Yale
Institutional Self-Study

REPORT

NEW ENGLAND ASSOCIATION OF SCHOOLS AND COLLEGES
COMMISSION ON INSTITUTIONS OF HIGHER EDUCATION

September 2009

Table of Contents

Institutional Characteristics

This form is to be completed and placed at the beginning of the self-study report:

Date: July 2009

1. Corporate name of institution: Yale University

2. Address: New Haven, CT 06520

    Phone: (203) 432–1333   URL of institutional webpage: http://www.yale.edu/

3. Date institution was chartered or authorized: 1701

4. Date institution enrolled first students in degree programs: 1701

5. Date institution awarded first degrees: 1702

6. Type of control: (check)

    Public   Private

    ☐ State   ☒ Independent, not-for-profit

    ☐ City   ☐ Religious Group

    ☐ Other   (Name of Church) _____

    (Specify) _____   ☐ Proprietary

                                   ☐ Other:

7. By what agency is the institution legally authorized to provide a program of education beyond high school, and what degrees is it authorized to grant?

    Yale University was specially chartered by the General Assembly of the Colony and State of Connecticut, and its Charter is confirmed in the State's Constitution. Yale's authority to grant degrees is established under Section 9 of the 1745 Charter.

The following are the degrees that Yale University is authorized to grant:

Yale College:

Courses in humanities, social sciences, natural sciences, mathematical and computer sciences, and engineering. Bachelor of Arts (B.A.) and Bachelor of Science (B.S.).

Yale Graduate School of Arts and Sciences:

Master of Arts (M.A.), Master of Science (M.S.), Master of Philosophy (M.Phil.), and Doctor of Philosophy (Ph.D.).

Yale Professional Schools:

School of Architecture

Courses for college graduates. Professional degree: Master of Architecture (M.Arch.); nonprofessional degree: Master of Environmental Design (M.E.D.).

School of Art

Professional courses for college and art school graduates. Master of Fine Arts (M.F.A.).

Divinity School

Courses for college graduates. Master of Divinity (M. Div.), Master of Arts in Religion (M.A.R.). Individuals with an M.Div. degree may apply for the program leading to the degree of Master of Sacred Theology (S.T.M.).

School of Drama

Courses for college graduates and certificate students. Master of Fine Arts (M.F.A.), Certificate in Drama, One-Year Technical Internship (Certificate), Doctor of Fine Arts (D.F.A.).

School of Engineering & Applied Science

Degrees are granted by Yale College and by the Graduate School of Arts and Sciences.

School of Forestry & Environmental Studies

Courses for college graduates. Master of Forestry (M.F.), Master of Forest Science (M.F.S.), Master of Environmental Science (M.E.Sc.), Master of Environmental Management (M.E.M.), Doctor of Philosophy (Ph.D.).

Law School

Courses for college graduates. Juris Doctor (J.D.), Master of Laws (LL.M.), Doctor of the Science of Law (J.S.D.), Master of Studies in Law (M.S.L.).

School of Management

Courses for college graduates. Professional degree: Master of Business Administration (M.B.A.).

School of Medicine

Courses for college graduates and students who have completed requisite training in approved institutions. Doctor of Medicine (M.D.).

Postgraduate study in the basic sciences and clinical subjects. Combined program with the Graduate School of Arts and Sciences leading to Doctor of Medicine and Doctor of Philosophy (M.D./Ph.D.) and to Doctor of Medicine and Master of Health Science (M.D./M.H.S.). Courses in public health for qualified students. Master of Public Health (M.P.H.). Master of Medical Science (M.M.Sc.) from the Physician Associate Program.

School of Music

Graduate professional studies in performance, composition, and conducting. Certificate in Performance, Master of Music (M.M.), Master of Musical Arts (M.M.A.), Artist Diploma, Doctor of Musical Arts (D.M.A.), Doctor of Philosophy (Ph.D.).

