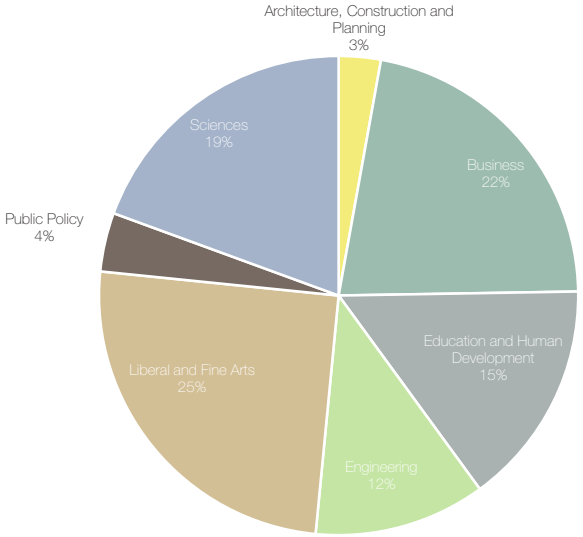
Student FTE : Headcount = 79.4% (historic ratio)
Faculty FTE : Student FTE = 1:15 (historic ratio 1:18)

Student level composition as percentage of headcount adjusted to align more closely with peers.

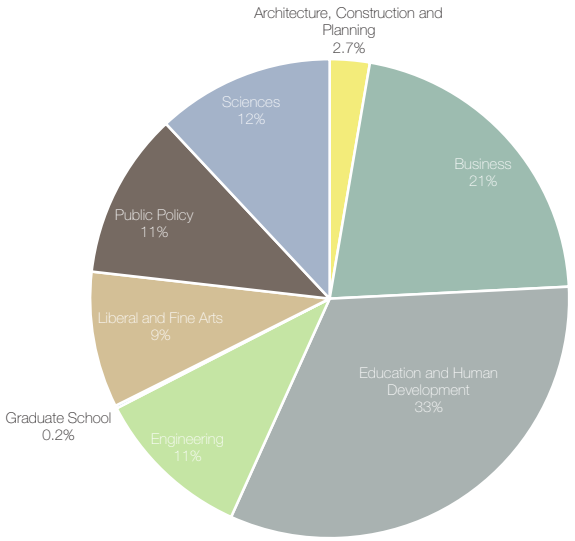
- 74% Undergraduate
- 17.5% Graduate
- 7.5% Doctoral
- 1% Certificate / Non-Degree

The proposed disciplinary area composition of students is categorized as follows:

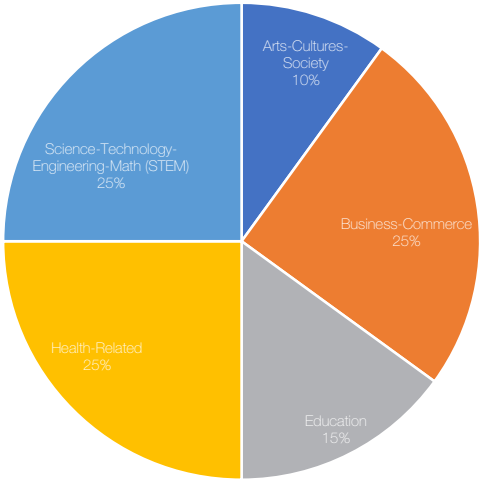
Category	Undergraduate Degree Level	Graduate/ Doctoral Degree Level
Business-Commerce	25%	20%
Science-Technology Engineering-Math (STEM)	25%	33%
Health-Related	25%	20%
Education	15%	20%
Arts-Culture-Society	10%	7%



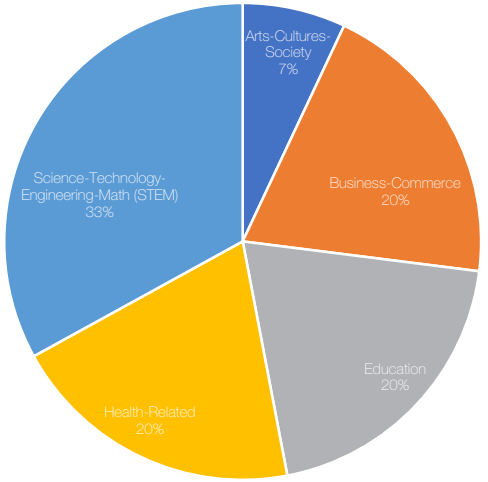
Current Distribution of Undergraduate Headcount by College (Existing: Fall 2017)



Current Distribution of Graduate and Doctoral Headcount by College (Existing: Fall 2017)



Expected Composition of Undergraduate Headcount by Disciplinary Area (Proposed)



