

Periodic Review Report

for the Middle States Commission on Higher Education

presented by

CORNELL UNIVERSITY

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1. Executive Summary

Institutional Overview

University Mission & Vision

Cornell University is a private Ivy League university and the land-grant university for the State of New York. Cornell's mission is to discover, preserve, and disseminate knowledge; produce creative work; and promote a culture of broad inquiry throughout and beyond the Cornell community. Cornell also aims, through public service, to enhance the lives and livelihoods of our students, the people of New York, and others around the world.

Cornell University will be widely recognized as a top-ten research university in the world, and a model university for the interweaving of liberal education and fundamental knowledge with practical education and impact on societal and world problems.

Cornell's Colleges and Schools

As shown with some detail in Table 1, Cornell University enrolls more than 22,000 students through its degree-granting colleges and schools. By design, Cornell University's colleges exercise considerable autonomy from one another and from the central administration. Each defines its own academic programs, operates its own admissions and advising programs, and establishes the requirements for its own degrees.

Cornell University is a private institution, but three of its undergraduate colleges (Agriculture & Life Sciences, Human Ecology, and Industrial & Labor Relations) as well as the College of Veterinary Medicine are operated under statutes, appropriations, and contracts with New York State; these colleges are referred to as the "contract colleges" or the "statutory colleges." The remaining units are referred to as the "endowed colleges."

Table 1. Student Enrollment Headcounts (Fall 2015) by College* and Degree Objective

College	Bachelor's Degrees (BA, BS, BArch)	Research Degrees		Professional Degrees		Non-degree
		Master's (MA,MS)	PhD	Master's Degrees (MPS, etc.)	Doctoral (DVM, JD, MD)	
Undergraduate Endowed Colleges						
Architecture, Art & Planning	497	33	31	190		4
Arts & Sciences	4,106	78	1,128	100		30
Engineering	3,060	138	823	920		47
Hotel Administration	950	2	6	91		
Undergraduate Contract Colleges						
Agriculture & Life Sciences	3,433	136	551	166		48
Human Ecology	1,210	37	114	252		15
Industrial & Labor Relations	970	14	35	175		13
Professional Colleges						
Johnson			43	1,178		40
Law			8	80	562	49
Vet Medicine			114		399	22
Weill Cornell Medicine		165	446		400	
Grand Total	14,226	444	2853	3,152	961	268

* Cornell units not in this table include the Graduate School, Computing & Information Science, Continuing Education & Summer Sessions, and Cornell Tech. In addition, the new Cornell College of Business is expected to be launched in Fall 2016. See below for information about these units.

The undergraduate, endowed colleges are:

- **College of Architecture, Art, and Planning (AAP).** Cornell's smallest undergraduate college, AAP's offerings include the distinct five-year Bachelor of Architecture program.
- **College of Arts & Sciences (CAS).** The oldest and largest college, CAS offers study in the humanities, in the physical and natural sciences, and in the social sciences.
- **College of Engineering (COE).** At the undergraduate level, COE offers thirteen majors. Many Cornell Tech (see below) faculty members are appointed through COE, and COE also provides curricular oversight for the relevant master's programs at Cornell Tech.
- **School of Hotel Administration (SHA).** SHA was the first collegiate program in hospitality management and today is regarded as the world leader in its field. SHA will join the new Cornell College of Business (CCB) in 2016.

The undergraduate, contract colleges are:

- **College of Agriculture and Life Sciences (CALS).** The third largest college of agriculture in the United States, CALS includes the Dyson School of Applied

Economics & Management; the Dyson School will join the new Cornell College of Business (CCB) in 2016 while also remaining a part of CALS.

- **College of Human Ecology (CHE).** CHE brings together natural sciences, social sciences, and design to advance the human condition.
- **School of Industrial and Labor Relations (ILR).** ILR creates and disseminates workplace-relevant knowledge.

Cornell's seven "undergraduate" colleges do not solely prepare undergraduate students, but graduate education is primarily administered through the Graduate School rather than through the undergraduate colleges.

- **Graduate School.** Cornell's graduate research degrees (including the MS, the MA and the PhD) are awarded through the Graduate School. Distinct from the administrative boundaries of departments and colleges, Cornell's Graduate School is organized by "fields," where graduate "fields" are groups of faculty with shared academic interests who wish to exercise responsibility for the admission, education, and, as appropriate, financial support of graduate students. The Graduate School includes more than 90 degree-granting fields.

Cornell's also has four professionally-focused colleges:

- **Johnson Graduate School of Management (JGSM).** In addition to MBA programs in Ithaca, JGSM offers an MBA program through Cornell Tech, and an Executive MBA dual-degree program with Queen's University of Canada. JGSM will join the new Cornell College of Business (CCB) in 2016.
- **Law School.** In addition to the JD and LLM programs in Ithaca, Law also offers the LLM in Law, Technology and Entrepreneurship through Cornell Tech.
- **College of Veterinary Medicine (CVM).** The five academic departments in CVM span basic biomedical research, translational biology, and clinical and diagnostic medicine. The CVM is a contract college.
- **Weill Cornell Medicine (WCM).** Based in New York City, WCM encompasses both the Weill Cornell Medical College and the Weill Cornell Graduate School of Medical Sciences. WCM also operates in Doha, Qatar.

In addition to the degree-awarding colleges and schools, Cornell includes:

- **Cornell Tech** is a new technology-focused campus located in New York City. Approved by the Middle States Commission on Higher Education in August

2012, Cornell Tech offers six master's degree programs in addition to PhDs in four engineering fields. Degrees earned while at Cornell Tech are awarded by the relevant academic units in Ithaca. The Cornell Tech campus is temporarily located in the Chelsea neighborhood of Manhattan while its permanent home is being constructed on Roosevelt Island.

- **Faculty of Computing and Information Science (CIS)**. CIS engages with every college at Cornell in offering computing and information science programs. Students are enrolled through the degree-granting units listed above.
- **School of Continuing Education and Summer Sessions (CESS)**. CESS strives to provide educational opportunities for any person, in any study, at any time, and in any place. Year-round offerings enroll some 7,500 students, persons of all ages and all interests, in more than 900 classes and programs annually.

As noted below in "Major Institutional Changes and Developments," a **Cornell College of Business** is currently being formed.

Institutional Approach to the Preparation of the PRR

Our approach to the Periodical Review Report has been a continuation of the self-study process that culminated in our 2011 reaccreditation. Rather than dissolving the Accreditation Steering Committee in 2011, a subset of the team that managed the self-study process and oversaw the preparation of the self-study report has remained intact and provides ongoing attention to compliance with the *Characteristics of Excellence*. This University Accreditation Committee (UAC) is chaired by one of the co-chairs of the 2011 Accreditation Steering Committee: Alan Mathios, a current Middle States Commissioner as well as the Rebecca Q. and James C. Morgan Dean of the College of Human Ecology. The UAC managed the production of Cornell's 2013 Progress Report, and has met on an ongoing basis since the 2011 site visit in order to enhance and support Cornell's culture of accountability.

Two members of this UAC—the chair, Alan Mathios, and the Accreditation Liaison Officer, Marin Clarkberg—attended the PRR training event in Philadelphia in (March 2014), and reported back to the group on best practices for creating the PRR. Cornell's self-study contained 42 UAC recommendations, and the UAC members divided responsibility for documenting progress on those recommendations. Similarly, UAC members each volunteered to take initial responsibility for other sections of the PRR. UAC members were able to draw on rich documentation of institutional processes and assessments, including the annual reports of the Deans to the Provost. As these pieces

were gathered, one member of the UAC took responsibility for compiling the various sections into a single document for committee review and additional editing.

Once a readable draft was compiled, the document was shared with university leadership, including the Acting President and Provost, the Vice Presidents, the Vice Provosts and the college Deans. A draft was posted on Cornell's public accreditation webpage¹, and the Provost reported on our progress to the Board of Trustees.

Major Institutional Changes and Developments

Leadership Transitions

Since our last accreditation visit, Cornell has experienced a number of leadership transitions, including the President, both provosts, academic deans, and vice presidents as enumerated in Chapter 3, "Major Challenges and Opportunities."

Cornell's 13th president, Elizabeth Garrett, took office on July 1, 2015, and Ithaca's provost, Michael Kotlikoff took office one month later, on August 1st. On February 8, 2016, President Garrett announced that she had been diagnosed with colon cancer. This message was followed two weeks later by a message from the Chairman of the Board of Trustees Robert S. Harrison that President Garrett had undergone surgery related to her illness and that Provost Kotlikoff would serve as Acting President, as provided by the University Bylaws. On March 6 2016, Elizabeth Garrett passed away.

On March 24 2016, Chairman Harrison announced that President Emeritus Hunter S. Rawlings III would return to Ithaca to serve as Interim President until a search for the 14th Cornell President is completed. Acting President and Provost Kotlikoff will return to his role as Provost on April 25 when Interim President Rawlings begins his appointment.

The University continues to meet all the fundamental elements of Standard 4, despite the tragic and untimely loss of President Garrett.

Cornell Tech Campus.²

The establishment of a new technology-oriented campus in New York City in 2012 is one of the most important developments in the long history of Cornell.

¹ <http://irp.dpb.cornell.edu/university-accreditation>

² <http://tech.cornell.edu/about>

A founding principle guiding the foundation of Cornell Tech is that this campus will maintain a separate budget from the Ithaca campus and from the medical campus. More than \$350M in philanthropic gifts have already been committed to Cornell Tech, ensuring that Cornell will continue to allocate its resources based on its mission and goals (Standard 2) and that there are sufficient resources available to attain those goals (Standard 3).

As of Fall 2015, there were 131 graduate and professional students studying at Cornell Tech's temporary location; the Roosevelt Island campus is expected to open in 2017.

Cornell College of Business

On January 30th 2016, Cornell's Board of Trustees amended the bylaws of the University to establish the Cornell College of Business (CCB). CCB is anticipated to launch during the 2016-17 academic year and will comprise the university's three accredited business schools: the School of Hotel Administration, the Dyson School of Applied Economics and Management, and the Johnson Graduate School of Management.

The formal creation of the CCB has stimulated debate and discussion on campus relating to issues of shared governance (Standard 4), particularly the role of Cornell's Faculty Senate. The plan for the new college is being developed with broad input from Cornell constituencies, as described in Chapter 3, "Major Challenges and Opportunities."

Highlights of the PRR

The process that resulted in our 2011 self-study report brought forth 42 specific recommendations of our own design. A major feature of this PRR is a follow-up on the progress related to all of those recommendations (see Chapter 2).

Chapter 3 describes some of the most significant challenges and opportunities faced by Cornell, including leadership transitions, the formation of new academic units, and the reinvigoration of Cornell's commitment to outreach.

Chapter 4 provides a brief discussion of Cornell's enrollment and finance trends. While we have experienced some budgetary challenges and have some modest plans for increasing enrollment, the institution is very stable. An update on our assessment activities is provided in Chapter 5, and Chapter 6 provides some examples of how planning and budgeting processes are linked at Cornell.

2. Cornell's Response to Recommendations

Commission Recommendations

Subsequent to our 2011 self-study and site visit, the Commission requested a progress report from Cornell “documenting further progress in the implementation of (1) an organized and sustainable assessment process, including direct measures, to evaluate and improve institutional effectiveness (Standard 7); and (2) an organized and sustainable process to assess the achievement of student learning goals at the course and program levels, with evidence that assessment information is used to improve teaching and learning (Standard 14).” Our April 2013 progress report³ described our efforts to enhance the utility and accessibility of centralized planning data through public (externally facing) and secured (internally facing) data dashboards; to document progress of initiatives in support of the strategic plan; to publicize a “Strategic Metrics” dashboard; to assess the impacts of Cornell’s recently-adopted budget model; and to further institutionalize the assessment of student learning outcomes across the university.

Cornell's Own 2011 Self-Study Recommendations

The process that resulted in our 2011 self-study report brought forth 42 specific recommendations of our own design. In the self-study, these recommendations were grouped in seven thematic areas that span each of the 14 standards of excellence. Below, they are presented in the order in which they appeared in the self-study and we briefly summarize what progress has been made with respect to each of these recommendations. Given the number and the breadth of the recommendations we outlined, it should not be surprising that more progress has been in some areas than in others. To assist the reader, we have classified our progress vis-à-vis the recommendation into four categories: unresolved, continuing progress, considerable progress, and completed. As illustrated in Table 2, we have “completed” and made “considerable progress” on 26 of our 42 recommendations. Sixteen others are continuing to progress, and only one remains unresolved.

³ <http://irp.dpb.cornell.edu/wp-content/uploads/Cornell-2013-Progress-Report-for-MSCHE.pdf>

Table 2. Summary of Cornell's Responses to the 42 Self-Generated Recommendations

Degree of Progress	Recommendation Numbers	Number of responses
Unresolved	4.4	1
Continuing Progress	2.2, 3.7, 4.2, 4.6, 4.8, 5.1, 5.2, 5.3, 5.4, 5.5, 6.1, 6.2, 6.4	15
Considerable Progress	1.1, 1.2, 1.3, 3.1, 2.3, 3.2, 3.4, 3.5, 3.6, 4.1, 4.5, 4.7, 5.6, 5.7, 5.8, 5.11, 5.12, 7.2, 7.3	19
Completed	2.4, 3.1, 3.3, 4.3, 5.9, 5.10, 6.3	7
Total Self-Generated Recommendations		42

From "Chapter 1: Institutional Stewardship" (Standards 2, 3, and 7)

Recommendation 1.1 that Cornell develop a more coordinated approach to planning, following the guidelines in the new strategic plan, which is designed to achieve several important goals: (1) to affirm general guidelines for organizational stewardship, (2) to make continual improvements in the stewardship of financial resources, (3) to promote effective stewardship of the built and natural environment, and (4) to provide cost-effective infrastructures for information technology.

Considerable Progress. The development of the new budget model—essential to our approach to Standards 2, 3 & 7—was described at length in our 2011 self-study report. Subsequently, the university hired an external consultant to examine Cornell's proposed implementation in detail, and the budget model has been implemented with care.

The budget model has improved Cornell's ability to project financial resources and costs. In 2014, the Provost configured and convened the Resource Planning Group, comprised of selected deans, vice presidents, vice provosts and faculty members. This group has projected resources and expenses for five to ten years with considerations of tuition, financial aid, salary improvements, size of workforce, endowment payout, facilities, and so forth. The Provost has also convened a Budget Model Oversight Group, comprised largely of selected college and unit business officers, vice presidents, faculty members, deans and vice provosts. This group was charged with overseeing the budget model effectiveness, implementation, and principles and making recommendations to the provost for changes to the budget model as needed.

With a new President and Provost there have been several additional working groups assembled to address recommendation 1.1.

Recommendation 1.2 that Cornell develop a plan to refurbish campus facilities, identifying clear priorities and assigning funding responsibility, sources, and time frame for these needs; and Recommendation 1.3 that the university develop its campus infrastructure for the future according to the precepts of the Campus Master Plan.

Considerable Progress. Facilities have been a high priority for the Board of Trustees and university leadership since our 2011 self-study. We have developed estimates of the total costs associated with planned (or “deferred”) maintenance and are in the process of creating budgetary plans to renew facilities that conform to the internal guideline stipulating that Cornell will not increase its debt to finance facilities projects. All capital projects must now identify resources (such as gifts or reserves) that will enable the project to be completed as well as operated and maintained over its lifetime. Consistent with our internal processes, the State University of New York has made critical maintenance needs a high priority for its SUNY Construction Fund—a source of capital funding for Cornell’s contract colleges.

The University has also revamped its capital planning process. The Provost’s newly formed Capital Planning Committee⁴ has been charged with developing and executing a strategy to meet major capital needs, including planned maintenance for individual units and the campus as a whole

Optimal use of space is another key priority for Cornell and relates strongly to facility renewal. In one of her first decisions in office, President Garrett chose not to approve the plans for a new building to house a new department of Biomedical Engineering. Instead renewal of existing facilities was chosen to house this high priority program.

From “Chapter 2. Integrity, Governance, and Administration” (Stds 3, 4 and 7)

Recommendation 2.1 that the university continue to centralize its functions where such action does not jeopardize the fundamental academic missions of the colleges.

⁴ The charge to the committee and its membership are described on the web: <http://dbp.cornell.edu/home/offices/capital-budget-integrated-planning/provosts-capital-planning-group/>

Considerable Progress. Cornell continues to focus on identifying and implementing cost savings. Since 2011, the university has increased the centralization of purchases to obtain better pricing, merged business service centers to increase efficiency, and restructured the provisioning of facilities services. In some cases, academic programs were also consolidated or moved to increase efficiency or reduced administrative costs. For example, the College of Agriculture & Life Sciences reduced the number of departments in order to better align programs and enhance efficiency. Several units operating directly under the Provost's Office were moved into the colleges to enhance the academic focus of their programs and to leverage colleges' administrative resources. These moves include the Africana Studies and Research Center (moved to the College of Arts and Sciences), and the Cornell Institute for Public Affairs (moved to the College of Human Ecology).