School of Nursing

Courses for college graduates. Master of Science in Nursing (M.S.N.), Post Master's Certificate, Doctor of Nursing Science (D.N.Sc.), Doctor of Philosophy (Ph.D.)

School of Public Health

Degrees are granted by the Graduate School of Arts and Sciences and by the School of Medicine.

8. Level of postsecondary offering (check all that apply)

☐	Less than one year of work	☒	First professional degree
☒	At least one but less than two years	☒	Master's and/or work beyond the first professional degree
☒	Diploma or certificate programs of at least two but less than four years	☒	Work beyond the master's level but not at the doctoral level (e.g., Specialist in Education)
☐	Associate degree granting program of at least two years	☒	A doctor of philosophy or equivalent degree
☒	Four or five-year baccalaureate	☐	Other degree granting program

9. Type of undergraduate programs (check all that apply)

☐	Occupational training at the crafts/ clerical level (certificate or diploma)	☒	Liberal arts and general

☐ Occupational training at the technical or semi-professional level (degree)   ☒ Teacher preparatory

☐ Two-year programs designed for full transfer to a baccalaureate degree   ☐ Professional

                                                 ☐ Other _____

10. The calendar system at the institution is:

☒ Semester   ☐ Quarter   ☐ Trimester   ☐ Other _____

11. What constitutes the credit hour load for a full-time equivalent (FTE) student each semester?

a) Undergraduate

Yale undergraduates must complete 36 semester courses to graduate. Degree requirements are not expressed in credit hours in Yale College. However, if one assumes 3 as an average number of weekly hours per course, then a "normal" credit-hour load for undergraduates would be 13.5 per semester.

b) Graduate

c) Professional

Degree requirements are not expressed in credit hours in Yale's Graduate School of Arts and Sciences, or in Yale's professional schools.

12. Student population:

a) Degree-seeking students in fall 2008:

	Undergraduate	Graduate	Total
Full-time student headcount	5,254.0	6,044.0	11,298.0
Part-time student headcount	23.0	124.0	147.0
FTE	5,265.5	6,106.0	11,371.5

b) Number of students (headcount) in non-credit, short-term courses: 0

13. List all programs accredited by a nationally recognized, specialized accrediting agency. List the name of the appropriate agency for each accredited program:

School or Program: **Regional Accrediting Association**

Yale University   New England Association of Schools and Colleges (NEASC)

School or Program:	Professional Accrediting Associations
School of Architecture	National Architectural Accrediting Board
School of Art	No accreditation outside of the NEASC's accreditation
Divinity School	Association of Theological Schools
School of Drama	No accreditation outside of the NEASC's accreditation
School of Forestry & Environmental Studies	Society of American Foresters
School of Law	American Bar Association. Also, the Law School is a member of the Association of American Law Schools. This organization sets standards for membership and inspects rather than "accredits" the schools which are part of the Association
School of Management	Association to Advance Collegiate Schools of Business
School of Medicine	American Medical Association and Association of American Medical Colleges, Liaison Committee on Medical Education
	Accreditation Council for Graduate Medical Education (Yale–New Haven Medical Center: graduate medical education residency/fellowship training program). The administrative base of this program is the Director/ Associate Dean of Graduate Medical Education for Yale–New Haven Hospital/Yale University School of Medicine.
	Accreditation Council for Continuing Medical Education
	Accrediting Commission on Education for Health Services Administration
School of Music	National Association of Schools of Music. The Department of Music in FAS also falls under this accreditation.
School of Nursing	National League for Nursing Accreditation Commission (baccalaureate and higher)
	Commission on Collegiate Nursing Education
	American College of Nurse Midwives
	Pediatric Nursing Certification Board

	Connecticut State Board of Nurse Examiners (Graduate Entry Pre-Specialization in Nursing, Certificate Program)
Physician Associate Program	Accreditation Review Commission of Education for the Physician Assistant
Public Health	Council on Education for Public Health
	The Commission on Accreditation of Healthcare Management Education (CAHME)