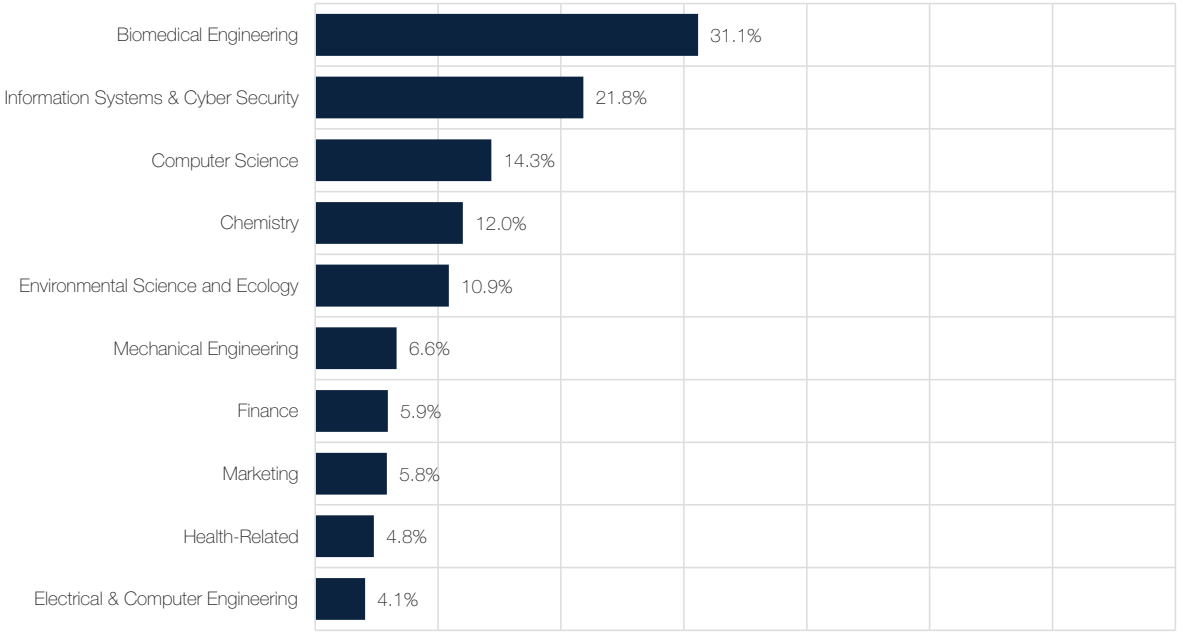
Expected Composition of Graduate and Doctoral Headcount by Disciplinary Area (Proposed)

Program Growth Considerations

Undergraduate Programs

The following items were raised during discussions with UTSA leadership:

- Medium to large classrooms (50+) are limited but in high demand reflecting the increase in enrollment in STEM-related programs
- Basic science wet labs are lacking and additional labs will be necessary to support both the existing and increased total enrollment
- Online growth will have an impact on the required NASF on campus; online programs are anticipated to be approximately 3 to 5 years from fully operational
- Honors College requires dedicated space on campus which will assist in recruiting and retaining exemplary students
- Due to the lack of adequate/appropriate performance and rehearsal space, the existing Dance, Theater, and Music programs are limited in potential growth capability
- Architecture capability to expand is limited by capacity of current building
- Additional collaboration and study spaces (group and individual), beyond those available in the Library, are desired in each of the academic buildings
- Retention is a priority of Student Success and adequate facilities for advising, tutoring, and testing are necessary at both campuses



Top Departments with the Most Undergraduate Growth in the Past Five Years
Analysis of the enrollment for undergraduate departments in each of the Colleges was conducted to understand growth within the last five years (Fall 2012 to Fall 2017).

The Colleges of Business, Science, and Engineering contain the departments with the greatest growth. Biomedical Engineering growth primarily reflects growth in the area of Chemical Engineering. This program is anticipated to grow exponentially in the coming years. The new B.A. in Medical Humanities is one of the drivers for growth in departments that support the Health-Related initiatives.

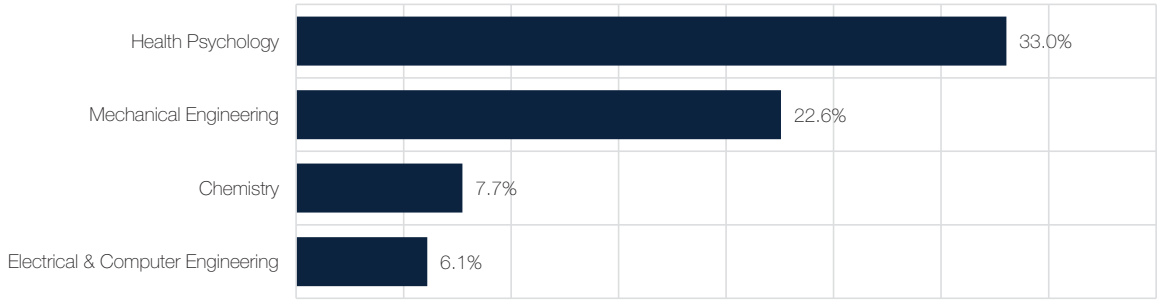
Program Growth Considerations

Graduate and Doctoral Programs

The following items were raised during discussions with UTSA leadership:

- College of Business experienced the greatest graduate student enrollment growth in the past five years (6.8%)
- Flexibility of wet lab space will be essential to accommodate existing and future anticipated needs, including in the human-life science faculty and those focused on systematic experimentation at population scale
- Additional graduate student and research assistant offices/workspace will be necessary to support the growing research initiative
- Research is anticipated to grow significantly to assist in achieving and maintaining National University Research Fund (NRUF) and Carnegie R1 status of the university; flexibility in lab configuration will be essential to allowing more efficient utilization of both existing and future research labs
- Expansion of doctoral programs is envisioned across all Colleges in the next 3 to 5 years