The work will continue. Indeed, one of the first actions of the new president was to ask each unit to identify and implement efficiencies.⁵ Units responded⁶ in December of 2015 with ideas relating to aggregating activities to create economies of scale and to avoid duplicating services.

Recommendation 2.2 that Cornell better clarify the roles and responsibilities of the assemblies in university governance, as uncertainty can erode the trust between constituent representative bodies and the administration.

Continuing Progress. Cornell's shared governance model includes the Faculty Senate, the undergraduate Student Assembly (SA), the Graduate and Professional Student Assembly (GPSA), the Employee Assembly (EA), and the University Assembly (UA). The UA includes representation from each of the other four bodies, including the Faculty Senate.

Outside of a delineated sphere of decision-making, the five assemblies act primarily in an advisory capacity to the Provost, President, and Board of Trustees. There are numerous examples that demonstrate the influences of the assemblies on university policies and practices through this advisory role, such as the Campus Code of Conduct, the Campus Master Plan, oversight of faculty conduct, and the revision of the academic

⁵ <http://news.cornell.edu/stories/2015/11/garrett-thanks-staff-empowers-them-cut-red-tape>

⁶ Responses to this recent call to action are summarized here:

<https://blogs.cornell.edu/reducingbureaucracy/>.

calendar. That said, there is no consensus regarding how the assemblies—and especially the Faculty Senate—should be included in administrative decision-making processes.

There has been an active dialogue within and between the Faculty Senate and the university leadership regarding the role of the faculty in decision-making as described in the Bylaws of Cornell University. In particular, with the establishment of the Cornell College of Business in January 2016, much attention has been given to Article XIII, section 2 of the Bylaws, which states that “the functions of the University Faculty shall be to consider questions of educational policy which concern more than one college, school or separate academic unit, or are general in nature.”

Some faculty members have expressed concern that the creation of the Cornell College of Business occurred without proper consultation with Faculty Senate. The Board of Trustees and University leaders, on the other hand, have noted that their actions to create the Cornell College of Business may be best described as the creation of an organizational structure (an “empty vessel”), and that it is now the role of the University Faculty to formulate the educational policies that will give real form to the college. As described in Chapter 3, the process will be guided by seven committees that have broad representation from Cornell’s constituencies.

This vigorous, unfolding, and perhaps contentious discussion is very much an attempt to “clarify the roles and responsibilities” of the assemblies in university governance. It has brought the question of interpretation of Article XIII, section 2 to the fore, and we expect to see crisper articulations of roles and responsibilities to emerge from this dialogue.

Recommendation 2.3 that the university devote the necessary change management resources for successful implementation of the significant administrative savings that have been identified—even if the financial pressures to do so are alleviated.

Considerable Progress. Guided by the work of the Bain Consulting team in 2010, the Administrative Streamlining Program monitored the achievement of savings gains and/or provided a forum for discussion of revised goals. These cost savings were calculated on a yearly basis for a period of time and were considered critical in successfully achieving a balanced budget in just a few years following the 2008 recession. By Fiscal Year 2013 the University budget was balanced. Administrative

streamlining reduced the operating budget by \$59.2 million.⁷ The most recent call by President Garrett for a renewed focus on administrative savings was designed to foster even more savings and also to prevent complacency that may arise as some financial pressures are reduced.

Recommendation 2.4 that Cornell fully implement the transfer (currently in progress) of management of conflicts of interest from the colleges to the Office of the Vice Provost for Research, with appropriate input from the colleges.

Completed. This transfer was successfully completed in 2012 and the new process is in its third cycle.⁸

From “Chapter 3. Student Admissions and Supports (Standards 8 and 9)

Recommendation 3.1 that Cornell maintain need-blind admissions and the competitiveness of need-based financial aid packages for undergraduate students;

Completed. Since 2011, Cornell has revised its financial aid policies while remaining consistent with the principles of recommendation 3.1. Cornell continues to maintain need-blind admissions for all undergraduate enrollment; 50% of Cornell undergraduate students receive need-based financial aid. According to *US News & World Report*, Cornell is the 8th most economically diverse university in the country, based on numbers of undergraduates receiving federal Pell grants.

Recommendation 3.2 that Cornell continue and improve support mechanisms designed to promote the academic success and retention of underrepresented minorities at Cornell, focusing not simply on six-year graduation rates but on a broader definition of academic success.

Considerable Progress. In 2012, Cornell established two positions to support the academic success and well-being of underrepresented students at Cornell. This includes the Associate Vice Provost for Academic Initiatives, reporting to the Vice Provost of Undergraduate Education, and the Associate Dean for Intercultural Affairs in the Dean of Students’ office. The respective offices, Office of Academic Diversity Initiatives and

⁷ (see <http://www.news.cornell.edu/stories/2012/05/fiscal-year-will-end-balanced-budget>).

⁸ Information on Financial Conflict of Interest with respect to Research can be found at <https://www.oria.cornell.edu/COI/> and our recently-revised policies regarding Conflict of Interest and Commitment can be found at <https://www.dfa.cornell.edu/tools-library/policies/conflicts-interest-and-commitment-excluding-financial-conflict-interests>.

the Center for Intercultural Dialogue, provide academic and social programs that support student success. At the same time, Cornell has initiated a major planning framework for diversity and inclusion, called *Towards New Destinations*.⁹ Each college and unit is required to develop and implement programs that enhance diversity, and improve the achievement and engagement of underrepresented students, faculty and staff. Many of these are focused on academic performance of underrepresented minorities. Colleges often collaborate on programs.

In 2014, Cornell also began participating in a national experiment, the Social-Belonging Intervention, conceived of and designed by two outside academic researchers, Greg Walton of Stanford University and David Yeager of University of Texas, Austin. Cornell's Fall 2015 freshman class was randomly assigned to mindset interventions just prior to coming to Cornell with the goal of normalizing the typical stresses and setbacks new students experience. Research has shown that minority students exposed to such mindset interventions can gain the most as measured by GPA performance. This experiment is being overseen by the Vice Provost for Undergraduate Education's office, and the first results from this experiment will be available later in 2016.

Recommendation 3.3 that Cornell reassess whether it should continue to offer an "alternate college" option, considering the various costs and benefits to the university and to the applicants themselves.

Completed. Cornell leadership analyzed the "primary/alternate" application option and decided to discontinue it, beginning with applications for Fall 2016 admission. Instead, the following language will be used on both transfer (as used currently) and freshman applications: "Recognizing that applicants have diverse academic talents and career interests that may be satisfied by more than one of Cornell's undergraduate colleges and schools, your application may be reviewed by a Cornell undergraduate college or school in addition to the one to which you are applying."

Recommendation 3.4 that Cornell continue to be a national leader and innovator in promoting the health and well-being of students (undergraduate, graduate, and professional) as a foundation for academic and life success; provide sufficient resources for proactive outreach and intervention and timely availability of services to students; ensure that faculty, as teachers and advisors, recognize the importance of student health and well-being for learning, academic success, and general success in life; make the health and well-being of

⁹ <http://diversity.cornell.edu/toward-new-destinations>

students a community-wide responsibility; and find ways to foster even closer ties between faculty and students (through improved advising and academic programming on North and West Campus).

Considerable Progress. Cornell continues to be recognized as a leader as evidenced by a 2015 Healthy Campus Award¹⁰ which acknowledges Cornell as one of the top 5 universities in this realm. The Healthy Campus Award celebrates U.S. Colleges and Universities that champion student voices, create equal opportunity for health, are data-informed and data-driven, and strategically invest in student health for the long term through public health initiatives. The University has also invested significant resources in a new Gannet Health Services building (a \$55 million project) that will enable an integrated physical and mental health well-being approach to student health.

Currently, the Vice President for Student and Campus Life is leading a student housing strategic planning process that will inform future improvements of student living and its impact on our students' relationships to faculty and learning. In addition, the Provost is launching a review of West Campus.

Recommendation 3.5 that Cornell continue to improve academic advising and in particular expand institutional mechanisms to involve undergraduates in research with faculty; encourage faculty to involve undergraduates actively in their research projects.

Considerable Progress. The Vice Provost for Undergraduate Education (VPUE) created an undergraduate research experiences advisory committee with membership of key individuals from all colleges, residence halls, and programs that support undergraduate research. The committee meets during the academic year with student groups engaged in undergraduate research (Cornell Undergraduate Research Board [CURB], and The Research Paper Magazine). In supplement to this work, the VPUE and the Director of the Office of Undergraduate Research, Laurel Southard, also meet with an Associate Deans group with representatives from all the colleges to discuss research-related issues that require college feedback and coordination. The Office of Undergraduate Research also started working with Cornell Abroad to develop international research opportunities.

¹⁰ <http://news.cornell.edu/stories/2015/09/cornell-recognized-2015-healthy-campus-award>

Through the Office of Undergraduate Research, outreach efforts have been significant. For example, Southard created a multi-purpose website¹¹ and social media pages (Facebook, LinkedIn, and Twitter) dedicated to providing information about getting involved in undergraduate research. Further, Southard has developed a presentation for current and prospective students and families about undergraduate research at Cornell.

Engaged Cornell has created a grant mechanism to support team-based undergraduate research that is community engaged. The first call for proposals yielded nine grants supporting high caliber, established research faculty and involving an estimated 136 undergraduate students from seven colleges and schools. It is anticipated that research opportunities for over 2000 undergraduate students will be supported by this mechanism in the next 10 years.

Recommendation 3.6 that Cornell further develop career service programs for graduate and professional students, particularly those interested in careers outside academia.

Considerable Progress. The Graduate School has partnered with University Career Services to provide enhanced career services to graduate students, particularly those pursuing careers outside academia. A new position dedicates 0.5 FTE to graduate students (funded by the Graduate School) and 0.5 FTE to international students. Because international students are about 10% of the undergraduate population but about 45% of the graduate population, this combination of responsibilities serves graduate students well. Programs and services provided by this position are advertised in the weekly “Grad Announcements” newsletter sent by email directly to every registered graduate student.

Recommendation 3.7 that Cornell examine the housing issues related to transfer admission policies and, in particular, evaluate whether guaranteeing housing for transfer students is essential for success or whether removing the need to honor the guarantee of on-campus housing might expand the number of transfer students who would take advantage of a Cornell education.

Continuing Progress. University-wide, not all transfer admissions slots are used, suggesting that housing is not a limiting factor on the number of transfer students who can be admitted to Cornell. With the current marketing and recruitment processes and admissions standards, Cornell has unfilled transfer admissions slots. The University is

¹¹ <http://undergraduateresearch.cornell.edu>

re-evaluating all of its housing policies and is considering adding an additional residence hall on the North Campus to accommodate more freshman students. This may also increase demand for housing on West Campus (where upper level students live) which will make fewer slots available for transfer students. As described above, the new Vice President for Student and Campus Life, hired in August 2015, has been tasked with providing guidance to the University on all of these issues.

From "Chapter 4. Faculty" (Standard 10)

Recommendation 4.1 that Cornell preserve the quality and number of the faculty through planned hiring, renewing Cornell's faculty in numbers commensurate with enrollment goals;

Considerable Progress. In 2010 President David Skorton announced a \$100 million Cornell Faculty Renewal Fund to enable the university to hire 100 new faculty members by 2015¹², with half the funding coming from philanthropy and the balance out of university funds. Between 2010 and 2015, Cornell hired 409 new ranked faculty, and the professorial headcount was increased by 74, from 1574 to 1648.

Recommendation 4.2 that the university continue to develop innovative hiring practices (cluster hires, dual career hires) and to enhance diversity among the faculty.

Continuing Progress. The provost recently implemented a university-wide policy that requires all college and school deans to engage in active, ongoing monitoring of every faculty search, with the goal of ensuring that search committees make a concerted effort to diversify pools and shortlists, and bring the best and most diverse faculty to Cornell. Deans are empowered to halt faculty searches that are not yielding sufficiently diverse candidate pools, and they are held accountable under the Toward New Destinations initiative for achieving measurable progress in diversifying their faculties and supporting the success of the faculty that have been recruited. The Office of Faculty Development and Diversity provides yearly training to all search committees regarding various impediments in the search process, including unconscious bias, that impair effective hiring. In addition, the provost and president have committed to dual career investments and over the past few years offer longer bridges to dual career hires with potential to become permanent.

¹² <http://www.news.cornell.edu/stories/2010/09/cornell-launches-100-million-fund-recruit-faculty>

Recommendation 4.3 that Cornell continue to offer professional development opportunities for all academic staff (“academic non-faculty”) and faculty;

Completed. The Office of Faculty Development and Diversity offers a range of professional development opportunities that are geared towards specific career stages.¹³ These include sessions about tenure, promotion, grant writing, leaves, time management, work-life balance, and communication. Some of the programs are geared towards all faculty, some at junior faculty, chairs, women, and underrepresented minority faculty.

Recommendation 4.4 that the university further consider the role of emeritus faculty to enlist their expertise, connection to Cornell, and capacity to mentor both students and junior faculty members;

Unresolved. The Cornell Association of Professors Emeriti (CAPE) is a vibrant organization and has begun to more formally assess the roles that emeriti play in the life of the university. In January 2016, CAPE conducted a survey of the emeritus faculty with 198 responses which demonstrate that emeriti are engaged deeply in the mission of the University. For example, 57% of respondents report teaching, lecturing or being involved in coursework; 79% are involved in research, scholarship and related activities; 79% continue to publish; 33% serve on administrative committees; and 44% continue to advise students. At the same time, however, there is significant variation in perceived support by departments. To date, there has not been a systematic approach by the University to recognize, facilitate or advance the involvement of emeriti.

Recommendation 4.5 that Cornell develop shared and consistent university-wide support for teaching;

Continuing Progress. The Center for Teaching Excellence, reporting to the Vice Provost for Undergraduate Education, supports teaching across the university. CTE serves as a resource for the academic community by offering a wide array of research-based programs and services that support teaching, reflective practice, and enhanced student learning. As a university-wide resource, the CTE has increased its role in collaborating and consulting with college and university-level teaching and learning initiatives. These include the Active Learning in Active Classrooms in the College of Human Ecology, the Committee on the Support of Teaching and Learning and the CALS

¹³ <http://facultydevelopment.cornell.edu/>

Teaching Experience in the College of Agriculture and Life Sciences, and the Active Learning Initiative in the College of Arts and Sciences. By working with professorial faculty and academic staff across departments and colleges, best practices and findings can be shared more broadly. To facilitate shared and consistent support for teaching, the CTE collaborates with other support units on campus, including the Cornell Library, Academic Technologies, Engaged Cornell, Study Abroad, and the Engineering Teaching Excellence Institute. Collaborative projects with these groups include co-facilitation of workshops and institutes with Engaged Cornell for grant recipients, support of the Internationalizing the Cornell Curriculum in collaboration with Cornell Abroad, Mario Einaudi Center for International Studies, Engaged Cornell, Language Resource Center, etc., and the development of CornellX MOOCs with Academic Technologies. The CTE builds and maintains strong collaborations, coalitions, and networks with faculty, students, administrators, and other organizations on campus in order to improve the effectiveness of instruction and the level of student learning at Cornell.

Recommendation 4.6 that Cornell develop programs for more widespread mentoring of junior faculty and conduct assessment of these programs;

Continuing Progress. Cornell's Office of Faculty Development and Diversity provides mentoring opportunities to junior faculty through its bi-monthly workshops but also through its support of the Small Group Mentoring Programing, which brings together small groups of junior faculty and funds refreshments and a stipend for a mentor who meets with the group monthly. The workshops aimed at all faculty address research, teaching and work-life issues, and include a session on the tenure and promotion process.¹⁴

The Center for Teaching Excellence offers the Cornell Teaching Partnership Program, a mentoring program that pairs new faculty members with tenured faculty members who meet over the course of a year to discuss teaching, exchange classroom observations, and work together to improve student learning. The program provides junior faculty with access to experienced advice on teaching, provides senior faculty with access to new ideas and perspectives on teaching, and deepens and enriches a culture of teaching excellence. Partners participate in a year-end reflection on the mentoring experience. In four years the program has grown to include 120 tenured and tenure-track faculty in 36 departments across eight colleges. Junior faculty participants report benefits to their

¹⁴ <http://facultydevelopment.cornell.edu/professional-development/mentoring/>

teaching, including better student evaluations, and senior faculty participants feel that the experience contributes positively to the institutional goals of Cornell.

Recommendation 4.7 that the university explore incentive systems to reward units that seek the best integration of faculty members' identities as researchers, teachers, advisors, mentors, and agents of public engagement.