Departments/Programs:

Chemistry	Chemistry's programs fall under the NEASC University-wide accreditation. However, the undergraduate degree program gets reviewed by the American Chemical Society to make sure that it meets their standards as an ACS-certified degree program.
Engineering	Accrediting Board for Engineering and Technology
Department of Psychiatry	American Psychological Association (internship and pre-doctoral program in Clinical/Community Psychology)
Psychology-Clinical	Committee on Accreditation of the American Psychological Association (graduate level program leading to a Ph.D. which is reviewed annually)
Teacher Preparation Program	Connecticut State Department of Education Department of Higher Education (Masters program in Urban Education Studies).

14. Off-campus Locations. List all instructional locations other than the main campus. For each site, indicate whether the location offers full-degree programs, 50% or more of one or more degree programs, or courses only. Record the FTE enrollment for the most recent fall semester. Add more rows as needed. (Note: FTE Enrollment is for the full academic year. Yale-in-London does not have a fall semester.)

	Full degrees?	50% or more?	Courses only?	2008–09 FTE Enrollment
C. International Locations				
Yale-in-London	No	No	Yes	18.5
Peking-Yale	No	No	Yes	11.5

15. Degrees and certificates offered 50% or more electronically: For each degree or certificate, indicate the level (certificate, associate's, baccalaureate, master's, professional, doctoral), the percent that may be completed on-line, and the number of matriculated students for the most recent fall semester. Enter more rows as needed.

   None.

16. Instruction offered through contractual relationships: For each contractual relationship through which instruction is offered, indicate the name of the contractor, the location of instruction, the program name and degree level, and the percent of the degree that may be completed through the contractual relationship. Enter more rows as needed.

   None.

17. List by name and title the chief administrative officers of the institution. (See attached.)

18. Supply a table of organization for the institution. (See attached.)

19. Record briefly the central elements in the history of the institution:

   Yale's roots can be traced back to the 1640s, when colonial clergymen led an effort to establish a college in New Haven to preserve the tradition of European liberal education in the New World. This vision was fulfilled in 1701, when the charter was granted for a school "wherein Youth may be instructed in the Arts and Sciences [and] through the blessing of Almighty God may be fitted for Publick employment both in Church and Civil State." In 1718 the school was renamed "Yale College" in gratitude to the Welsh merchant Elihu Yale, who had donated the proceeds from the sale of nine bales of goods together with 417 books and a portrait of King George I.

   Yale College survived the American Revolutionary War (1776–1781) intact and, by the end of its first hundred years, had grown rapidly. The nineteenth and twentieth centuries brought the establishment of the graduate and professional schools that would make Yale a true university. The Yale School of Medicine was chartered in 1810, followed by the Divinity School in 1822, the Law School in 1824, and the Graduate School of Arts and Sciences in 1847 (which, in 1861, awarded the first Ph.D. in the United States), followed by the schools of Art in 1869, Music in 1894, Forestry & Environmental Studies in 1900, Nursing in 1923, Drama in 1955, Architecture in 1972, and Management in 1974. The School of Public Health, accredited in 1946, was moved from departmental to school status in 2007. Engineering & Applied Science was reconstituted as a school in 2008.

   International students have made their way to Yale since the 1830s, when the first Latin American student enrolled. The first Chinese citizen to earn a degree at a Western college or university came to Yale in 1850. Today, international students make up 9% of the undergraduate student body and 16% of all students at the University. Yale's distinguished faculty includes many who have been trained or educated abroad and many whose fields of research have a global emphasis; and international studies and

exchanges play an increasingly important role in the Yale College curriculum. The University began admitting women students at the graduate level in 1869, and as undergraduates in 1969.