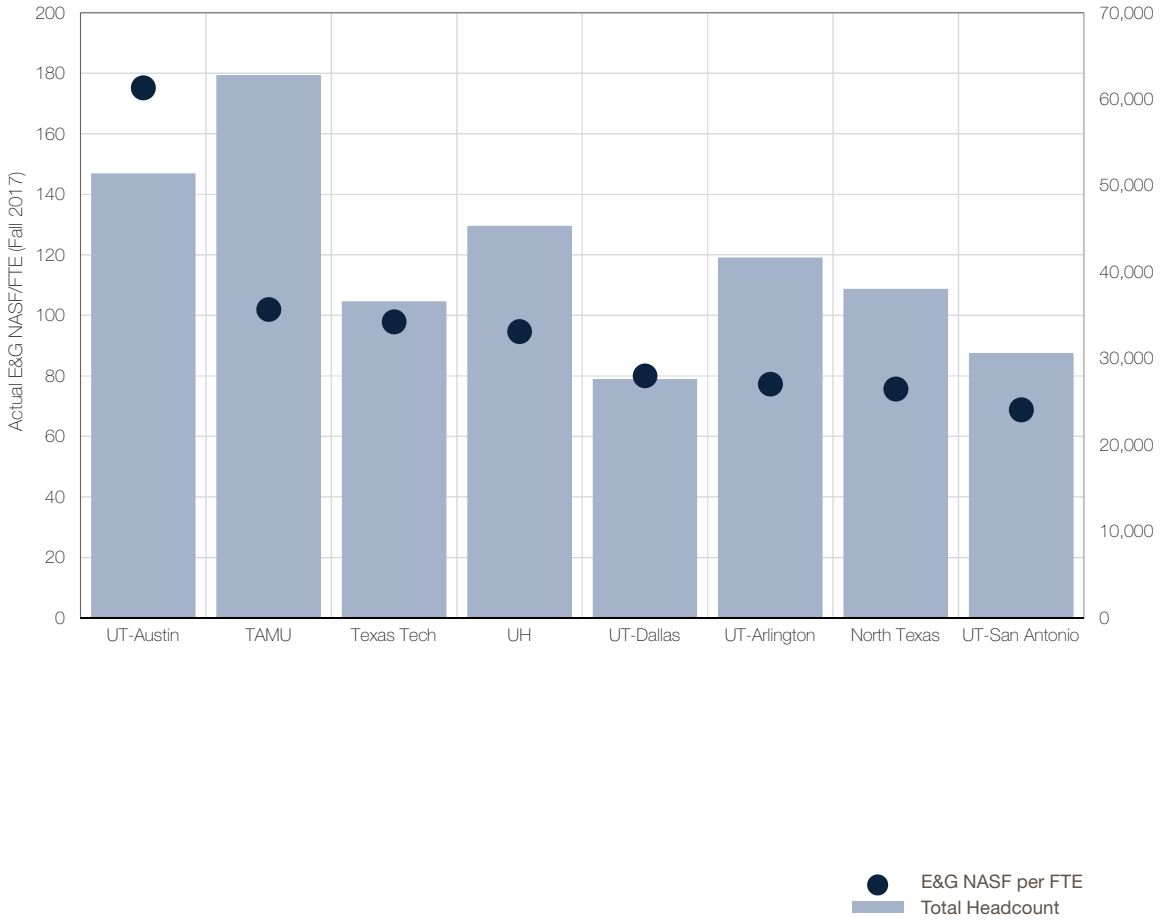
Top Departments with the Most Doctoral Growth in the Past Five Years



Preliminary Findings

Similar to other peer institutions, UTSA is experiencing a substantial space deficit to support both its current and projected student population. The most significant deficit is in instructional and research space, two areas in which the space deficit must be addressed if the university is to achieve and sustain its goal to gain access to state-designated National University Research Fund monies and Carnegie R1 status. A comparison of UTSA to other NRUF/R1 Texas institutions demonstrates a much lower ratio of E&G NASF per FTE to headcount than its peers, such as UT Austin.

According to the THECB space projection model, the university is currently experiencing a shortfall of nearly 1.2 million E&G net assignable square feet required to support the 2017 campus population. If the population continues to grow to meet the targeted 45,000 enrollment, the shortfall, if no additional planned projects are constructed, according to the analysis which follows will be approximately 3.1 million E&G NASF.



Enrollment Projections

University-Wide

The University of Texas at San Antonio desires to grow its current total headcount at both campuses from approximately 30,700 students, in Fall 2017, to a projected enrollment of at least 45,000 students.