Considerable Progress. The University, through its Engaged Cornell program, has initiated a number of grant proposals that reward this type of integration. For example, in the engaged curriculum grants, the University will support with significant dollars (up to \$150,000 over 4 years) projects that include: community-engaged learning in any field of study, teams of Cornell faculty and their community partners, processes of curricular planning, development or advancement, and development of courses and curricula designed to achieve mutual benefits for both students (undergraduate, graduate, and professional) and community partners. Engaged Cornell established a new award, *The Engaged Scholar Prize*, which will be awarded to recognize a faculty member who inspires students, faculty ,colleagues, and community partners through community-based teaching and research. Additional grants are available to support community –engaged undergraduate research and graduate research. Overall, Cornell is working hard to support faculty whose research and teaching involves students (thus mentorship and advising) and community involvement.

Recommendation 4.8 that Cornell continue to expand collaborations and linkages across departments, colleges, campuses, and programs, with a particular focus on identifying and implementing greater cooperation and collaboration among the social science and business/management units.

Continuing Progress. The University continues to strive for better cooperation and collaboration in these fields. Shortly after the decennial review, Cornell announced the formation of a university-wide Department of Economics that brought together economics faculty from the College of Arts and Sciences, labor economists from the ILR School, and a small number of senior professors from JGSM, CALS Dyson School of Applied Economics & Management and the CHE Department of Policy Analysis & Management.

The newly founded Cornell College of Business is a further development built on this recommendation. The proposed CCB would create enhance collaborations among the

Dyson School (in CALS), the JGSM, and the SHA by creating an umbrella college where each of the three, accredited business programs report to a coordinating Dean.

Since 2011, the Provost has also asked each of the academic deans to provide a written report on their efforts to develop stronger connections between colleges on campus to enhance educational opportunities for students and the quality and stature of disciplines or fields. One example is the significant collaboration between Cornell Tech, Law and JGSM and the new MRI center co-directed by CHE and COE.

From "Chapter 5. Educational Offerings (Standards 11, 12, and 13)

Recommendation 5.1 that Cornell Provide a more unified and shared educational experience for Cornell undergraduates."

Recommendation 5.2 that the university create a program that provides for a common academic experience for all undergraduates, in which formal coursework is supported by living-learning activities and which supports the idea of Cornell as "one university."

Recommendation 5.3 Develop stronger connections or ties across colleges that enhance educational opportunities for students and the quality and stature of disciplines or fields.

Recommendation 5.4 Review the academic necessity and justification for policies and procedures that limit or create obstacles to the capacity of students in one college to take courses in another.

Continuing Progress. In Fall 2015, the Provost established the Provost's Curriculum Oversight Committee (PCOC) and charged it to provide a university-wide perspective on Cornell's academic programs through analysis and oversight of curricular offerings. The committee reports to the provost and Faculty Senate on components of the curriculum that appear to be duplicative and/or have a substantial impact on other colleges. The PCOC will also explore and, if appropriate, make recommendations about elements of a common undergraduate academic experience and/or shared educational requirements across Cornell's undergraduate colleges.

Active governance is particularly important when there is a potential for duplicative and overlapping curricular offerings, which may compete for a fixed pool of students and tuition revenue. Faculty engagement in the oversight role of the PCOC is central. Therefore, the PCOC includes at least 3 members of the Educational Policy Committee (EPC) of the Faculty Senate, and works closely with that body (as well as Educational Policy committees in each of the colleges).

Three subcommittees of the PCOC have been formed:

- a) Common Curriculum Elements Subcommittee: The subcommittee is reviewing current offerings and will make recommendations about elements of a common undergraduate academic experience and or/shared educational requirements across undergraduate colleges.
- b) Governance, College Processes Subcommittee: This subcommittee will propose a process for ensuring that curricular offerings are not unnecessarily duplicative and that new offerings are launched to fulfill educational goals rather than to compete for tuition revenue.
- c) Access to Gateway Courses Subcommittee: The subcommittee is reviewing gateway courses to determine if students are having difficulties enrolling in large courses that may be required for particular academic programs. The committee will consider strategies for managing enrollment pressures through a systematic process rather than through eleventh hour, course-by-course scrambling.

The work of the PCOC is conceived to identify policies that limit or create obstacles to students in each college in meeting their educational goals.

There has been significant work with respect to enhancing learning through living-learning initiatives. “Learning Where You Live” operates in both the first-year communities and the upper-level house system and is focused on bringing faculty and undergraduates together to enhance intellectual life in the residential communities. All courses are open to any student regardless of their college or major. The goals of the initiative include developing sustained and meaningful connections among undergraduates and faculty members, allowing students to explore a subject outside of their intended field of study, offering a meaningful learning experience that is not a significant source of stress for students, and promoting the idea that intellectual exchange, curiosity, and exploration are core values of a Cornell education.

Prior to the establishment of the PCOC, the university supported the creation of boundary-spanning pedagogical opportunities for students and faculty through “University Courses.” These courses are conceived to reach a substantial proportion of the undergraduate student body and provide students with an experience of Cornell as “one university,” mitigating the sense of segmentation that our diffuse institutional structure can generate. They represent and instill within students the distinctive character of Cornell: the intersection of diverse modes of academic pursuit and intellectual inquiry. They achieve this by providing students engaging educational opportunities representing the full range of Cornell’s schools and colleges with an occasion for cross-disciplinary study, modelling processes of intellectual discovery and

critical thinking, and exposing students to open dialogue and debate. Most University Courses are team taught, many by faculty from different departments, providing occasions for engaged, innovative, and proactive pedagogy. The program supports collaborative teaching, which creates opportunities but also presents challenges for participating instructors, teaching assistants, and students. In recognition of these challenges and opportunities, the program includes both formal structures and informal opportunities to support instructors. The PCOC is evaluating whether these courses have achieved the goals set for them.

Recommendation 5.5 that Cornell conceptualize and implement an integral role for the creative and performing arts.

Continuing Progress. Some progress has been made through increased funding for and a reorganization of the Cornell Council for the Arts¹⁵ (CCA). The CCA is a university-wide cultural organization that provides a platform for the creation of and public discourse on the contemporary arts on campus. Through the annual grant program, exhibitions, public talks, artist residencies, special projects, and student awards, the CCA promotes interdisciplinary, collaborative, and experimental artistic forms in order to inspire innovative and challenging projects by students, faculty, departments and programs from all disciplines.

More work could be done. Several academic deans are engaged with members of the Board of Trustees in identifying ways to enhance the visibility and synergies of the arts at Cornell. Cornell has unique opportunities to better integrate the arts into our curricula, to capitalize on the singular intellectual resources available to artists at a comprehensive research institution, and to conceptualize the campus itself as an inspiring canvas for exploring the frontiers of art making.

Recommendation 5.6 that Cornell establish a centralized data collection, as well as an organized system or resource to provide liaison, communications, and facilitation to support and highlight undergraduate research; to make current students' research accomplishments more visible to faculty, students, prospective students, and members of the public; and to make it more possible to build upon those accomplishments.

¹⁵ Information can be found at (<http://cca.cornell.edu/>)

Considerable Progress. As described in relation to Recommendation 3.5 above, the Office of Undergraduate Research has developed new resources to coordinate and communicate undergraduate research at Cornell.

Further, the Cornell University Library collaborates with the Office for Undergraduate Research on the Undergraduate Research Initiative, providing opportunities for undergraduate students in the humanities and social sciences to engage in research and to prepare them to take advantage of locally- and externally-funded grant and fellowship opportunities.

In addition, the Library is developing information literacy and supporting undergraduate research. For example, the credit course “WRIT 2100 Delve Deeper: Research Methods” is taught by library staff. Faculty members serve as mentors, providing points of contact for students as they move from this course to independent research experiences in their fields of interest. Building on that success, the Library is developing another course in collaboration with the Office for Undergraduate Biology. This new course, “BIOG 3020: Research Skills for the Life Sciences,” will prepare undergraduates in the life sciences to take advantage of grant and fellowship opportunities.

Finally, the Library is helping to make undergraduate students’ research more visible. Mann Library has featured an undergraduate research posters forum, and there are plans to expand this opportunity by providing a similar event for students in Olin Library.

Recommendation 5.7 that the General Committee of the Graduate School examine whether to reduce the number of graduate fields by merging or closing some very small fields, or by clustering related fields in order to improve students’ educational opportunities.

Considerable Progress. Since Spring 2013, the Graduate School leadership convenes individual, biennial graduate field meetings for every faculty Director of Graduate Studies with the Graduate School leadership. Meetings focus on the state of each field, including student performance and outcomes, graduate program initiatives, and challenges. Reconfiguration of graduate fields is also an ongoing topic of consideration (e.g., the Biometry field is closing; five life sciences fields are in the process of NYSED approval to consolidate their degree programs into one program).

Recommendation 5.8 that Cornell continue to monitor both the larger issue of the language skills of entering graduate students and the specific issue of the extent to which the courses currently provided address the goals and needs of graduate education.

Considerable Progress. The International Teaching Assistant Program (ITAP) continues to be run through the Center for Teaching Excellence; incoming international graduate students who will TA during their studies must pass an ITAP assessment or are required to successfully complete one or more ITAP courses in English and learning/teaching acculturation. In 2014, the Graduate School, in partnership with the Knight Institute for Writing in the Disciplines, created the English Language Support Office (ELSO) to better support the academic English and acculturation needs of international graduate students. The ELSO office includes a director and two lecturers.

Recommendation 5.9 that Cornell ensure that collaborations and partnerships with merging libraries and other non-Cornell libraries serve the needs of faculty and students.

Completed. The Cornell Library has continued to provide exemplary services after the consolidation of Cornell's library services that have unfolded since the budget crisis of 2009 and the development of the new budget model since 2011.

The collaboration with Columbia University Library known as 2CUL initiated the reciprocal, onsite borrowing service: faculty and students can check out the other institution's collections when they visit our mutual campuses. 2CUL has reduced materials duplication in several areas and expanded the breadth and depth of the collection available to faculty and students. 2CUL allowed the Library to use purchasing power to negotiate lower licensing fees, have a number of shared staff and use the savings to acquire materials we otherwise would not be able to purchase.

Borrow Direct¹⁶ enables Cornell faculty, students, and staff to search and request faster delivery from "Ivy-Plus" institutions' combined 60 million volumes. Duke University recently became the 12th institution to join Borrow Direct. In addition, the 2CUL reciprocal onsite borrowing service inspired the Borrow Direct libraries to pilot the same model, known as Borrow Direct Plus. Cornellians visiting eleven other universities may now borrow materials from their libraries.¹⁷

¹⁶ <https://www.library.cornell.edu/services/request/borrow-direct>

¹⁷ <https://www.library.cornell.edu/services/borrow/borrow-direct-plus>

The Library also partners to provide financial sustainability for digital repositories and other Cornell- sponsored scholarly communication venues of high value for researchers. A prime example of accomplishment is the development and implementation of an economic model to support arXiv.org, a communications tool of critical importance to scientists worldwide in the areas of physics, mathematics, computer science, quantitative biology, quantitative finance, and statistics. arXiv has surpassed one million submissions in 2015. It has been largely financed by the Library since 2001. In 2013, a sustainable model was formalized. In this new model, arXiv is supported by libraries and research laboratories worldwide that represent arXiv's heaviest users, as well as by CUL and generous matching funds from the Simons Foundation.

Recommendation 5.10 that the university examine and track the library needs of students (undergraduate, graduate, and professional) to ensure strong services that are effectively integrated with academic priorities

Completed. Through the Research and Assessment Unit (RAU), the Library continuously conducts use and user assessment to support its decision on service improvements and new service offerings.¹⁸ For example, information about faculty perceptions of students' needs was obtained via the 2014 faculty survey which achieved a 48% response rate. The survey results indicated a deep engagement with the Library and its resources and suggested areas that could be improved. The Library is working to respond to those suggestions.

In addition, other Library staff are actively and continually engaged in understanding how to best serve and integrate with academic priorities. To mention three brief examples: First, the approximately 70 subject specialists (library liaisons & selectors) connecting the services and collections hold regular retreats to discuss new academic trends and Cornell priorities in order to continue delivering relevant services.

Second, the Library also maps its many instruction sessions against Cornell University's curriculum in order to determine the scope and reach of our instruction, working with the University Registrars to obtain enrollment numbers for every course in every college (excluding professional schools), identify majors by college, and match course-related library instruction sessions to those numbers. This mapping helps the library to be more

¹⁸ See a complete list of assessment results at <https://ac.library.cornell.edu/data>.

strategic in deploying its instruction service and in engaging faculty to provide information literacy program.

Third, with increasing number of international students coming to Cornell, CUL has curated a list of services that are especially helpful for this particular user community.¹⁹ These services are promoted via the Vice Provost Office for International Affairs, the ISSO, and Cornell International Education Network, as well as through our outreach to international student associations. CUL has made supporting Global Cornell a priority for the next few years.

Recommendation 5.11 that the university give due consideration to the recommendations presented by the study abroad task force in late 2009, particularly Recommendation 5.12 that the university should develop a new university-wide model to support international education, and should consider implementation of the recommendations of the 2009 Study Abroad Task force, contingent on new budgetary and organizational structures.

Considerable Progress. In July 2013 the Provost charged the Vice Provost for International Affairs (VPIA) with providing strategic direction for the University's international endeavors. In collaboration with Cornell's colleges, schools, and central units, the Office of the VPIA coordinates the "Global Cornell" initiative—a university-wide effort to incorporate international studies and engagement into the curriculum, foster cross-college collaborations, and increase the Cornell community's understanding of and engagement with global issues. The VPIA Office also facilitates partnerships with international universities and leaders to enhance Cornell's programs, presence, and impact around the world. The overarching goal is to make international activities and cross-cultural experiences an indispensable part of the student experience at Cornell—through coursework, campus life, study abroad, engaged learning, and research projects.

In October 2013, the VPIA issued "A Call to Action," defining five priorities for internationalizing Cornell:

1. Create central coordination for internationalizing Cornell and provide expert leadership through faculty-guided advisory councils and working groups.

¹⁹ <https://www.library.cornell.edu/international>

2. Internationalize the student experience by expanding opportunities abroad and on campus, developing new courses, and exploring the creation of pathways for global engagement in all majors.
3. Support the international engagement of faculty through programs offered by Cornell's colleges, schools, and central units, and recruit new internationally engaged faculty.
4. Enhance Cornell's global presence by cultivating new international partnerships and by exploring the creation of global offices in selected cities around the world.
5. Mobilize funding for internationalization and generate new endowments.

The Office of the VPIA catalyzes culture change through a university-wide Internationalization Council, whose membership represents all Cornell's colleges and schools. Various working groups on campus focus on strategic areas of interest, for example enhancing Cornell's global presence and supporting the integration of international students. The VPIA has also supported the Language Education Council, which seeks to evaluate and enhance language instruction across the university.

The Office has spearheaded efforts to better coordinate and communicate with campus constituencies. Upgrades to the Global Cornell website are now providing one-stop entrée for internal and external audiences to learn more about the diverse international activities at Cornell.

Cornell recently initiated three significant new virtual resources:

- An online portal students can use to apply for funding for international experiences (active)
- A central website students can use to access Cornell's broad array of international opportunities (in development)
- Online resources faculty and staff can easily access to accomplish the business tasks associated with their global activities (in development)

The Office of the VPIA provides leadership for the Global Cornell initiative, working closely with key units such as Cornell Abroad and the Mario Einaudi Center for International Studies. Through these units and Cornell's colleges and schools, the Global Cornell initiative is effectively enhancing international education at Cornell through the following specific activities:

- Supporting curricular innovation to internationalize minors and majors and foster an international perspective and increased intercultural competence among Cornell students
- Supporting faculty development, research, and engagement in international activities, studies, and education
- Expanding exchange programs to enhance interactions between domestic and international students
- Funding International Travel Grants for undergraduate, professional, and graduate students to make meaningful international experiences accessible to more Cornell students
- Actively inviting international scholars to speak, teach, and conduct research at Cornell
- Seeking support to increase international student aid, to ensure that Cornell can compete for an economically diverse student body from around the globe
- Seeking opportunities to support Cornell's international student organizations, which provide a forum for students from around the world to actively engage with each other and with the campus community
- In collaboration with the Office of the Vice Provost for Undergraduate Education, working through the new Language Education Council to make language study more accessible to students in schools across the university, generate interest in language learning, and find innovative ways to deliver language instruction to non-traditional audiences

The Office of the VPIA works with colleges and units to support expansion of Cornell's international network, administering central processes for needs such as Memoranda of Agreement for new global partnerships with international universities and organizations.

Cornell very recently decided to establish a physical presence in Shanghai, with office space devoted to enhancing academic initiatives in China. The Shanghai office will serve as a model for future global offices in other parts of the world. The University also continues to cultivate its connections with its worldwide alumni network, to encourage alumni to inform and support Cornell's global mission and success.

From "Chapter 6. Assessment of Student Learning" (Standard 14)

Recommendation 6.1 that Cornell take steps to ensure that there is ample central support for the assessment project, in order to continue to expand and improve Cornell's culture of assessment.