Yale College was transformed, beginning in the early 1930s, by the establishment of residential colleges. Taking medieval English universities such as Oxford and Cambridge as its model, this distinctive system divides the undergraduate population into twelve separate communities of approximately 450 members each, thereby enabling Yale to offer its students both the intimacy of a small college environment and the vast resources of a major research university. Each college surrounds a courtyard and occupies up to a full city block, providing a congenial community where residents live, eat, socialize, and pursue a variety of academic and extracurricular activities. Each college has a master and dean, as well as a number of resident faculty members known as fellows, and each has its own dining hall, library, seminar rooms, recreation lounges, and other facilities.

Today, Yale has matured into one of the world's great universities. Its more than 11,400 students come from all fifty American states and from 108 countries. The 3,200-member faculty is a richly diverse group of men and women who are leaders in their respective fields. The main campus now covers 310 acres stretching from the School of Nursing in downtown New Haven to tree-shaded residential neighborhoods around the Divinity School. Yale's 260 buildings include contributions from distinguished architects of every period in its history. Styles range from New England Colonial to High Victorian Gothic, from Moorish Revival to contemporary. Yale's buildings, towers, lawns, courtyards, walkways, gates, and arches comprise what one architecture critic has called "the most beautiful urban campus in America." The University also maintains over 600 acres of athletic fields and natural preserves just a short bus ride from the center of town. In 2007 Yale acquired a 136-acre research campus in West Haven, Connecticut, formerly occupied by Bayer Health Care Company. This property, currently called West Campus, contains twenty buildings, including three state-of-the-art laboratory buildings, office space, and a large warehouse/factory space.
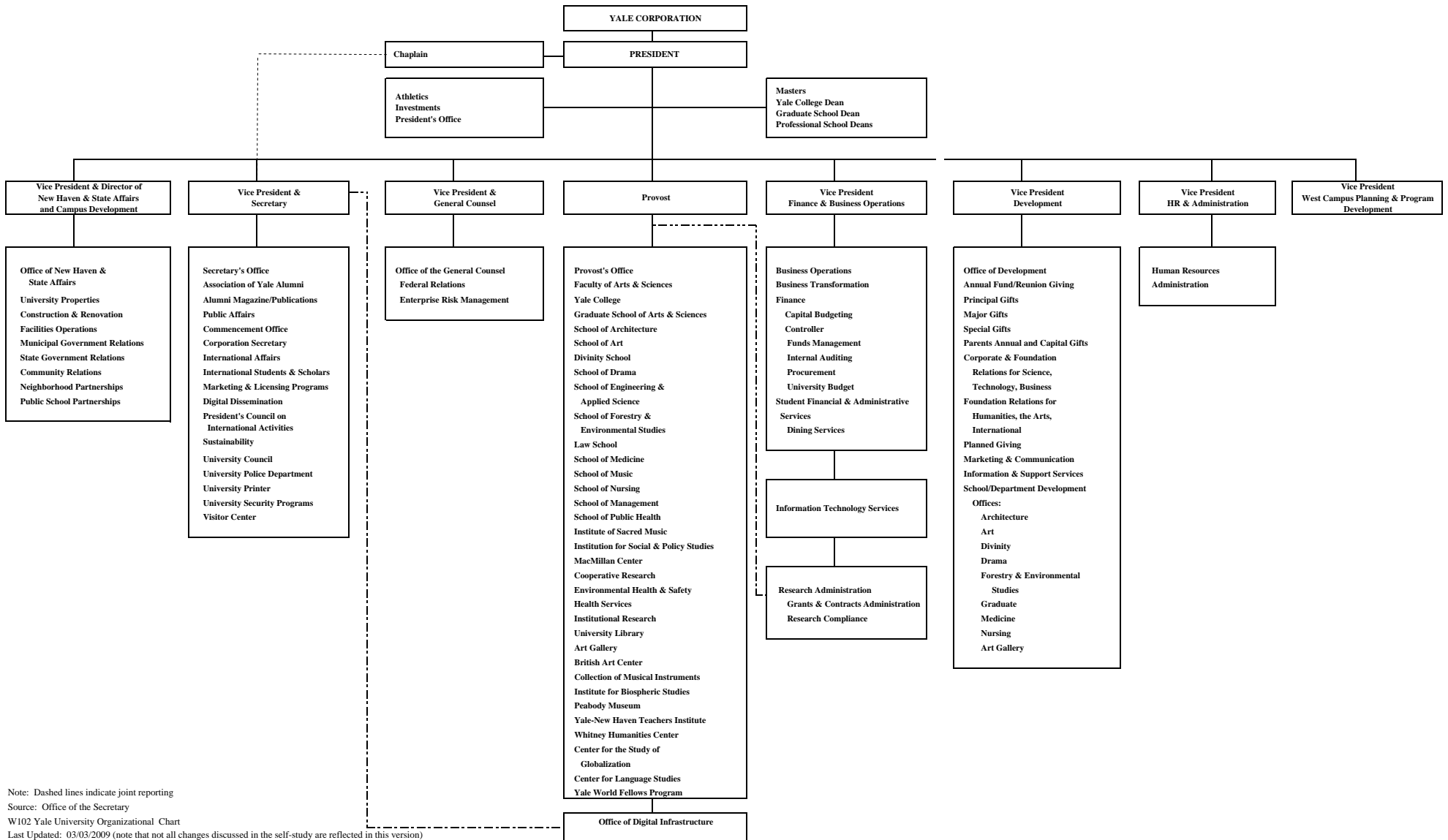
CHIEF INSTITUTIONAL OFFICERS