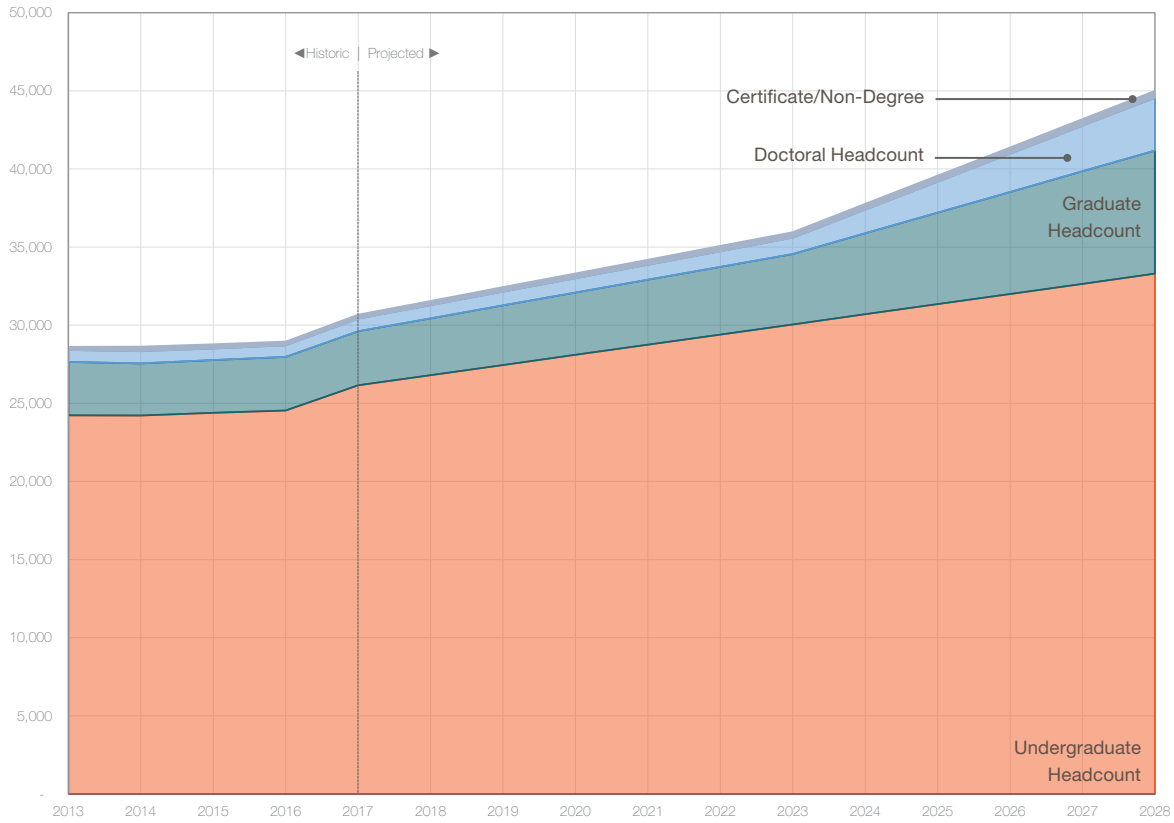
For planning purposes in the models which follow, it is assumed the Downtown Campus will target a minimum projected enrollment of 15,000 students.

Enrollment is projected utilizing the historic ratio of 79.4% headcount to full-time equivalent student.

To better align with peer institutions and to reflect desired growth of masters level programs, the percent of total graduate population is calculated at 17.5% of the projected total enrollment. Doctoral level students is also increased to 7.5%.

Degree Level	Headcount (Fall 2017)	Percent (Fall 2017)	Projected Percent Year 2028
Undergraduate	26,153	85.3%	74.0%
Graduate	3,467	11.3%	20.0%
Doctoral	801	2.6%	5.0%
Certificate/ Non-Degree	253	0.8%	1.0%
Total	**30,674**		

Source: UTSA Office of Institutional Research.



Overall University Projected Enrollment
According to enrollment data provided by UTSA, the average historic annual growth rate has been approximately 0.8%. In order to reach the target 45,000 enrollment in a 10-year growth scenario, an average overall annual growth rate of 3.4% per year is required.