Recommendation 6.2 that Cornell use a range of resources to expand assessment activities in a steady and measured way, with the guidance of the Core Assessment Committee or an equivalent cross-college group and utilizing the models and instructions provided by the activities in the Cornell Library, the Knight Institute for Writing in the Disciplines, the Center for Teaching Excellence, the Office of Institutional Research and Planning, and other units.

Continuing Progress. Supported by the Provost's Office, a half-time position of Assessment Project Manager was created in 2009, along with fractional FTE support for an administrative assistant. This appointment has been extended. This position supports the Core Assessment Committee and interfaces with assessment leaders in each of the colleges, the graduate and professional schools, and the Center for Teaching Excellence (CTE).

The Core Assessment Committee continues to seek opportunities and channels for expanding assessment activities on campus by engaging faculty involved in curriculum change, program review, and adoption of innovative teaching approaches in discussions of assessment.

More detail is provided in Chapter 5 of this report, "Assessing Institutional Effectiveness and Student Learning."

Recommendation 6.3 that Cornell continue to provide additional support in the Center for Teaching Excellence for faculty doing assessment of student learning in the form of faculty workshops and one-on-one consultations;

Completed. A new, permanent full-time position within CTE was established to further support assessment activities on campus. The CTE now regularly offers a range of workshops and consultations for faculty involved in assessment.

Recommendation 6.4 that the university create fora for sharing assessment models on campus so that Cornell faculty can learn from their peers.

Continuing Progress. In addition to their efforts to support assessment of foundational courses, the Core Assessment Committee is currently working with the Associate Deans in the colleges to establish annual discussions between faculty who teach advanced level

courses, and those who teach the introductory level courses upon which they depend. The intent is for these conversations to occur within and across disciplines, as well as within and across colleges.

From “Chapter 7. Institutional Assessment” (Standard 7)

Recommendation 7.1 that Cornell fully implement the roadmap for institutional assessment, including student learning outcomes, that is contained in the Strategic Plan.

Continuing Progress. As described in our 2013 Progress Report, in the 2012-13 academic year, the Provost engaged the university leadership—including the Board of Trustees—in a thoughtful and comprehensive analysis of the university in the context of twenty other top institutions. This exercise was expanded in 2013-2014 to encompass additional comparisons to support college-level analyses.

More detail is provided in Chapter 5 of this report, “Assessing Institutional Effectiveness and Student Learning.”

Recommendation 7.2 that Cornell address identified problems of communication, transparency, and management of data as part of ongoing administrative reorganization.

Considerable Progress. The office of Institutional Research and Planning has expanded the use of interactive data reporting that allows the colleges and units to see exactly what data are being used and what definitions are operational. The Deans have access to the data through Tableau and they are able to look at data both within and across Colleges.

Other central offices—the Graduate School and the Office of Sponsored Programs—have also moved from static reporting models (such as PDF annual reports) to expanded reporting through Tableau dashboards. These dynamic, interactive reporting models allow users to better understand how metrics are defined and used.

Recommendation 7.3 that the university develop a way to assess how undergraduate, graduate, and professional students’ experiences at Cornell link to the development of their future careers;

Considerable Progress. The Graduate School instituted a doctoral career outcomes assessment effort that includes surveys and employment inventories of PhD alumni from 0 to 20 years post-graduation. These alumni were sent an electronic survey seeking information about their career, perceptions about their graduate experience at Cornell,

and judgments regarding skills and training that current graduate students should have to be successful in the alumnus/a's current career path. Non-respondents were researched via Google, LinkedIn and other electronic means to produce near-complete job inventories of graduates as measures of graduate student outcomes. Survey data provide deeper interpretive content.

For many years, undergraduates have been surveyed by Career Services as they approach graduation and embark on other sorts of activities. That information is now being linked to and packaged with other measures (such as GPA and graduates rates) to provide a fuller picture of student outcomes within and across academic programs and colleges.

Recommendation 7.4 that graduate and professional student data be collected and analyzed centrally, similar to the treatment of undergraduate student data.

Continuing Progress. There have been increased levels of collaboration and the Graduate School and the central institutional research office. Discussions with professional schools and with Weill Cornell Medical College are underway.

3. Challenges and Opportunities

Since the decennial accreditation report, Cornell has made great strides in addressing the budgetary challenges brought on by the 2008 financial crisis, identified and realized a number of new research and educational opportunities, such as establishing the new Cornell Tech campus in New York City, and launching the new undergraduate Biomedical Engineering major. In addition, Cornell's new leadership brought new ideas and structures.

New Leadership

Since our last accreditation visit, Cornell has seen a number of leadership transitions, including the President, Provosts (both Ithaca and Weill Medicine), academic deans, and vice presidents. While transitions at the highest levels are to be expected and are largely taken in stride, the breadth of the change across the highest ranks of the institution was already notable when our President unexpectedly passed away in March of 2016 after less than a year in office.

Cornell's 13th president, Elizabeth Garrett, took office on July 1, 2015, and Ithaca's provost, Michael Kotlikoff took office only one month later, on August 1. Also on August 1, Cornell welcomed Ryan Lombardi as the new Vice President for Student & Campus Life, following the retirement of Susan Murphy after 20 years of service in the role of Vice President for Student & Academic Services.

In addition to appointing Provost Kotlikoff and Vice President Lombardi, President Garrett restructured her leadership team soon after arrival, creating the position of Executive Vice President and Chief Financial Officer. The EVP has a larger portfolio than the Vice President for Financial Affairs previously held, as it now includes the following units: Infrastructure, Properties & Planning (IPP), Risk Management & Insurance, Emergency Management/Business Continuity, Environmental Health & Safety, and the Cornell University Police Department. The EVP also shares oversight with the Provost for Information Technologies and for Budget & Planning.

Other transitions since our 2011 report include the Dean of the College of Arts & Sciences (2013) the Dean of the Law School (2014), the Dean of Computer & Information Science (2015) and the Dean for the Industrial & Labor Relations School (2015). There are

searches underway for the School of Hotel Administration, the College of Veterinary Medicine, and Weill Cornell Medicine. There are searches to replace the Vice Provost for Undergraduate Education following the August 2015 departure of Laura Brown and to find a new Dean of Students to replace the current dean, Kent Hubbell.

Added to this churn was an unhappy announcement from President Garrett on February 8, 2016 that she had been diagnosed with colon cancer, and would be lightening her commitments while undergoing aggressive treatment for her illness. This message was followed two weeks later by a message from the Chairman of the Board of Trustees Robert S. Harrison that President Garrett had undergone surgery related to her illness and that Provost Kotlikoff would serve as Acting President, as provided by the University Bylaws. On March 6, 2016, Elizabeth Garrett passed away.

At their regularly scheduled meeting on March 24th, the Board of Trustees announced that Cornell President Emeritus Hunter S. Rawlings III will step in as the Interim President, effective April 25, 2016 while a search for Cornell's 14th president is conducted. Rawlings served as Cornell's 10th president from 1995 to 2003, and this is the second time he has accepted the position of interim president; he previously took the helm in 2005-06 following the resignation of the 11th president, Jeffrey Lehman.

Cornell University is able to attract exceptionally wise and talented administrators into leadership roles. Together with Cornell's experienced and dedicated faculty and staff, the administration is working to position Cornell as an even more distinguished and distinctive university.

Budget Pressures and the New Budget Model

Cornell has experienced a number of significant budget pressures in recent years. The economic pressures of the 2009 recession resulted in a significant decline in investment distributions from our endowment and state appropriations decreased by approximately \$39 million or 24% between fiscal years 2008 and 2012 and have remained essentially flat since then. In the midst of these and other financial pressures arising from the recession, Cornell strongly reaffirmed and advanced its commitment to student access by increasing the investment in need-based financial aid by 154% (\$120 million) between fiscal years 2008 and 2015.

Since 2009, these challenges were managed through actions at the institutional level as well as the individual unit level. Administrative and support positions have been eliminated, operational efficiencies were achieved, the pace of faculty hiring slowed, and

capital spending was cut back. Further, the Cornell Trustees approved a \$35 million per year special withdrawal from the endowment for five years (2010-2014) to help partially buffer the impact of this financial aid investment, but this placed significant pressure on other elements of the operating budget as we anticipated the end of the special withdrawal.

These actions enabled the university to maintain a balanced operating budget for the campus as a whole. However, an imbalance in the distribution of resources and costs arose *internally* on the Ithaca campus resulting in a significant annual deficit in the central budget managed by the Provost. This central budget deficit was at its peak of approximately \$84 million in 2010.

Contributing to the challenge in understanding this internal deficit and developing effective strategies to resolve it was the fact that prior to fiscal 2014 the Ithaca campus operated with three different budget models for resource and cost distribution among the colleges. The multiple budget models resulted in a lack of common understanding among campus leadership regarding the causes of the internal deficit and potential actions to be taken. A new budget model with common and consistent resource and cost methodologies across all units was implemented in 2014. The transition to the new budget model was particularly challenging in the first two years, but the model has stabilized and understanding of it has increased. The new budget model has helped to inform and implement resource allocation strategies to eliminate the central university deficit.

With a clear plan to resolve the internal central deficit fully in fiscal 2017, the Provost has begun work with college Deans to develop multi-year financial plans based on projections of new revenue and targeted investment priorities. This work is building upon an existing five-year budget and financial planning that has been in place since approximately 2010.

New Academic Units

Cornell Tech

Not long after our decennial accreditation visit in 2011, Cornell won a major competition initiated by mayor Bloomberg of New York to establish a technology campus in New York City. After approval of our Substantive Change through Middle States in 2012, Cornell Tech has operated as a “branch campus” at a temporary location in Google’s

Chelsea building in New York City. As of Fall 2015, there were 131 graduate and professional students studying at Cornell Tech.

In fundamental ways, Cornell Tech is both integrated with and separated from Ithaca operations. Academically, Cornell Tech was conceived to be fully integrated with Ithaca operations: students are enrolled in and faculty are appointed through colleges that are based in Ithaca, including the College of Engineering, the Law School and Johnson Graduate School of Management. The academic offerings at Cornell Tech are extensions of what is provided in Ithaca, and not fundamentally distinct.

On the other hand, a founding principle guiding the establishment of Cornell Tech is that this campus will maintain a separate budget from the Ithaca campus and from the medical campus. To date, more than \$350M in new philanthropic gifts have been committed to Cornell Tech, ensuring that Cornell will continue to allocate its resources based on its mission and goals (Standard 2) and that there are sufficient resources available to attain those goals (Standard 3).

One component of Cornell Tech is the Joan and Irwin Jacobs Technion-Cornell Innovation Institute, which offers a dual-degree MS in Information Systems with the Technion - Israel Institute of Technology.

When completed in 2037, the Cornell Tech Roosevelt Island campus will include more than two million square feet of academic, residential and corporate R&D space, and will be home to over 2,000 full-time graduate students and hundreds of faculty and staff. Currently, the Provost is reviewing new proposals from Ithaca-based units that would advance academic opportunities in collaboration with Cornell Tech.

Cornell College of Business

On January 30th 2016, Cornell's Board of Trustees authorized the design and implementation of a plan for a Cornell College of Business (CCB), comprising the University's three accredited business schools: the School of Hotel Administration (SHA), the Charles H. Dyson School of Applied Economics and Management (Dyson), and the Samuel Curtis Johnson Graduate School of Management (Johnson).²⁰ This is the first major academic unit to be established at Cornell since 1950 when Hotel Administration moved from a department within the New York State College of Home Economics (now Human Ecology) to become a separate and self-governing unit. The

²⁰ For more information about CCB developments, see <http://business.cornell.edu/>

new Cornell College of Business will be led by Soumitra Dutta, the current Anne and Elmer Lindseth Dean of Johnson Graduate School of Management.

The motivation for creating the CCB can be traced through a number of documents and initiatives, including the Management Task Force committee of 2009, the Business at Cornell Task Force of 2010, the Strategic Plan of 2010, the 2013-14 AACSB Accreditation Report, and the 2013 “Business, Management and Economics at Cornell” white paper prepared for the Board of Trustees. The newly formed Cornell College of Business will immediately be a top ten business school in terms of scale and impact, with 145 research faculty and nearly 2,900 undergraduate, professional, and graduate students.

The vision of the CCB is that it will enable Cornell faculty and students to better collaborate to address many of the world’s major challenges, from sustainability to shared prosperity and wealth imbalance. Faculty will be able to engage more easily and effectively in cross-disciplinary research and broad dissemination of ideas to increase the national and international influence of faculty scholarship and achievements. Many argue that a comprehensive College of Business will attract stronger faculty and students, catalyze their interactions, and better educate students in management, entrepreneurship, hospitality, agribusiness, and sustainable business development

While many see CCB is a tremendous opportunity, some alumni, faculty, and students have expressed concerns both about the CCB concept itself—as some fear it will dilute the unique identities of the constituent programs—as well as about the way in which this decision was approached, maintaining that the creation of the CCB involved insufficient consultation with students, faculty and staff.

University leadership and that of each of the component schools have been working to assure constituencies that the CCB will seek to preserve the unique strengths of each of the three schools. They have consulted extensively with their passionate and committed alumni, and a town hall for future CCB students was held on February 2, 2016 to allow students to ask questions and express their concerns.

In order to give shape and substance to the CCB, the President and Provost have established seven committees with charges as listed below:

Steering Committee

1. Ensure that key issues related to the successful creation of the College of Business are addressed.

2. Create working groups of faculty, students, staff, and alumni as needed on specific issues.
3. Obtain support from key stakeholders.
4. Ensure consistency of communications and messaging strategy around the formation of the College.

Faculty Governance Committee

1. Define program areas across three schools around common curricular and scholarly interests in order to build a unified College of Business faculty. Define principles that define program areas.
2. Define responsibilities/authorities of program area leaders and school deans.
3. Articulate promotion and tenure guidelines/standards for faculty and academic staff, including grandfathering arrangements for existing faculty, clock duration (six or eight years), and annual/biennial review processes.
4. Define processes for faculty consultation on and governance over major policy issues.
5. Identify areas that need further work and deliberation.

Alumni Engagement Committee

1. Define processes for alumni engagement and communication across the three schools.
2. Identify existing and emerging opportunities that exist across all three schools that will increase alumni engagement and participation.
3. Provide opportunities for engagement of and communication with alumni community around planning and ensure alumni perspective is shared with appropriate committees.

Staff Synergy Group

1. Define areas across three schools for achieving synergy of actions and plans – both in terms of efficiency and effectiveness.
2. Define processes for coordination of staff governance and management across the three schools.
3. Identify risk areas and enumerate plans for risk mitigation.
4. Identify areas that need further work and deliberation.

Communications Synergy Committee

1. To define and oversee communications strategies to engage key internal and external stakeholder groups.
2. To ensure consistency of message across all communications.
3. To identify potential risks in need of attention and deliberation.

Undergraduate Student Synergy Group

1. Define areas across three schools for achieving synergy of student participation and benefits.
2. Define processes for student governance across the three schools.
3. Identify risk areas and enumerate plans for risk mitigation.
4. Identify areas that need further work and deliberation.

Graduate Student Synergy Group

1. Define areas across three schools for achieving synergy of student participation and benefits.
2. Define processes for student governance across the three schools.
3. Identify risk areas and enumerate plans for risk mitigation.
4. Identify areas that need further work and deliberation.

There is a commitment to making the development of the CCB inclusive and transparent. All stakeholders have been encouraged to engage committee members to share thoughts and aspirations for the new college.

Engaged Cornell

In 2015, the university launched Engaged Cornell, a 10-year and \$150 million initiative to establish community engagement and real-world learning experiences as the hallmark of the Cornell experience. This transformational initiative was established with a \$50 million gift from the Einhorn Family Charitable Trust.

The initiative builds upon Cornell's founding land-grant mission and commitment to "knowledge with a public purpose." Innovation in teaching and learning is the core means of realizing this institutional mission through shared practices that engage students, faculty, and curricula with communities and with the public realm in local, national, and global arenas. Engaged Cornell aims to support the work of faculty to directly integrate community engagement into the curriculum, as a strategy for learning and as a means of connecting academic exploration with diverse public stakeholders. The first curriculum grants were awarded to faculty across the university in the 2015-16 academic year. Awards totaling \$920,299 included 18 different projects involving 99 faculty and staff team members, 32 Cornell academic departments and 41 community partners. They are anticipated to engage more than 1,000 students when curricula are implemented.²¹ In 2016, three new funding mechanisms were announced and grants were awarded in support of undergraduate research, graduate research and collaboration with Cooperative Extension. In addition, a new Engaged Scholar Prize has been awarded to recognize faculty accomplishment in community-engaged teaching and scholarship. A community engagement hub space will co-locate seven existing community- engagement programs, together with Engaged Cornell staff, in Kennedy Hall, in floors above the eHub space (see below).

eHub

The eHub project is a partnership among Entrepreneurship at Cornell, the Student Agencies Foundation (a non-profit that enables Cornell students to get hands on, real-

²¹ Descriptions of the projects are included here:
<http://engaged.cornell.edu/funding/engaged-curriculum-grants/2015-recipients/>

world business experience), the Johnson Graduate School of Management, the College of Agriculture & Life Sciences, the College of Engineering, the School of Industrial & Labor Relations and the School of Hotel Administration.

eHub is conceived of as a premiere program designed to foster, encourage and support entrepreneurship among Cornell students, alumni, faculty and staff. Facilities—including 10,000 square feet on the second and third floors of the Student Agencies building at 409 College Ave. and 4,000 square feet on the first floor of Kennedy Hall on campus—will be the epicenter for entrepreneurial “doing” with cross-campus support and leadership. The eHub space in Ithaca’s Collegetown neighborhood will house several existing organizations: eLab (a business accelerator program offering mentorship to student companies and their management teams), Student Agencies Inc., and PopShop (a community of entrepreneurially minded students).

New Academic Programs

Among the new academic programs and initiatives established since our decennial accreditation visit in 2011, two merit special mention.

Biomedical Engineering Major

In 2015, Cornell received state approval to create a new undergraduate major in biomedical engineering (BME) and began taking sophomores into the program in the fall. The College of Engineering also announced a \$50 million gift to expand the BME department into a school named the Nancy E. and Peter C. Meinig School of Biomedical Engineering. A survey of the incoming Engineering freshman class indicated that 60 percent of the students had an interest in biological applications of engineering.

Engineering education research shows that students are more motivated and perform better when they can see the applications of what they’re doing up front. The new major has the opportunity to increase both the interest and retention of students. It may also play a role in reshaping the College of Engineering’s demographics: in 2015, the College of Engineering incoming freshman class was 48% female – a historic peak for the college. In a recent survey of students who listed the BME major as their top choice, nearly 70% was women.

Africana Studies Ph.D.

In 2013, the College of Arts and Sciences announced the establishment of the first Ph.D. program in Africana studies in New York State. The Africana Studies & Research Center has expanded significantly in the last few years, with five new faculty members, an expansion of its African Languages Program, and an addition of 5,000 square feet to their facilities.

Although there are now more than 300 undergraduate programs in black and Africana studies, there are only 10 doctoral programs. With 20 to 30 percent of current faculty in the field likely to retire over the next decade – and only about 10 Ph.D. degrees granted in the field each year – Cornell’s new doctoral program will play an important role in the field.

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4. Enrollment and Finance Trends

Cornell University has grown over time in an intentional and measured pace. In 1980, Cornell enrolled a total of 17,066. By 2000, that had increased to 18,995 (corresponding to a growth of just 100 under students a year). In 2015, the number had increased to 21,904, with most of the growth in more recent years occurring in the post-baccalaureate populations.

The pattern over the last four fall semester is illustrated in Table 3. The freshman class has been stable at around 3200 students, reflecting the housing capacity on North Campus where all first-year students reside. This constraint has kept the undergraduate population quite stable. In contrast, professional programs—especially the MBA program, which added 160 students between 2012 and 2015—have grown.

Table 3. Cornell University Student Enrollments for Fall Terms 2012-2015

		Fall 2012	Fall 2013	Fall 2014	Fall 2015	2012-15 change
Undergraduates						
Entering	Freshmen	3217	3223	3225	3180	-1%
	Transfers	543	542	554	497	-8%
By class	Freshmen	3,303	3,313	3,312	3,247	-2%
	Sophomore	3,590	3,563	3,578	3,590	0%
	Junior	3,609	3,664	3,645	3,576	-1%
	Senior	3,759	3,853	3,918	3,902	4%
Undergraduate	Total	14,261	14,393	14,453	14,315	0%
Graduate	Total	5,049	5,023	5,140	5,265	4%
Professional	Total	2,114	2,177	2,257	2,324	10%
All Student	Total	21,424	21,593	21,850	21,904	2%

A number of different projections and models are prepared to plan for the future. For example, Institutional Research & Planning (IRP) prepares a detailed projection of enrollment for the following academic year as part of the development of the enrollment targets for coming admissions cycle. IRP also prepares a five-year enrollment projection based primarily on historical data and articulated plans for adjusting enrollment targets.

In February of 2016, the Division of Student & Campus Life initiated a housing master planning process to develop a strategy for meeting the university's housing needs for

undergraduate and graduate students for the next decade. Since the 1997 policy of housing all first-year students on North Campus was adopted and the construction of residence halls was completed in 2002, the existing number of beds on North Campus has effectively created a soft cap on the number of undergraduates.²² A new housing master plan will provide an opportunity for the university to consider scenarios for additional housing, and to model the multi-year impacts of an increased number of freshmen. The housing master plan study is expected to be completed by December 2016.

The University Budget Office and the Division of Financial Affairs also create long-term projections that model different scenarios to inform long-term revenue forecasts. For example, as part of its regular analyses and reporting to the Board of Trustees, the university prepares a monthly Financial Summary that includes a five-year forecast. An example from December of 2015 is included as Appendix A. The operating assumptions behind the forecasts are documented on page 2 the Financial Summary. That document models a growth in undergraduate enrollment of 500 students by fiscal 2020, or approximately 125 annually. This modeling is being coordinated with our housing program as part of the housing master planning process.

After careful consideration with the academic deans, the provost is also anticipating continuing growth in the enrollment in master's degree programs on the Ithaca campus. In the Financial Summary, master's degree growth is modeled at 550 students over the next five years, and the financial forecast takes into account both the anticipated revenue those students would bring in addition to the associated increase in expenses.

The specific assumptions regarding enrollment used in the Financial Summary may be slightly different than enrollment forecasts, models, or projections used in other contexts. This may be especially the case when considering enrollment in master's degree programs, as professional masters degrees are not centrally-managed. Specific enrollment plans are informed at the school and college level, and may vary based on individual program opportunities and needs.

²² The size of the freshman class has increase incrementally over the previous decade, despite this soft cap. Growth was possible through more carefully management of enrollment targets and available beds. In addition, in December of 2015, the Board of Trustees removed the housing guarantee for new transfer students that had been in place, freeing a few more beds for freshmen.

Regarding overall financial trends, the university continues to operate in an overall balanced budget position despite significant financial pressures. Enrollment remains very stable at planned levels so tuition revenue is consistent and reliable, but the percentage of tuition available after financial aid has decreased. As described earlier, the university increased need-based financial aid by 154% (\$120 million) between fiscal years 2008 – 2015 and as a result the tuition discount measured based on grant aid from unrestricted resources, increased from approximately 20% in 2007 to approximately 32% in 2015. As described in Chapter 3, a number of strategies and actions have been taken to maintain an overall balanced position

The five-year forecast indicates that the Ithaca campus and the university overall will remain in a balanced budget position. We are currently projecting that net new unrestricted resources for the Ithaca campus will grow by approximately \$10 - \$15 million annually. This represents annual growth of less than 1% based on an annual campus budget of \$2.1 billion. Investments in targeted strategic academic priorities, faculty renewal, and deferred maintenance for the next five years are expected to exceed the projected growth in new resources so budget challenges to reallocate resources will continue for the foreseeable future.

5. Assessment of Institutional Effectiveness & Student Learning

Institutional Effectiveness (Standard 7)

Cornell University is continuously engaged with institutional assessment at many levels. Many of the high-level institutional analyses are undertaken under the auspices of the Provost's office through the Division of Budget & Planning, and especially the office of Institutional Research & Planning (IRP) within that division.

IRP prepares detailed data on student course enrollment patterns and on instructional support that directly inform the budget allocation process. These data are regularly supplemented with numerous reports relating to issues of institutional excellence, touching on topics such as: admissions selectivity (e.g. trends and comparisons of SAT scores); student outcomes (including grades and graduation rates for different subsets of students); faculty scholarly productivity (such as publications, citations, and grants) and satisfaction surveys from pre-enrolling admits, currently enrolled students, alumni, parents, faculty and staff.

In addition to providing regular reporting to senior administrators, IRP staff members provide direct, *ad hoc* support to a number of institutional initiatives and committees to ensure that the University's planning and policy-setting bodies have ready access to institutional information as needed.

As described in the 2013 progress report, IRP made significant strides between 2011 and 2013 in: 1) enhancing the utility and accessibility of centralized planning data through implementation of Tableau, a business intelligence tool; 2) systematically assessing progress on the strategic plan through a public Strategic Metrics dashboard²³ and an executive Strategic Initiatives website,²⁴ and 3) institutionalizing a set of metrics to

²³ <http://irp.dpb.cornell.edu/strategic-metrics>

²⁴ Focal areas for the 2010 Strategic Plan included faculty renewal and assessing the size and quality of academic programs. Faculty renewal initiatives resulted in a growth in the number faculty—1544 in 2010 to 1594 in 2015—even within the context of university-wide budgetary reductions, and increasing the gender and racial/ethnic/citizenship diversity of the faculty. The formation of the Cornell College of Business is also a byproduct of the strategic plan's call to

inform the new budget model, including teaching loads, total research expenditures, space use, and other key indicators. Since 2013, institutional assessment efforts have continued to progress and mature.

Comparative Metrics

In the 2013-14 academic year, for example, the Provost engaged the university leadership and the Board of Trustees in a wide-ranging exploration of data that sought to put Cornell University within the context of twenty top university peers. Staff from Institutional Research & Planning brought together data from a diverse set of data sources to profile the university along seven major dimensions: 1) Academic Organization and Focus; 2) Size and Scale; 3) Faculty Quality and Productivity; 4) Student Quality; 5) Administrative Overhead; 6) Revenues and 7) Expenditures. This environmental scan spawned a thoughtful consideration of the ways in which Cornell is similar to and different from other universities, and identified opportunities for growth and improvement.

Following this exercise, the Provost launched an “Academic Stature” initiative that brought similar kinds of metrics to bear on an examination on each of Cornell’s colleges. In that effort, the Provost asked each academic dean to identify a small set of peers specific for his or her own unit (e.g. peers for the College of Agriculture & Life Sciences). Institutional Research & Planning then used discipline-specific measures from comparative data sources²⁵ to assemble a unique, contextual profile for each of Cornell’s colleges. These 32-page “Academic Stature” reports have provided a data-rich basis for the Deans’ annual reports to the Provost for the last two years.

The Cornell Budget Model

After years of discussion and modeling, Cornell’s new budget model was fully implemented in 2014. As described in our 2011 self-study and the 2013 follow-up, the key tenets of the new budget model are: 1) Alignment of financial management responsibility with decision-making responsibility at the unit level; 2) Consistent and transparent distribution of revenues and expenses to all colleges based on a common set

enhance cooperation across Cornell’s three accredited business programs. As described below, the university is currently embarking on a new strategic planning process.

²⁵ Data sources with sufficient detail include IPEDS, Academic Analytics, and data sources collected through the Association of American Universities Data Exchange.

of drivers and metrics; 3) Distribution of undergraduate tuition and financial aid based on both the college of enrollment (home college) and the college responsible for instruction; 4) Allocation of central costs based on key cost drivers; and 5) Establishment of a University Support Pool (USP), funded by a tax on net tuition revenue, to enable institutional investment in strategic priorities and initiatives. Just prior to the full implementation, the university hired an external consultant to examine Cornell's proposed implementation to identify if our implementation accurately embodied the principles and practices that had been articulated in the years of discussion and review.

The new budget model has effectively improved the understanding among campus leadership of the current and projected level revenues and costs and the resulting budget issues that must be considered to fully inform decisions regarding priority investments in the future.

Upon assuming the Provost position, Provost Kotlikoff has stated a commitment to developing a 5-year budget model that supports leaders in longer-term planning activities, as they will have a fuller picture of resource expectations and financial risks. Development of this 5-year, unit-level budget modeling has just begun, but it is building upon 5-year budget models that have been in place since 2010 for each campus as well as the institution as a whole. The existing 5-year budget model is incorporated into set of financial summary and dashboard reports (e.g see Appendix A) published monthly by the Executive Vice President and Chief Financial Officer to senior leadership, including college Deans, and the Board of Trustees.

New Strategic Planning Process

The five-year Strategic Plan developed in 2010 came to a close around the time the University was welcoming a new president and her leadership team. Within a few months of taking office, the new leadership has embarked on what is anticipated to be an 18-month long strategic planning process.

The Provost has articulated four broad areas on which he will focus in strategic planning:

- 1) **Undergraduate curriculum.** What does a Cornell education mean for all of our students? What do we expect for our students in terms of the breadth of education and exposure to diverse areas of thought? How does Cornell foster innovation and independent thought within its curriculum? The Provost's

Curriculum Oversight Committee (PCOC) has begun to engage with these fundamental questions, and is using a data-informed process to identify gaps, overlaps and opportunities in the curriculum.

- 2) **The changing landscape of educational technology.** Cornell has great assets and institutional experience embedded within eCornell, Cornell Information Technologies, in the Cornell University Library, in the Center for Teaching Excellence, and in the individual colleges. The Provost seeks to develop a plan that facilitates the creative adoption of technology by Cornell faculty at all levels of the curriculum: both the traditional on-campus curricula at all levels, as well as the distance-learning programs at the master's and certificate levels.
- 3) **Public and Global Engagement.** As described in Chapter 3, Cornell is in the midst of an expansion of Cornell's long tradition of "*doing, as well as learning*" through the Engaged Cornell initiative. A broad conception of public engagement for the strategic plan should fully integrate this new work with the traditional land-grant mission of the University, as well as with Cornell's wide-ranging internationalization initiatives and our expanding footprint in New York City. In March of 2016, the Provost's Office began conducting a very broad inventory of Cornell's off-campus activities for students. This inventory will constitute a baseline for future assessments of both the extent and the quality of Cornell's public engagement activities.
- 4) **Research.** The effort here is to identify areas in which Cornell faculty can cooperate. This might include initiatives that encompass broad disciplinary areas, such as cooperation across the physical sciences or across the humanities, but also might include problem areas with a broad impact on society such as cancer, food security, and/or the sustainability of ecosystems. The strategic process will be identifying those areas where Cornell is poised to excel and where investments will impact its stature significantly. This effort also seeks to identify opportunities to lower the barriers to cross-campus (e.g. Ithaca and Weill) collaborations. Members of the Provost's Office are carefully examining existing metrics relating to faculty productivity and will be working on a project with Elsevier to develop additional metrics that might help identify these opportunities.

Instructional Space Study

Three major resources of any university that need to be carefully stewarded include 1) financial assets, 2) human resources, and 3) facilities. While Cornell has invested in thoughtful and careful examinations of the first two, many feel that we have a less well-developed understanding of facilities and, in particular, how space may be more effectively managed across the university.

In 2015, President Garrett asked the Vice Presidents of Infrastructure, Properties & Planning and of Budget & Planning to coordinate a study of classroom use of campus in order to maximize the effective use of this important resource. The study is overseen by the Director of Capital and Space Planning, with analytic support from staff from the Office of the University Registrar and from Institutional Research & Planning. While the primary goal of the study will be to inform the creation and/or revision of university space policies, an important by-product will be the identification of key metrics for monitoring space management and recommendations for tools and/or processes to regularly monitor those metrics.

Student Learning Assessment (standard 14)

Assessment Infrastructure

The academic units are charged to undertake and monitor the assessment of student learning, and the Provost asks all deans to report on the assessment of student learning outcomes on an annual basis. These reports are then reviewed and analyzed to ensure that all units are fully engaged in thoughtful assessment of student learning outcomes.

The Provost has also charged the Core Assessment Committee (CAC) to coordinate and support student learning assessment processes across campus. Chaired by the Vice Provost for Undergraduate Education and meeting on a monthly basis throughout the academic year, the CAC comprises representatives from each of the undergraduate colleges, the graduate and professional schools, the Center for Teaching Excellence, student life, and information technologies. The CAC has established a leadership structure within each college or school for assessment, enhanced communication about the effectiveness of student learning across colleges and schools, and fostered a commitment to continuous improvement. As a standing committee, it has endured some turnover in membership since it was established in 2009, but the breadth of the membership has grown.

To further institutionalize assessment activities across campus, the CAC has focused over the last year on mechanisms (both formal and informal) for encouraging and facilitating communication between faculty who teach courses that serve multiple majors and those who teach the courses that follow (upstream/downstream). Last spring the CAC identified a group of “foundation” courses with large enrollments, and considered ways to facilitate cross talk among faculty, aimed specifically at efforts to improve student learning outcomes. The CAC also developed a brief survey of department chairs that sought their help in identifying existing collaborations of this type, as well as courses or programs that might benefit from increased interaction, and received some suggestions. As a result, it learned of existing liaison committees or groups of faculty who used student assessment as the basis for redesigning a major, revising a curriculum within a course or across a progressive series of courses, adopting new teaching methods, and monitoring students’ longer term retention and application of knowledge and skills, across semesters or years of study. (See excerpts of college reports below, for examples.)