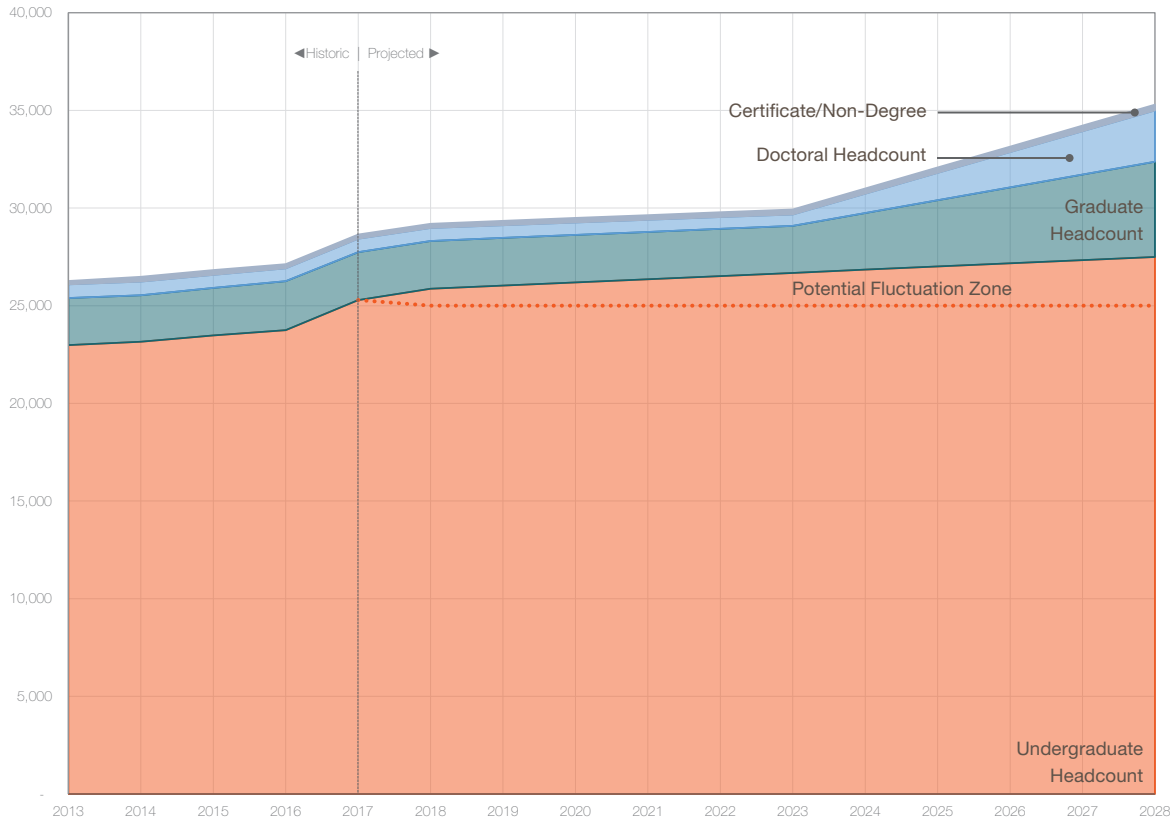
Enrollment Projections

Main Campus

Main Campus is projected to support an enrollment of 30,000 students. This translates into approximately 23,100 FTE when utilizing the present historic FTE to headcount ratio.

Enrollment will initially continue to grow, but will be impacted as the Downtown Campus is expanded and existing programs and departments are relocated from the Main Campus.

In Fall 2017, approximately 52% of students enrolled at the Downtown Campus were also enrolled in a class at the Main Campus. The dashed line indicates the potential range in enrollment, given the unknown degree of future concurrent enrollment between the Downtown Campus and Main Campus.



Main Campus Projected Enrollment

Enrollment Projections

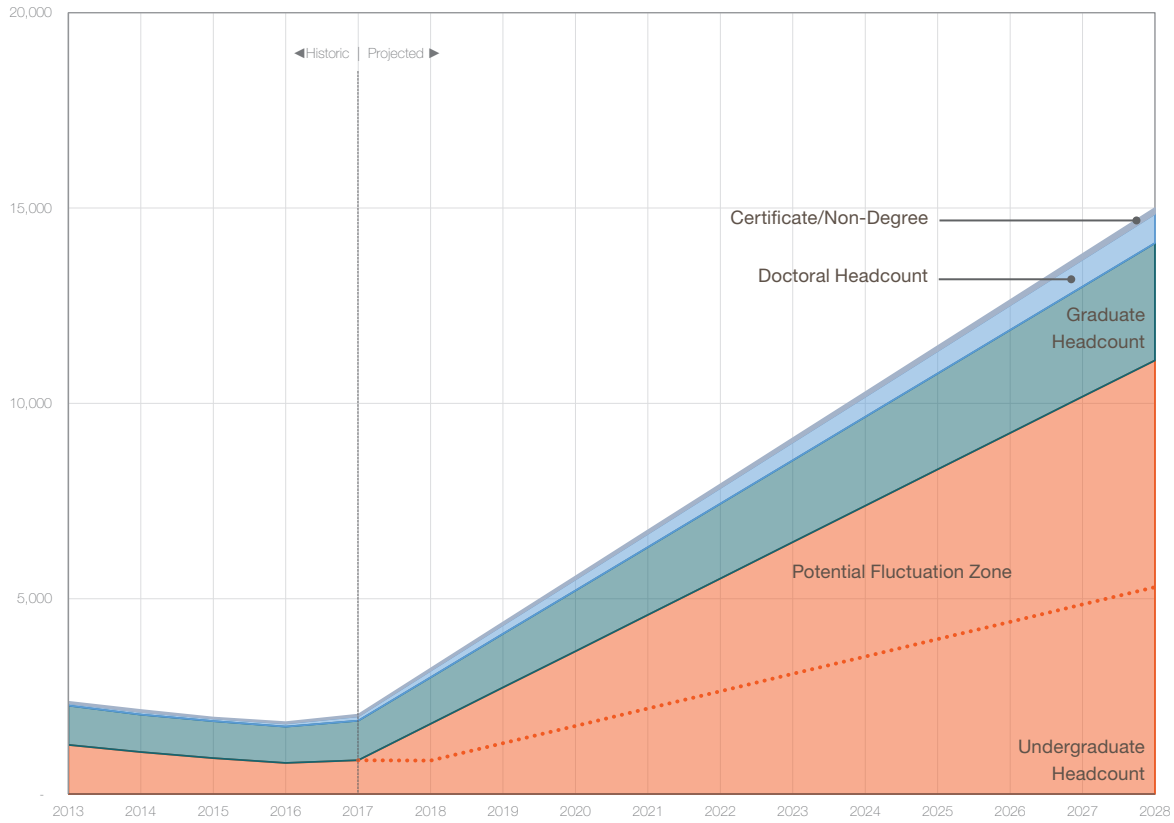
Downtown Campus

The Downtown Campus is projected to support an enrollment of 15,000 students, or approximately 11,900 FTE, assuming a growth rate of 16.1% per annum in a 10-year growth scenario. To meet this initial demand for growth, it is likely that the university will relocate some existing programs and departments from the Main Campus to grow the Downtown Campus enrollment.