Since 2009, a half-time Assessment Project Manager within the Provost’s office has provided staff support for much of the work overseen by the CAC and is a general resource for the assessment of student learning. In addition, there is an associate director for assessment within the Center for Teaching Excellence. These central positions complement additional human resources in the units, such as the Director of Assessment in the Graduate School, the Manager of Assessment and Accreditation in the School of Hotel Administration, and the Director of Assessment and Planning in the division of Student and Campus Life.

The Center for Teaching Excellence (CTE) provides a regular slate of workshops relating to assessment, including eleven such open workshops 2014-15. Workshop and one-on-one consultation topics included evaluating service learning, the use of mid-semester feedback, and the use of rubrics in grading.

As outlined in Chapters 2, in Fall of 2015, the Provost established a Curriculum Oversight Committee (PCOC) to provide a university-wide perspective on Cornell’s academic programs through analysis and oversight of curricular offerings. The PCOC will also explore and, if appropriate, make recommendations about elements of a common undergraduate academic experience and/or shared educational requirements across Cornell’s undergraduate colleges. The Core Assessment Committee will be a valuable resource for the PCOC, as they address their goals.

Centralized resources and the colleges often collaborate on initiatives that can improve teaching and assessment techniques. The most recent example was a workshop titled, “Practical Learning Analytics: A Guide to Examining Student Data and Learning” that occurred on April 8, 2016 and which focused on using data analysis to assess teaching and student learning. The workshop featured Dr. Tim McKay who is the Arthur F. Thurnau Professor of Physics at the University of Michigan and instructor of the University of Michigan’s MOOC entitled Practical Learning Analytics. This workshop was jointly sponsored by the Center for Teaching Excellence, CHE, CALS, CAS, the James McCormick Family Teaching Excellence Institute in the COE, Engaged Cornell, Computer Information Technology, and CVM.

To augment workshops and individual consultations, Cornell maintains a number of online resources for faculty related to assessment. The Provost’s website on assessment,²⁶ for example, was highlighted as a “featured website” by the National Institute for Learning Outcomes Assessment. The Center for Teaching Excellence maintains additional web resources.²⁷ And, learning outcomes at all levels are incorporated into the university’s online course catalog.²⁸

The university has a robust program of survey research managed through Institutional Research & Planning (IRP). For example, IRP administers a survey of all seniors every other year to all undergraduates expected to graduate, with a response rate of about 50%. One focus of the Cornell Senior Survey is self-estimated learning gains. This bank of questions begins with the stem, “To what extent has your experience at Cornell contributed to your knowledge, skills and personal development in the following areas?” For all undergraduate academic programs across the university that have at least five graduating seniors completing the survey, customized department-level reports are prepared by IRP and shared with the appropriate academic leadership. Survey-based reports provide only indirect measures of learning, but offer a standardized basis for a comparison across the university, spark conversation and further analyses within academic units, and supplement more direct measures of learning outcomes to construct a fuller picture of student learning gains at Cornell. In addition, student and alumni satisfaction surveys help measure indirectly the quality of programs at Cornell.²⁹

²⁶ <http://provost.cornell.edu/assessment/>

²⁷ <http://cte.cornell.edu/teaching-ideas/assessing-student-learning/index.html>

²⁸ <http://courses.cornell.edu>

²⁹ <http://irp.dpb.cornell.edu/surveys>

Similarly, the Graduate School administers Exit surveys to all graduating students that include student self-assessment of achievement of specific learning outcomes, and a doctoral alumni career outcomes survey to inform improvements to doctoral education programs.

Cornell's career services and advising professionals monitor the scores of Cornell's graduates on standardized tests such as the MCAT and the LSAT.

Cornell's Academic Program Review process includes a rigorous self-study by the academic department and an external review that examines learning goals, among other issues, and evaluates the extent to which the program matches the needs and career goals of students.

University-wide Undergraduate Learning Goals

University-wide learning goals provide the framework for academic offerings at Cornell, as well as for a number of university initiatives and programs that support student development and life in the broader educational community of the university. The Core Assessment Committee periodically reviews and refines these goals, and encourages alignment of the college level goals with the overarching goals of the university. The learning goals are featured on the "What Are Cornell Students Learning?" available at: <http://learninggoals.cornell.edu/>. Cornell graduates will:

- **Demonstrate disciplinary knowledge** and its uses by developing a systematic and coherent understanding of an academic field of study including technical dimensions, integrating information, skills and experiences, and synthesizing ideas in original ways.
- **Apply analytical and critical thought** to a body of knowledge; evaluate arguments; identify relevant assumptions or implications. Formulate coherent arguments, exhibiting alertness to the possibility that something could be done better than it has been done before, and that critical engagement with a problem to be solved may lead to a creative solution.
- **Express ideas clearly and persuasively orally and in writing;** work, communicate, and engage effectively with others using media as appropriate; be able to use these skills to support consensus-building, collaboration, teamwork, and facilitating outcomes.

- **Demonstrate scientific and quantitative reasoning** by understanding cause and effect relationships; defining problems; using symbolic thought; applying scientific principles, and solving problems with no single correct answer.
- **Direct their own learning;** work independently; formulate learning goals, select, manage and reflect upon their learning; identify appropriate resources; take initiative; manage a project through to completion; self-assess and seek additional information when needed.
- **Use information from a variety of sources strategically, appropriately and responsibly,** uphold principles of academic integrity; access, and evaluate information from print and electronic sources.
- **Engage in the process of discovery or creation;** demonstrate the ability to work productively, creatively, and artfully in a laboratory setting, studio, library, or field environment.
- **Demonstrate knowledge and awareness of different cultural practices, values, beliefs, and worldviews, and an understanding of their own cultural perspective;** communicate effectively and respectfully with individuals from different backgrounds and across a multicultural society; demonstrate curiosity, flexibility, adaptability, and tolerance for ambiguity; investigate themselves and others as cultural beings, understanding the implied values and assumptions that underlie cultural norms and traditions.
- **Embrace moral and ethical values in conducting their lives;** make judgments about the quality and value of ideas, theories, and information; promote honesty, trust, fairness, respect, and responsibility; formulate a position or argument about an ethical issue from multiple perspectives; use ethical practices in all work.
- **Take responsibility for their own behavior and well-being;** direct their own activities toward the achievement of objectives, including goal setting, decision making, planning, scheduling, and time management; care for themselves responsibly; demonstrate awareness of themselves in relation to others.
- **Engage in their communities,** demonstrating responsibility to a larger community or public; connect positively with and in communities of various sizes and composition through and outside the classroom; participate in community engagement or civic action to benefit the public good.

The website also includes examples of how Cornell students achieve those goals at the undergraduate, graduate, and professional school level, within as well as outside the classroom, and links to the colleges' learning goals.

A number of university-wide initiatives also serve these learning goals. For example, living/learning initiatives in the residence halls are intended to amplify and enhance concepts from classroom learning, while building community among students and between students and faculty. The West Campus House System, which serves close to 2000 undergraduates of sophomore and above status, emphasizes informal interaction with faculty members. Each of the five houses has thirty House Fellows, primarily faculty members, who interact with student residents, often over meals at the house. Programming in these residence halls complements students' experiences within their academic programs, and contributes to the achievement of the university's learning goals. Although assessment within the West Campus House System cannot rely on classroom-based direct measures, students are asked to reflect on their experiences regularly. Adjustments are made to better achieve programmatic goals and to enhance the quality of students' learning.

Learning Goals within the Colleges

Each college within Cornell develops and refines its own learning goals, within the context of their respective missions and academic programs. Student learning outcomes for each of the colleges are available online.

Cornell's undergraduate colleges:

- cals.cornell.edu/academics/advising/academic/learning-outcomes/
- aap.cornell.edu/academics/undergraduate/learning-outcomes
- as.cornell.edu/outcomes
- www.engineering.cornell.edu/about/mission.cfm#CP_JUMP_7918
- sha.cornell.edu/admissions-programs/undergraduate/academics/learning-outcomes.html
- www.human.cornell.edu/admissions/mission.cfm
- www.ilr.cornell.edu/academics/degree-programs/undergraduate-degree-program/undergraduate-curriculum-requirements

Cornell's graduate and professional schools:

- gradschool.cornell.edu/academics/learning-assessment

- www.vet.cornell.edu/education/dvmprogram/educationalgoals.cfm
- support.law.cornell.edu/students/forms/current_Course_Descriptions.pdf
- www.johnson.cornell.edu/About/Why-Johnson/Performance-Learning.aspx
- weill.cornell.edu/education/curriculum/edu_obj.html
- gradschool.weill.cornell.edu/academics/learning-assessment

The learning goals for the division of Student and Campus Life, which further support and align with the university goals, are also posted online, at: scl.cornell.edu/planning-assessment/student-learning-outcomes/scl-student-learning-outcomes

Several of the programs and colleges undergo additional accreditation processes by the accrediting agency appropriate to their profession (e.g. ABET for Engineering, AACSB for the School of Hotel Administration, Dyson School and Johnson School, NAAB for Architecture Art and Planning, and others for the professional schools). These accreditation processes ensure adherence to an additional series of standards, including the assessment of student learning and achievement of learning goals, appropriate to that profession.

Assessment within the Colleges

Consistent with the decentralized nature of our institution, the individual colleges have established structures for review and continuous improvement to support student learning: some have standing committees; others have mechanisms within the academic departments for regular review and communication about assessment.

As noted in our 2013 progress report, the academic goals related to most (roughly 85%) of the more than 70 undergraduate majors and programs have been articulated in assessment plans, and many of these plans have been implemented. Program-level assessment plans and changes made as a result of assessment are all tracked on secure websites accessible to faculty in the corresponding college. All graduate fields in the Graduate School have articulated learning goals and submit assessment plans every two years.

Within all the units, multiple approaches are used to understand student outcomes from different angles. At the course level, for example, all colleges employ direct measures of student learning such as exams, term papers, class participation, and class projects to measure attainment in knowledge acquisition and application. Student course evaluations and peer evaluation of faculty teaching also provide some indicators relevant to student learning and teaching effectiveness.

As mentioned briefly above, the academic deans are required to report on their assessment activities on an annual basis, responding to the following questions:

1. Outline any changes your college has made in its processes for assessing student learning, including organizational structure and accessibility of information about assessment, and provide updates on current activities. Based on the results of your efforts, please describe any improvements that have been made to programs, pedagogies, or curricula to improve student learning.
2. Describe your plans for continuing assessment activities for the coming year, including any areas of particular focus that relate to the educational goals articulated by your college.
3. Describe efforts within your college to create or sustain a culture in support of teaching in every department.

Over the last few years, the deans' reports have included increasing numbers of examples of changes faculty have made in response to a more systematic approach to assessment of student learning. Representative examples of changes made in the last year are summarized below.

Agriculture & Life Sciences

All programs and majors within the College of Agriculture & Life Sciences (CALs) have developed assessment plans and have implemented them. Proposals for new courses must now include learning outcomes, along with an explicit link to the college-level goals. Further, in spring 2013, CALs implemented a revised instructor/course evaluation form that included new questions specifically about course learning outcomes.

College leadership oversees the assessment process and support mechanisms. The CALs associate dean and director of academic programs oversees progress on improvements in learning assessments across the college. The Associate Dean and staff from the Center for Teaching Excellence organize an annual fall workshop for assessment leaders. This workshop provides assessment leaders with the opportunity to describe their accomplishments in the previous year, and share ideas about improving the assessment process. Topics include how data are collected and used, and how to conduct an assessment at the course level. About half of CALs assessment leaders participated in these workshops 2014.

Assessment leaders in the undergraduate majors are required to submit annual reports each spring, outlining the learning outcomes that were assessed, evidence of student learning that was collected, and how the evidence is being used to inform action. These reports are uploaded into the CALS assessment website on Blackboard and made available to all the CALS assessment leaders and other CALS faculty and staff who request access for gaining ideas from other majors.

Last year, CALS reported 19 examples of improvements to the undergraduate learning experience as a result of assessment efforts. They include:

- **Agricultural Sciences:** Based on course surveys of students, the AGSCI 1125 course is being revised by refining the leadership module and integrating leadership learning throughout the students' Cornell experience.
- **Applied Economics and Management:** Plans have been created for collecting information on course-embedded learning outcomes, beginning next academic year. A sample of seniors will complete surveys and tests as part of the Dyson School's Assurance of Learning program.
- **Biological Science:** Student research papers and posters revealed that knowledge of statistics was lacking. Therefore, students were introduced to the R statistical package in BIOG 1500, and STSCI 2150, Introduction to Statistics for Biology, was launched.
- **International Agriculture and Rural Development:** Assessment and student feedback from a reflection paper and student survey about the senior seminar (a capstone course for students who completed the required overseas experiences) resulted in the following adjustments: 1) communications were improved with the practitioners in the field, 2) case study selection was initiated earlier, giving students more time to produce useful outputs and answers for the practitioner, and 3) better resources were provided by the practitioner.
- **Professional Skills Self-Assessment:** As a result of feedback from alumni and employers on the CALS Advisory Council, CALS developed an online, self-evaluation instrument for students to annually determine the professional skills that they need to improve. Resources are linked to each of the professional skills in this instrument to aid students in further developing their skills. This self-assessment tool was piloted in spring 2016 and will be fully implemented across the college in fall 2016. Advisors will be encouraged to review the results with their students on an annual basis. A new course, ALS 2200 Skills to Launch Your Career, was initiated in spring 2016 to provide opportunities for students to

develop professional skills and to create a personal plan to further develop their skills in the future.

- Student advising: An advising survey was created by the CALS Committee on Support of Teaching and Learning to gain feedback from undergraduate students for the improvement of advising at all levels. This survey was first administered during the 2014-15 academic year and will be offered annually. Feedback already has been used by the CALS Student Services Office for creating topics for the advisor training workshops.

Architecture, Art & Planning

Documentation of assessment activities are collected by the Associate Dean for Academic Affairs and are maintained on a secure Blackboard course website, *AAP1000: AAP Learning Assessment*. AAP has developed a number of academic partnerships across college boundaries (for example, the Program in Real Estate, which is shared between AAP and the School of Hotel Administration) to improve and enhance student learning and application of knowledge across disciplines.

In the Department of Architecture, assessment of student learning is directed by the Director of Graduate Studies for graduate programs, and the Director of the B.Arch Program for the undergraduate programs. Faculty committees associated with each degree program meet to assess student learning in accordance with guidelines established by the National Architectural Accrediting Board (NAAB).

In the Department of Art, assessment of student learning is carried out by the faculty as a whole, meeting as the Learning and Assessment Committee. The committee meets at the end of each semester.

In the Department of City and Regional Planning, assessment of student learning is carried out by the curriculum committee, which meets regularly throughout each semester.

Studio instruction, characteristic of two of three departments in AAP, is famously intense in terms of in-class hours and out-of-class critiques, demonstrates a targeted, individualized approach to assessment, and the faculty's deep commitment to student learning.

The AAP website contains web pages describing learning objectives for each of the undergraduate programs. These guide the Student Performance Criteria (SPC), based on

NAAB requirements, and define the expectations for graduating students in a manner that is program specific:

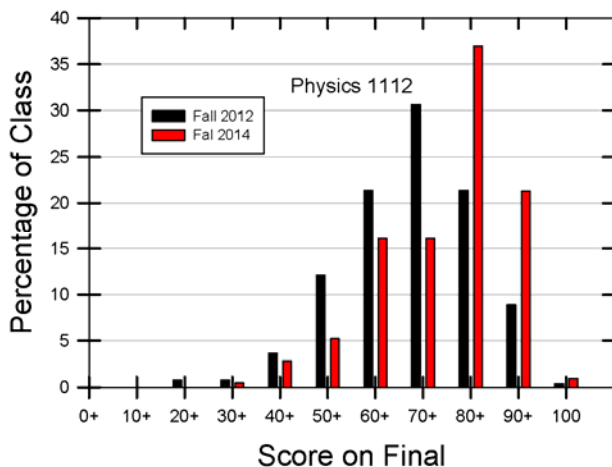
- aap.cornell.edu/academics/architecture/undergraduate/learning-outcomes
- aap.cornell.edu/academics/art/undergraduate/learning-outcomes
- aap.cornell.edu/academics/crp/undergraduate/learning-outcomes

Arts & Sciences

A&S departments are making organized and vigorous efforts to continue to improve the undergraduate experience in ways that will benefit students during and after graduation. A number of departments have made significant revisions to their majors (curriculum and requirements).

A number of Cornell units have recently moved to an active classroom teaching model, where students are expected to prepare in advance of scheduled class meeting time (by reading, watching videos, etc.), and then use class time to apply their knowledge. Faculty using this approach pose questions to the students in class using iClicker technology, which displays responses in real time. This allows the faculty member to assess whether specific learning goals are being met, and to make teaching adjustments if needed, to expand on topics that seem more challenging for students to grasp.