Historically, the Downtown Campus has been declining in population at approximately 3.2% per year. The projected growth rate is significant when compared to the overall rate the university is expected to grow in total.

As noted previously, in Fall 2017, approximately 52% of students enrolled at the Downtown Campus were also enrolled in a class at the Main Campus. The dashed line indicates the potential range in enrollment, given the unknown degree of future concurrent enrollment between Downtown Campus and Main Campus.

Note: The speed at which the Downtown Campus will be able to accommodate growth and reach enrollment goals will be dependent upon how quickly facilities are able to be constructed.



Downtown Campus Projected Enrollment

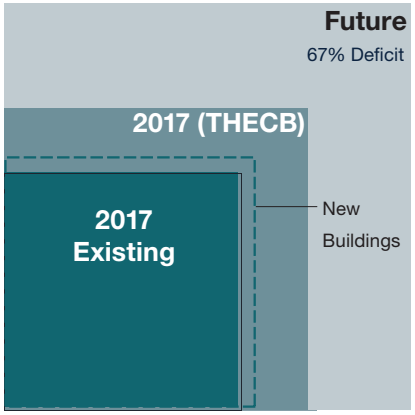
Space Needs Assessment FINAL – May 2019

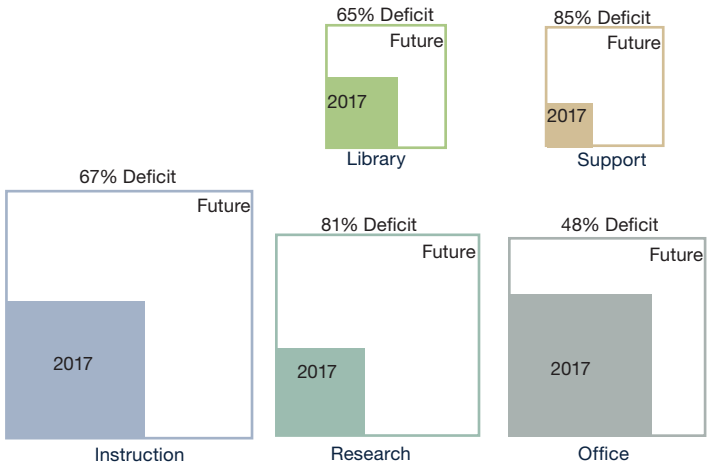
Overall University E&G Space Demand

Assumptions

- Instructional space by discipline projected at same percent of total headcount as Fall 2017
- No new Colleges or departments are included
- Library space utilizes THECB assigned NASF per projected FTE faculty and FTE student
- Stack space is held constant with the predicted space required in Fall 2017*
- Research space projected is based on desired $300 million expenditure
- Office is calculated utilizing THECB assigned NASF per FTE faculty and FTE staff
- Impact of online programs is not factored into projected space needs

Space Shortfall - Overall





Type of Space	Existing Fall 2017 E&G NASF (As Reported)	E&G NASF Surplus / Shortfall Fall 2017 (per THECB Model)	Projected Total E&G NASF Future Shortfall		Projected Minimum E&G NASF Future Shortfall***
Instruction	570,400	(643,100)	(1,149,800)		(450,500)
Research	235,800	(26,500)	(1,016,400)		(989,900)
Office	614,100	(203,900)	(566,700)		(349,100)
Library*	153,100	(190,000)	(285,100)		(95,100)
Support	63,700	(173,600)	(349,500)		(175,900)
Total	**1,637,100**	**(1,237,100)**	**(3,367,500)**		**(2,060,500)**
New Science and Engineering Building (SEB)**			90,500		
New Large Scale Testing Facility (High Bay)**			7,200		
New National Security Collaboration Center (NSCC) + School of Data Science (SDS)**			127,600		
Adjusted Total (Buildings Proposed but Not Online)			**(3,142,200)**		**(1,835,200)**

All values have been rounded to the nearest hundredth. Only Main and Downtown Campus facilities are included in the existing and projected space needs indicated in this table. Auxiliary functions are excluded and handled separately.

* Projected Library space includes NASF for total calculated Library Volumes as projected in THECB model for Fall 2017. This requirement will be held constant in the projections as It is assumed that in the future, general library stack volume decrease while special collections and archive capacity increase. For planning purposes, approximately 2/3 of the 2017 predicted required space for stacks in allocated to the Main Campus; the remaining 1/3 to the Downtown Campus.

** E&G NASF for new Main Campus buildings is allocated from floor plans made available September 2018. Campus new building E&G NASF estimated at 65% of proposed GSF, less 10% estimated auxiliary space. In both cases, NASF are for planning purposes only and may not represent the final allocation of space within the constructed new buildings.

***Minimum Shortfall represents the minimum NASF required, should funding not arise, to accommodate projected growth only. It is calculated as the difference between the THECB 2017 Model and the projected need. If a surplus currently exists in any of the five categories beyond the 2017 Model requirement, it has been reflected and adjusted in the minimum NASF need.

Main Campus E&G Space Demand

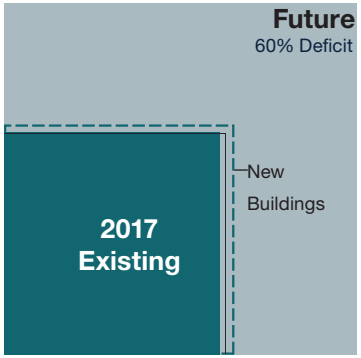
Assumptions

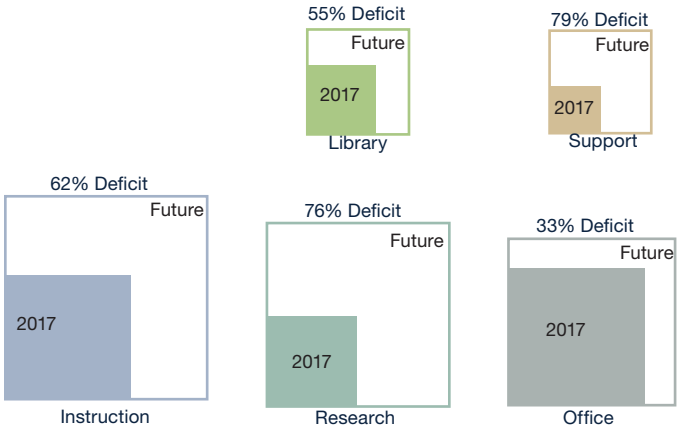
- Two new buildings, Science and Engineering (SEB) and Large Scale Testing Facility, are currently under construction and anticipated for occupation by 2019 and 2020, respectively
- The SEB will provide suitable space for future expansion of the growing Chemical Engineering program
- Some Colleges and departments may be relocated, partially or in entirety, to the Downtown Campus allowing for renovation and backfill of existing space with expansion of existing and future programs

Impact to the Space Deficit

DESPITE THE CONSTRUCTION OF THE TWO NEW BUILDINGS UNDER WAY, THE MAIN CAMPUS IS PROJECTED TO HAVE A SPACE DEFICIT OF NEARLY 1.9 MILLION NASF, PRIMARILY IN THE AREAS OF INSTRUCTION AND RESEARCH.

Space Shortfall - Overall





Type of Space	Existing Fall 2017 E&G NASF (As Reported)	E&G NASF Surplus / Shortfall Fall 2017 (per THECB Model)†	Projected Total E&G NASF Future Shortfall		Projected Minimum E&G NASF Future Shortfall***
Instruction	439,200	(699,300)	(721,100)		(21,800)
Research	231,000	(20,300)	(713,900)		(693,600)
Office	530,800	(217,600)	(256,400)		(38,800)
Library*	131,400	(148,700)	(160,700)		(12,000)
Support	60,800	(156,800)	(225,800)		(69,000)
Total	**1,393,200**	**(1,242,700)**	**(2,077,900)**		**(835,200)**
		New Science and Engineering Building (SEB)**	90,500		
		New Large Scale Testing Facility (High Bay)**	7,200		
		Adjusted Total (Buildings Proposed but Not Online)	**(1,980,200)**		**(737,500)**

All values have been rounded to the nearest hundredth. Only Main Campus facilities are included in the existing and projected space needs indicated in this table. Auxiliary functions are excluded and handled separately.

† THECB does not require the Model to be calculated by individual campus. Values utilized are calculated per the Model methodology to support 1,593 FTE reported for Fall 2017 at Downtown Campus. Main Campus is calculated as the difference between the combined Fall 2017 Model and the calculated Downtown Campus requirement.

* Projected Library space includes NASF for total calculated Library Volumes as projected in THECB model for Fall 2017. This requirement will be held constant in the projections as It is assumed that in the future, general library stack volume decrease while special collections and archive capacity increase. For planning purposes, approximately 2/3 of the 2017 predicted required space for stacks in allocated to the Main Campus; the remaining 1/3 to the Downtown Campus.

** E&G NASF for new Main Campus buildings is allocated from floor plans made available September 2018. Downtown Campus new building E&G NASF estimated at 65% of proposed GSF, less 10% estimated auxiliary space. In both cases, NASF are for planning purposes only and may not represent the final allocation of space within the constructed new buildings.