Within the last few years, two of the largest science classes adopted this approach, Phys1112 *Introduction to Mechanics and Thermal Physics* and BioNB3920: *Drugs and the Brain*. Both classes examined whether there was improvement in grades (using the same criteria before and after “flipping” the classroom to an active model. In BioNB3920 the course average before the change was 81.5+/-2.5%. In 2011 the average was 86.2, and in 2013, 87%. Similarly, Phys1112 showed an improvement in student grades, keeping exam structure and difficulty level the same as in previous years.



To further support these activities, in Fall 2015, the College of Arts and Sciences appointed the first Director of Education Innovation, who encourages faculty to engage in active learning techniques, and helps departments scale up from the individual efforts to a department-wide curriculum of active learning.

The A&S foundational courses in physics, math and chemistry are good examples of collaboration and communication the Core Assessment Committee hopes to foster between foundational (introductory) courses and the higher level courses in the majors that rely upon them. There are already active efforts, including liaison committees between physics and engineering, and between math and engineering, aimed at accomplishing these goals. With respect to the introductory physics course taken by engineers, there is a formal assessment procedure for comparing learning outcomes from the new vs. old versions of the course. Chemistry (CCB) serves about 1/3 of all Cornell's freshmen, and feeds forward to a large number of colleges and majors. It is a broad and unspecialized introductory level course, rather than one tailored to a particular college. CCB has also created a new, one semester organic chemistry course in light of the MCAT's de-emphasis of that subject. Similar processes are underway for the macroeconomics course, so that it can best serve the colleges and majors that rely upon it.

The Anthropology Department conducted a major and systematic survey in 2013 of former BA and PhD students covering a 15-year period. Although overall, students were highly positive about their experience at Cornell, those pursuing non-academic careers sometimes remarked that more courses and advising could be offered to prepare them for professions outside academia. In response, the department developed a new course, "Anthropology and the Real World," to help students explore a wide range of career options. Relatively low enrollments made it hard to justify offering this course on an annual basis, and the department decided to thread "Real World" encounters throughout the curriculum. Also in response to the student survey, the department has begun to consider the viability of identifying or designing streams within the major focused on themes such as medical, legal, and economic anthropology. These streams, and the cluster of courses within them, could provide a middle ground between a broad liberal arts degree (or minor), as well as providing some guidance in preparation for more focused professions.

Other examples of assessment activities taking place in broad disciplinary areas in A&S include new or updated assessment plans for the majors in Near Eastern Studies and Astronomy.

College of Engineering

The College of Engineering (COE) devoted a significant amount of effort in the last year to planning for the ABET reaccreditation process, scheduled for Fall 2016. The accreditation process places primary emphasis on the assessment-evaluation-improvement cycle of instruction, and requires documentation of learning outcomes and assessment of student learning. Further details, including description of planned innovations are provided below.

Proposals for new courses in Engineering require justification, and explicit statements of student learning outcomes, which form the basis for assessment of student learning. The fact that learning outcomes are a pre-requisite for course approval is an important enabling mechanism for learning assessment. For example, in the proposal recently approved for ENGRD 2401 Biomaterials: Foundations and Applications in Medicine, specific learning outcomes included: "Identify, understand and use [mathematical principles] that relate to biomaterial characterization and functional utility...; understand and apply knowledge of section of materials for biomedical applications...; understand the process through which biomaterials are developed by industry and approved by regulatory agencies..."

The core curriculum in Engineering depends heavily on mathematics and the natural sciences. Inter-college connections which have enabled effective support for these vital curricular components have been (for some years) in the form of liaison committees, with representation from various departments and the Engineering Common Curriculum Governing Board (CCGB): Engineering/Mathematics, Engineering/Physics, and Engineering/Chemistry. We anticipate that ultimately a similar mechanism will be required for Engineering/Biology, and the newly approved undergraduate major in Biomedical Engineering is implemented.

Much of the student learning assessment activity in the COE is carried out via the McCormick Teaching Excellence Institute (MTEI). A recent MTEI priority is to increase the use of mid-semester feedback surveys. This past year two additional departments, Civil and Environmental Engineering, and Operations Research and Information Engineering, used these surveys for nearly all of their courses, bringing the total number of courses covered to 118 for Fall 2014, and to 143 for Spring 2015. The MTEI offered follow-up discussions to all new faculty as well as to instructors for whom significant numbers of students reported the need for course improvement. This led to classroom observations and discussions, with priority placed on junior faculty. Several of these

instructors indicated that changes adopted in response to the mid-semester assessment resulted in positive feedback from students in later course evaluations.

Innovative procedures are designed to provide a mechanism for continual review of the assessment-evaluation-improvement cycle. There are two main components to the cyclical review:

1. The Common Curriculum Governing Board (CCGB) oversees all curricular aspects of the first two years of Engineering education, i.e., before students enter a major in one of the Engineering academic units. A standing CCGB subcommittee is charged with responsibility for continual review of all Engineering courses in the common curriculum; this review takes place cyclically every two or three years for each course, thus enabling continuing assessment and improvement of both student learning and instruction.
2. Several departments in Engineering currently carry out cyclic curricular evaluations on their own. Efforts are underway to extend this practice to all academic units in Engineering via creation of a “best practices” website for student learning assessment, an endeavor of direct relevance to “...organizational structure and accessibility of information about assessment...”.

As with the assessment of student learning, the MTEI also plays a key role in the development of a culture in support of high-quality instruction throughout Engineering. A top priority of MTEI has been to work with new faculty. Efforts directed towards new faculty include a full-day teaching workshop, follow-up visits to classes, and individual discussions of issues relevant to instruction in each class. Teaching support continues for junior faculty into their second and third year. The Director also provides an education and outreach workshop on how teaching initiatives should be framed, and included in grant proposals, such as the Faculty Early Career Development (CAREER) awards sponsored by the National Science Foundation.

School of Hotel Administration

The School of Hotel Administration supports the culture of assessment of student learning by convening the undergraduate Assurance of Learning (AOL) Committee, which was formed in 2012 and charged with developing assurance of learning processes for the School of Hotel Administration’s BS program. The committee has worked with core faculty to generate useful insights into the

effectiveness of the required curriculum and success of the program in producing desired learning outcomes. Based on this work, the faculty identified four (4) program learning goals (PLGs) for the undergraduate program with six (6) corresponding program learning objectives (PLOs), which the undergraduate committee has been assessing through direct measures. Assessment methods include the use of rubrics applied to one or more assignments within required core classes; and an online case study exam which is currently being used to assess business and hospitality knowledge in senior students. In order to encourage consistency and to establish a collective focus on common goals, the undergraduate committee has involved the faculty in vetting newly developed rubrics and in creating the questions and responses for the senior-level exam. The faculty also participated in reviewing the results of completed assessments and in developing continuous improvement strategies. This committee will continue to be an advocate for and support student learning assessment.

There are numerous over-all educational impacts already documented from the assessment findings, including: mentorship of student research reflected in the number of student papers produced under faculty supervision that led to publications or formal presentation at academic or professional conferences; documented improvements in learning outcomes that result from teaching innovations which incorporate research methods from learning/ pedagogical research projects; career success of graduates beyond initial placement, hiring and placement of students; direct input from organizations that hire graduates regarding graduates preparedness for jobs and the roles they play in advancing the origination; graduates moving into positions of leadership in for-profit, non-profit and professional and service organization. The school has also hired a full-time position, a manager of assessment and accreditation, in January of 2016 with the express intent to further systematic assessment, and facilitate program improvement for SHA.

The following is a limited but specific sampling of what SHA has done to “close the loop,” implementing program improvements based on assessment results:

- Faculty who assign presentations are asked to document the nature of these assignments and to share materials, expand/enhance teaching practices related to weakest oral presentation assessment traits, additional emphasis on delivery skills, faculty in all required courses are to use a presentational speaking rubric assignment, new course developed focusing on advanced speaking and delivery.
- During new freshmen student orientation, students were introduced to the Ethical Lens Inventory as an ethical assessment. Then, in HADM 1350 (Introduction to Hotel Operations) students discussed Hot Topic (Ethical) Cases. The AOL committee intends to implement a personal ethical assessment for graduating seniors.
- Faculty who assign written business documents have been asked to better articulate the nature of these assignments in an effort to clarify the characteristics of strong and weak writing. Faculty in all required courses are to use a business writing rubric as part of assignment
- Students' self-knowledge regarding their leadership strengths and weaknesses was assessed using a rubric for their final examination in which they were asked to apply organizational behavior concepts to their own leadership behaviors.

In May 2013, the dean initiated a formal review of the Master of Management in Hospitality (MMH) program where data were collected from a variety of sources including alumni, GMAT, Cornell biennial field report, current students, and AACSB. The Graduate Committee analyzed the data and engaged the graduate faculty in a series of meetings to discuss curriculum proposals beginning in the spring semester of 2014. The 2014 AACSB report recommended maintenance of accreditation for the MMH program, but noted a specific deficiency—the absence of ethics content—which has subsequently been given increased emphasis in several required core courses.

Plans for implementation of a new curriculum are currently underway. The Graduate Committee is continuing discussions in the 2016 spring semester with those faculty members who will be teaching the MMH core. There are several goals for these meetings. The first is to understand the needs of upstream and downstream courses to minimize gaps and overlaps in the program, and to ensure prerequisite requirements are fulfilled. A number of changes have been made based upon assessment results to date. Each year, program learning objectives will be selected on a rotating basis to serve as focal areas for assessment. (MMH learning outcomes may be found at: <https://sha.cornell.edu/admissions-programs/mmh/academics/learning-outcomes.html>)

A set of learning goals and objectives were also developed for the Baker Program in Real Estate, a comprehensive two-year curriculum that combines coursework with industry exposure and real world experience.

In addition to scholarly research and service commitment, the School of Hotel Administration has inculcated an ethos of teaching in every department and has implemented the following initiatives to support this mission:

- Incoming professorial faculty members are released from teaching their first semester so they can shadow faculty who exemplify teaching excellence in order to develop SHA standards in their course pedagogy.
- Prior to entering the classroom, all new faculty members are required to enroll in a seminar on teaching excellence (as of the 2014–2015 academic year).
- A faculty member's classroom performance in the last calendar year is evaluated annually and discussed during the annual review.
- Students nominate and determine faculty members to receive the annual Ye Hosts teaching awards, which provide extra compensation to selected recipients.
- The Ted Teng '79 Dean's Teaching Excellence Award is provided by the administration to faculty members who display excellence in teaching.
- Incoming faculty, junior faculty, and faculty who are struggling are encouraged to work with Cornell University's Center for Teaching Excellence to learn how to be more effective teachers.

Human Ecology

The College of Human Ecology (CHE) has a deep commitment to assessment, and the Associate Dean for Academic Affairs has responsibility to engage with each of the departments and the Educational Policy Committee of the College to ensure assessment is embedded in each unit.

All departments are completing assessment reports as part of the annual reporting processes. As evidenced in department annual assessment reports, faculty are incorporating the culture and processes of assessment into their routine teaching and curriculum work. Progress is being made in assessment of student learning at the course, program, and college levels. Focus for approval of new courses and new course syllabi has shifted to learning outcomes rather than on specific content and assignments. Integration of the broader learning outcomes are now strongly reflected in discussions around new course development. Faculty have also realized the need to add greater

specificity to their learning outcomes. In each course, faculty are expected to strike a balance between the broad college level learning outcomes and field specific learning goals.

Learning outcomes have been articulated for 90% of courses offered by college faculty, and most (87%) are posted on a college assessment website. The majority (90%) of the course descriptions listed in the 2015-2016 catalog include learning outcomes. Most faculty are actively assessing selected course outcomes for the courses that they teach each year. All departments have a formal, departmental assessment process. The CHE web-based system for reporting course level outcomes is used by instructors of courses in FSAD, DEA, HD, and PAM. NS, which has faculty and courses in both CALS and CHE, has identified a key set of learning outcomes in core courses to assess at the department level. All of the five departments currently post the departmental learning outcomes on their web pages.

The Associate Dean focuses on assessment at both the department and college levels. Information from assessment activities informs curriculum planning, but also plans for capital improvements. For example, the College built new classrooms to facilitate innovative teaching and learning. Recently, leaders in the area of facilities, information technology, and CHE faculty who use active learning met to examine the classroom attributes and IT needs for effective active learning. The session provided a preview of active learning classrooms, discussion of active learning classroom strategies, ideas for integrating the new classrooms into teaching practices, and department curricula.

Below are examples of improvements to learning assessment in some of the CHE programs:

- PAM faculty investigated whether the department level outcome addressing written communications was adequately addressed in the curriculum. Based on the individual course learning outcomes, 24 courses at various levels specifically target written communications. The faculty concluded that opportunity to achieve this outcome was amply provided.
- The assessment of learning outcomes in DEA identified that the curriculum was insufficient to achieve desired outcomes related to ethics. As a result, emphasis on ethics has been expanded in several existing courses and is now adequately addressed at various levels throughout the DEA curriculum. Approval of new courses and new course syllabi has shifted to focus on learning outcomes rather

than on specific content and assignments. Integration of the broader learning outcomes are now strongly reflected in discussions of new course development. Faculty also recognize the need to add greater specificity to their learning outcomes. In each course faculty are expected to strike a balance between the broad, college level learning outcomes and field specific learning goals.

- HD learning goals emphasize higher learning skills, such as critical thinking and awareness of ethical issues in research. Faculty determined that these learning outcomes are best promoted through smaller, seminar-like courses, which can focus on these specific learning outcomes. As a consequence of assessment of learning goals, HD now requires that majors complete two 4000 level HD courses.

Currently, HD is reviewing student opportunities to achieve mastery of scientific approaches in human development. A strong course is offered, but not required on this topic. Many HD majors on the pre-med track do not take this course. Although they can achieve scientific mastery in biological sciences, specific mastery in scientific approaches in human development is limited. Issues of balancing the importance of this learning outcome, student course requirement load, faculty teaching load and the overall HD curriculum are currently under discussion.

Industrial & Labor Relations

The ILR School asks each professor, in their annual reports, to address how they assess – and how their students have progressed in achieving – one of the school-wide learning goals within each course they teach.

Each year, before the beginning of the spring semester, the college's Teaching Advisory Committee hosts a faculty discussion of teaching on topics such as teaching large classes, assessment of the sophomore writing requirement, encouraging professors to supervise individual research projects, grading, and so forth.

Faculty are asked to describe pedagogical innovations they introduced, and efforts to enhance student learning in their annual reports. Roughly one third of ILR faculty members engaged in colloquia, and have created a listserv and Blackboard site through which they develop learning outcomes and share ideas.

Computer and Information Science

CIS departments make use of a number of methods for assessing their educational programs. These include:

- review of course evaluations by department chairs, and discussion of these evaluations between chairs and individual faculty members each year as part of the SIP process;
- mentoring of junior faculty on teaching, including attendance of junior faculty lectures by senior mentors;
- meetings between faculty leadership of the department and undergraduate student associations;
- ``town hall'' style meetings between faculty leadership and graduate students;
- exit surveys of graduating students;
- in-depth reviews of graduate student progress each year with participation by the faculty of the graduate field.

The culture of CIS is strongly focused on excellence in teaching, and many of the activities outlined above work in support of this culture. These include mentoring and evaluation of faculty teaching; regular communication between faculty and student groups; regular valuation of student progress; and experimentation and innovation in course and curriculum design.

In addition, the training program for undergraduate TAs is a new activity that strongly contributes to this culture. It was a success in its first year; CS will continue to evaluate this program, and consider expanding it to other CIS departments.

Cornell Tech

As part of the graduate fields overseen by the Graduate School, the formal learning outcomes for graduate programs at Cornell Tech are those articulated by the relevant graduate fields or schools sponsoring the program, Computer Science for the CS MEng, the Johnson School for the MBA, and Computer Science and Information Science jointly for the MS in Information Systems, Connective Media concentration.

Cornell Tech conducts various assessments of teaching and learning each semester beyond the normal course evaluations. Students fill semester and year-end student evaluations of the overall semester and program, as well as post-mortem analyses of each program and any new educational initiatives at the end of each semester. The post-mortem analysis process brings together faculty, staff and student input and results in

specific action items to improve the specific program or initiative for the following year. In 2014-15, Cornell Tech piloted company assessments of the student projects, which included some questions related to student learning outcomes. It has the potential to provide more timely and thorough data than come from instruments such as post-graduation surveys of students or employers.

Johnson Graduate School of Management

Given full implementation of a revised core curriculum in the residential programs, further curriculum review in executive programs, and the launches of the Johnson Cornell Tech MBA and MBA/FMBA dual-degree program with Tsinghua University, along with required alignment with new AACSB accreditation standards, Johnson is currently reforming learning outcomes and assessment. A faculty-led committee has sent out revised outcomes and measures and expects to expand existing measures and pilot new ones within the current (2015-16) academic year.

Beginning in fall 2011, Johnson also undertook a full review of its MBA curriculum and learning outcomes that continued through 2013. The review included an extensive data collection effort that spanned student and alumni focus groups, peer benchmarking with fifteen schools, and surveys of students, alumni, corporate recruiters, faculty, and staff. Data were collected to assess whether program and learning goal priorities were meeting the needs of the students, and whether learning outcomes were being achieved. The focus groups, surveys, and other informal feedback meetings reached over 1,000 participants spanning the last twelve MBA class years. Through this research, four priority areas were identified as both important to students, alumni, and recruiters, and pointed to areas where Johnson's curriculum and, in some cases, curricular structure, could be improved.

The impetus for the recent curriculum review described above was information gathered through our learning goal assessments and the numerous formal and informal feedback channels we maintain with students, alumni, and corporate recruiters. These multiple "feedback loops" hinted toward some of the key issues that were identified in our curriculum review, mainly that while our core fundamentals were strong, there were key aspects of management and leadership where, on the whole, our students were weaker than their peers. This was borne out as the key focus areas coming out of the curriculum review: modeling and decision analysis, personal and leadership skills, and integrative and critical thinking skills are centered on our broad themes of Integration and Decision Making and Getting Results.

Again, in order for us to work through major curricular change, we found it necessary to go beyond our plan for assessing learning goals toward a curriculum review that included benchmarking with peer schools, stakeholder focus groups, and quantitative survey data. Furthermore, the review was led by a committee of the school's faculty, who were key drivers of the review and in turn could educate and persuade their colleagues about the key issues raised and how they could be addressed within our curriculum.

Going forward, Johnson plans to reassess the learning goal assessment approach with an eye toward establishing a manageable level of assessment that helps the school anticipate likely areas for improvement and lays the groundwork for regular, larger-scale curriculum review processes that will keep pace with the rapidly changing landscape for graduate management education broadly, and the MBA degree specifically.

Law School

The American Bar Association (ABA) accreditation mandates that “the dean and the faculty of a law school shall conduct ongoing evaluation of the law school’s program of legal education, learning outcomes, and assessment methods.” It recommends a number of methods for assessing a law school’s performance on this front.

In order to comply with new ABA Standards, the Law School must, by 2016-17, identify in detail student learning outcomes designed to prepare students for “effective, ethical and responsible participation as members of the legal profession” and implement “formative and summative assessment methods in its curriculum to measure and improve student learning and provide meaningful feedback to students.” The Dean of Students has begun the process of working with the faculty to develop these learning outcomes and formative assessment methods.

According to the ABA, one of the most direct ways of assessing the effectiveness of the Law School’s success in the area of student learning is the bar exam, for which every graduate who wishes to practice law must sit. In 2014, the Law School had the highest pass rate on the New York Bar (94%) of any law school in the State of New York. Students who fail overwhelmingly come from the bottom of the class.

Another external check on the Law School’s success in the area of student learning is the employment rate of its graduates. For several years, the Law School has outperformed

its U.S. News ranking on the employment front. For the class that graduated in 2014, the Law School was ranked second in the nation in job placement for JD graduates in full-time positions requiring a JD degree.

Both of these factors suggest that the Law School is doing a good job in matching its teaching and assessment methods to the students' acquisition of the skills and knowledge they need to become successful lawyers. In addition, the dean reviews course evaluations and discuss teaching with individual faculty members.

Every semester, two tenured colleagues visit the classes of our tenure-track faculty and provide a written assessment. In January 2016, the annual faculty retreat at the Law School included a faculty-wide conversation about pedagogy and assessment of student learning.

College of Veterinary Medicine

CMV's Curriculum Committee meets monthly to discuss curriculum needs and initiatives, and the Veterinary Curriculum Director meets with instructors of gateway (or "foundation") courses monthly to facilitate communication, content integration, and implementation of curricular initiatives and assessment tools. The Veterinary Curriculum Director also meets with newly hired faculty to introduce the structure of the curriculum and describe teaching resources available in the College and on Campus.

Practical examinations are offered as clinical assessment milestones in the spring of the first year, mid way through the second year, and in fall of the third year. These exams use a scoring system tailored to a defined list of required tasks and learning outcomes that was developed in-house by faculty, and is compatible for use on iPads and smart phones. The evaluation system is practical, consistent and provides specific feedback to the student, ideal for timed stations. The automated system allows data to be compiled and analyzed, including a summary of comments provided by the faculty evaluating the students' performance. Data related to student performance and outcomes, as well as student feedback from their experience are being collected, analyzed, and subsequently used to identify areas in the curriculum in need of improvement or expansion.

The competency assessment system initiated in 2012 provides a scoring rubric based on a list of clinical skills, knowledge, and professional behaviors linked to learning objectives that comprise 10 competencies and 50 learning objectives. The ratings are entered into a web-based data collection system developed in-house, and form the basis for reports of individual or group performance, using a cross-mapping tracking system (e.g. analysis by student, rotation, competency, and learning objective). Consequently,

individual students can be tracked for repeated low scores in specific learning objectives for remediation, and overall results identify areas for improvement in the curriculum. The faculty responsible for each clinical service regularly review and revise, where necessary, their assessment plans for each competency.

Other mechanisms in place that provide feedback or direction for changes in the curriculum include student surveys (at graduation, 1 and 5 years later), an employer survey at one year after graduation, student evaluations of faculty and of courses, student representation on the Curriculum Committee, student and practitioner focus groups, and American Veterinary Medical Association Council on Education accreditation requirements.

Every five years, a Syllabus Committee is convened to critically assess and establish the content of the DVM curriculum, and provides a report to the Curriculum Committee and the faculty as a whole. Each time the committee is activated, it is reconstituted, comprising elected faculty representatives from each of the college's five academic departments. A new Syllabus Committee is currently under assignment.

CVM continues to highlight and recognize faculty excellence, innovation and contributions to the curriculum and professional training through SUNY, College, Departmental, Hospital and student-elected teaching awards. In addition, a number of departments foster peer mentoring programs. Clinical Sciences has several ongoing initiatives targeted at supporting faculty and other staff members in their teaching endeavors. The department organizational structure consists of three associate department chairs, including an Associate Chair for Teaching and Clinical Service. The associate chair heads a committee of five faculty who oversee several faculty development programs. The department also has an ongoing peer teaching evaluation program in place with a cadre of eleven faculty trained through the Cornell Center for Teaching Excellence to provide both informal and formal feedback on didactic teaching.

Graduate School

All graduate programs have submitted statements of learning outcomes and associated assessment plans, which are posted on the field of study section on the Graduate School website. Fields report biennially to the Graduate School on findings and next steps from their assessment activities. Once every two years, fields prepare a summary report for the Graduate School describing what they have identified as important Graduate School factors contributing to the attainment or lack of attainment of one or more learning outcomes across students, and identifying the initiatives that the graduate faculty will

develop and implement to address any areas requiring attention. Fields then report the results of those initiatives.

The Graduate School assess the student experience through several graduate/professional student surveys, including New Student, Doctoral Experience, and Exit, focusing on student self-assessment of achieving learning outcomes, perceptions of academic and student life experience, quality and frequency of faculty interactions and advising, and program and university climate. The Graduate School is also implementing a Doctoral Alumni Career Outcomes Survey for all doctoral alumni who graduated in the past 20 years. By Fall, 2016 all doctoral alumni cohorts from the past 20 years will have been surveyed and non-respondents “searched” electronically (e.g., Google, LinkedIn) to provide insight about alumni career outcomes (employment, salary, satisfaction, honors/awards), alumni perceptions of how well the Cornell PhD prepared them for their current career, factors that helped them land their first position, and elements of doctoral education that are currently important for students seeking to enter their field.

The Graduate School solicits student self-assessments regarding their attainment of learning outcomes that had been identified by a graduate faculty task force to pertain to degree programs across the Graduate School. (These learning goals and outcomes are in addition to those identified specifically for each degree program in each graduate field.) Understanding student self-assessment of their progress on these learning outcomes over time, along with field-specific assessment reports, helps the Graduate School identify student and faculty academic/professional development programming that may be appropriate to develop and provide in the future, or to consider whether certain learning outcomes are appropriate at the Graduate School level.

- CU-CIRTL: The Graduate School joined the national CIRTL Network (Center for the Integration of Research, Teaching, and Learning), funded by the National Science Foundation and the Great Lakes Higher Education Guaranty Corporation; this has enabled enhanced programming on teaching and mentorship skills in STEM fields, including a popular workshop series and certificate program, “Building Mentoring Skills for a Career in Academia.”
- Council of Graduate Schools Grant on Preparing Future Faculty to Assess Student Learning: With external funding from the Council of Graduate Schools, CU-CIRTL partners with CTE, the Knight Institute for Writing in the Disciplines, and the “active learning” efforts underway in undergraduate biology and physics courses to

- enhance assessment training received by graduate teaching assistants and first-year writing seminar instructors.
- CTE/ITAP (International Teaching Assistant Program): The Graduate School actively supports the efforts of the Center for Teaching Excellence's (CTE) International Teaching Assistant Program, and we encourage graduate students to participate in CTE's graduate TA workshops, certificate programs, and future faculty development programs.

Assessment beyond the Colleges

In the last two years, the Division of Student and Campus Life has emphasized building assessment skills among its staff, developing the necessary tools to effectively assess student learning from co-curricular and extra-curricular offerings. It has provided training and consultation to individuals and teams within the division, and established the Assessment Council, with representation from across the Division. To support this effort, the Division purchased a software tool to support the coordination of assessment efforts (Campus Labs). In the last year, more than 50 surveys have been built in this tool, and used to assess student learning, staff aptitude, and the student engagement experience. Last year, the Assessment Council hosted an assessment conference, and more than 80 staff from Student and Campus Life and other student affairs professionals across the campus attended. Other methods to train and prepare staff for assessment initiatives include a bi-monthly blog addressing various assessment topics (<http://blogs.cornell.edu/cultureofevidence/>), and individual and team consultations about projects and initiatives. By fall 2016, annual assessment expectations for departments will be in place, supported by training, resources, and consultation from the Assessment Council and the Director of Assessment and Planning.

Recent assessment initiatives include an examination of the student experience with Recreational Services, student learning in the Greek Leadership Academy, and student behavior during Slope Day. In addition, an ad hoc group of staff developed a set of 11 competencies for student staff that includes definition, attribute, examples in practice, and a rubric for measurement. The competencies are currently being beta tested with 100 student employees to determine their reliability and validity.

6. Linking Planning & Budgeting Process

Cornell is continually planning, and seeks to identify resource allocation strategies that support both the mission of the University broadly and all of the units that comprise the University. Over the period since of 2011 self-study, our analyses of the interrelationships between financial parameters and the pursuit of institutional excellence has become ever more careful and incisive, as budget constraints have left little annual surplus with which we can realize ambitious and strategic opportunities for institutional investments.

As noted at several points in this document, Cornell adopted a new budget model soon after our 2011 self-study. Prior to this model there were multiple budget models being used across various colleges and units. The complexity of the multiple models led to a lack of common understanding regarding causes of the internal deficit facing the Provost. Implemented in fiscal 2014, the new budget model uses common and consistent resource and cost methodologies. To be fully transparent, the university published a 72-page document that outlines the rationale for the model and the principles guiding the model.³⁰ The document starts by setting the context and stating, “As much as possible, the new budget model should provide Senior Leadership with the ability to make decisions that enable the university to achieve its goals and strategic priorities.” The includes descriptions of how the model treats Undergraduate Tuition, Financial Aid, Graduate Tuition, Operations and Maintenance, Allocated Costs, Facilities and Administrative (F&A) Charges, New York State Appropriations, Debt Service, and Budget Metrics.

Implementation and subsequent evaluation of the success of our implementation of the new budget model is constant and ongoing. The University is consistently and continually examining its budget process for improvement and for supporting the broad mission of the university and the missions of each of the components that make up the University (colleges, schools, libraries, campus life, etc.).

The new budget model created a better understanding of the revenues flowing to the University and the costs facing the University. Planning and strategic decisions occur on

³⁰ <https://dpb.cornell.edu/documents/1000533.pdf>

each significant element of revenue and cost with a focus on how best to deliver our mission, goals, and objectives.

Below, we briefly describe how we attempt to align resources with mission by focusing on two of the largest areas of university expenditures that represent a substantial share of the university's total use of resources: "Allocated Costs" — the costs associated with central administrative functions incurred outside of the colleges (approximately \$350 million per year), and undergraduate financial aid (approximately \$240 million per year). We also briefly describe the recently-launched housing master plan process which intersects with facility development and potential additional new revenue streams from undergraduate tuition growth but with a focus on maintaining the quality experience for matriculated students both on and off campus.

Monitoring Administrative Costs

A key aspiration behind Cornell's new budget model was to increase transparency around the key cost drivers that each college faces. In the new budget model, each of Cornell's college directly receives revenue from tuition, sponsored research, the endowment pay-out, and state allocations as appropriate. Then, each college is billed for costs associated with centrally-provided and university-wide resources such as the University Library, building operations, student services staff, and so on. Together, these costs are referred to as "Allocated Costs."

As anticipated, this Allocated Costs billing has focused considerable attention on both the total amount of these costs and the methodology for distributing these costs.³¹ This has stimulated helpful conversations regarding the need for administrative functions of varying levels. Accordingly, the Provost created a committee to monitor all aspects of these costs and to examine relationship between these investments and institutional quality.

Managing Financial Aid Costs

Cornell is one of select group of institutions that embraces the following three principles with regards to admissions and financial aid:

³¹ The various metrics used for allocating costs are listed in Appendix 2.

- **Need-blind admissions.** Undergraduate students are admitted without regard to their ability to pay.³²
- **Need-based financial aid.** Institutional methodology is used to determine financial need based on information from student and parents. Cornell does not award scholarship aid unrelated to financial need; i.e., Cornell does *not* award “merit aid.”
- **Meet full need.** Cornell is committed to assisting undergraduate students in meeting their *full* financial need through a combination of Cornell grant aid, federal and state grant aid and loan programs, and other scholarship to supplement the student/family resources.

Given that Cornell is committed to meet the financial needs of all students without unduly burdening them with loans, undergraduate financial aid represents a large share of the university budget. Cornell expends close to \$240 million dollars each year on financial aid, with most of this coming straight out the tuition revenue stream rather than from endowment payout.

Given the importance placed on our admissions and financial aid commitments and the size of the resource investment involved, there has been considerable attention focused on modeling the budgetary implications of various admissions and financial aid policies and practices. Currently, that modeling is being considered through the Admissions and Financial Aid Working Group (AFAWG).

Provost Kotlikoff charged the AFAWG in September 2015 as follows:

The Admissions and Financial Aid Working Group will monitor undergraduate admissions, enrollment, and financial aid activity and make recommendations to the Provost to align activity and policies with Cornell’s mission, including open access and diversity, in the context of available resources. Related to admissions and enrollment, the Working Group will consider inflow, outflow, and between-unit movement data for undergraduate colleges/schools and develop recommendations to the Provost for overall university undergraduate enrollment goals and goals for each college and school. Related to financial aid, the Working Group will consider financial aid programs and policies in relation to

³² Cornell practices need-blind admissions for US citizens, permanent residents, and undocumented immigrants with DACA (Deferred Action for Childhood Arrivals) status. In January 2016, Cornell adopted a need-aware policy for international students, consistent with the practices of our peers.

indicators such as admissions yield and net cost of attendance related to various socioeconomic and other student characteristics, considering college/school data, aggregate Cornell data, and peer university policies and trends, and will make recommendations to the Provost regarding changes to financial aid programs and policies.

While there have been several ad hoc committees that have carefully examined financial aid policies and their budgetary consequences, the AFAWG is a standing group.

Most recently, this group developed the recently-approved proposal to undocumented immigrants with DACA status as domestic students with regards to admissions and financial aid. The group weighed both the fundamental principles inherent in Cornell's need-blind admissions policy as well as the potential increases in financial aid costs associated with supporting these students. A second AFAWG proposal—also approved by the Board of Trustees—was move to a need-aware admissions policy for international students, while adopting a commitment to meeting the full-need of admitted international students. Previously, international students were admitted in a need-blind manner, but a cap on the level of international financial aid meant that many of these students did not have sufficient financial aid to enable them to attend or succeed at Cornell University.³³

AFAWG continues to consider how to support access for academically qualified individuals regardless of background and thereby contribute to the social good by supporting social and economic mobility within Cornell's resources constraints.

Developing a Housing Master Plan

As noted in Chapter 4, Cornell has committed to housing all of its freshman students on North Campus, and the number of beds available creates a cap on the number of freshman that can matriculate. In the spring of 2016, the Vice President of Student & Campus Life launched a housing master planning process.³⁴ One aspect of this study will be to thoroughly understand the budgetary implications of providing additional housing on North Campus and elsewhere around the university. This study, managed by an external consultant, is already engaging many Cornell constituents across campus

³³ <http://www.news.cornell.edu/stories/2016/02/undocumented-daca-students-be-eligible-more-financial-aid>.

³⁴ <http://news.cornell.edu/stories/2016/02/housing-master-plan-guide-campus-development>

and should highlight the many linkages between housing, enrollment, student success, and the budget.

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