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Downtown Campus E&G Space Demand

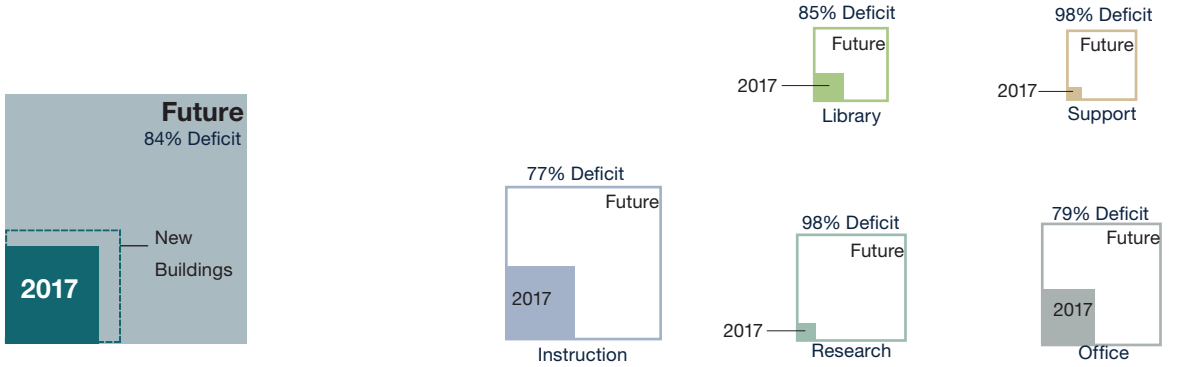
Assumptions

- Students pursuing degrees at the Downtown Campus will be able to complete without requiring course enrollment at Main Campus
- Expanded Business Education & Career Engagement, Computer Science, Electrical & Computer Engineering to Downtown Campus to support the new National Security Collaboration Center (NSCC) and School of Data Science (SDS) (currently in planning stage; target substantial completion by 2021)
- Public Policy and Architecture will remain at the Downtown Campus, as well as those departments within the College of Education which are currently housed there

Impact to the Space Deficit

A SIGNIFICANT BUILDING CAMPAIGN WILL BE NECESSARY TO SUPPORT THE PROPOSED 15,000 STUDENT ENROLLMENT AT THE DOWNTOWN CAMPUS. A SPACE DEFICIT OF APPROX. 1.2 MILLION NASF, PRIMARILY IN INSTRUCTION, RESEARCH, AND OFFICE SPACE IS PROJECTED.

Space Shortfall - Overall



Type of Space	Existing Fall 2017 E&G NASF (As Reported)	E&G NASF Surplus / Shortfall Fall 2017 (per THECB Model)†	Projected Total E&G NASF Future Shortfall		Projected Minimum E&G NASF Future Shortfall***
Instruction	131,200	56,200	(428,700)		(428,700)
Research	4,800	(6,200)	(302,500)		(296,300)
Office	83,300	13,700	(310,300)		(310,300)
Library*	21,700	(41,300)	(124,400)		(83,100)
Support	2,900	(16,800)	(123,700)		(106,900)
Total	**243,900**	**5,600**	**(1,289,600)**		**(1,225,300)**
New National Security Collaboration Center (NSCC) + School of Data Science (SDS)**			127,600		
		Adjusted Total (Buildings Proposed but Not Online)	**(1,162,000)**		**(1,097,700)**

All values have been rounded to the nearest hundredth. Only Downtown Campus facilities are included in the existing and projected space needs indicated in this table. Auxiliary functions are excluded and handled separately.

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***Minimum Shortfall represents the minimum NASF required, should funding not arise, to accommodate projected growth only. It is calculated as the difference between the THECB 2017 Model and the projected need. If a surplus currently exists in any of the five categories beyond the 2017 Model requirement, it has been reflected and adjusted in the minimum NASF need.

Auxiliary Space Demand

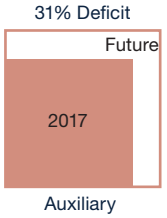
Assumptions

Additional auxiliary space will be required to support student life and activities at both the Main Campus and Downtown Campus. Auxiliary services are calculated as non-E&G space and may include the following categories:

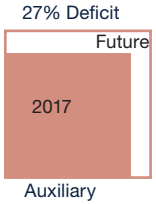
- Food Service
- Child Care
- Lounge
- Merchandising
- Recreation
- Student Meeting Space
- Clinic

Additional auxiliary functions, such as housing and athletics, are not included in this analysis, but have been accommodated in the master plan separately.

Space Demand - Overall



Space Demand - Main Campus



Space Demand - Downtown Campus

Campus	Existing Fall 2017 Auxiliary NASF (As Reported)*	Auxiliary NASF Surplus / Shortfall Fall 2017**	Adjusted Auxiliary NASF**	Projected Total Auxiliary NASF Future Shortfall	Projected Minimum Auxiliary NASF Future Shortfall***
Main Campus	431,200	(131,100)	433,100	(160,000)	(28,900)
Downtown Campus	66,700	(3,500)	80,900	(119,800)	(102,100)
Total	**497,900**	**(134,600)**	**514,000**	**(297,800)**	**(131,000)**

All values have been rounded to the nearest hundredth.

*Total existing auxiliary NASF includes non-E&G support spaces which could be utilized as E&G but are currently coded for use by outside entities or other purposes.

**Includes auxiliary space in three new buildings which are either currently under construction or proposed and funded at each campus, but not currently online.

***Minimum Shortfall represents the minimum NASF required, should funding not arise, to accommodate projected growth only.