Function or Office	Name	Exact Title
Chair Board of Trustees	Richard C. Levin	President
President/Director	Richard C. Levin	President
Chief Academic Officer	Peter Salovey	Provost
Vice President and Secretary	Linda K. Lorimer	Vice President and Secretary
Vice President and General Counsel	Dorothy K. Robinson	Vice President and General Counsel
Vice President for New Haven and State Affairs and Campus Development	Bruce D. Alexander	Vice President for New Haven and State Affairs and Campus Development
Chief Financial Officer	Shauna R. King	Vice President for Finance and Business Operations
Vice President for Development	Ingeborg T. Reichenbach	Vice President for Development
Vice President for West Campus Planning	Michael J. Donoghue	Vice President for West Campus Planning
Vice President for Human Resources and Administration	Michael A. Peel	Vice President for Human Resources and Administration
Yale College	Mary Miller	Dean
Graduate School of Arts and Sciences	Jon Butler	Dean
School of Architecture	Robert A.M. Stern	Dean
School of Art	Robert Storr	Dean
Divinity School	Harold W. Attridge	Dean
School of Drama	James Bundy	Dean
School of Engineering & Applied Science	T. Kyle Vanderlick	Dean
School of Forestry & Environmental Studies	Sir Peter Crane	Dean
School of Law	Robert C. Post	Dean
School of Management	Sharon M. Oster	Dean

Function or Office	Name	Exact Title
School of Medicine	Robert J. Alpern	Dean
School of Music	Robert Blocker	Dean
School of Nursing	Margaret Grey	Dean
Institutional Research	John R. Goldin	Director
Library	Alice Prochaska	University Librarian
Chief Information Officer	Philip Long	Chief Information Officer
Grants/Research	Andrew Rudczynski	Associate Vice President for Research Administration
Admissions	Jeffrey Brenzel	Dean of Undergraduate Admissions
Registrar	Jill Carlton	Registrar, Faculty of Arts and Sciences and Director, Student Information Technology Services
Financial Aid	Caesar Storlazzi	University Director of Financial Services
Public Relations	Thomas Conroy	Interim Director of Public Affairs
Alumni Association	Mark Dollhopf	Director of the Association of Yale Alumni

Yale University Organizational Chart

YALE CORPORATION

Chaplain

PRESIDENT

Athletics
Investments
President's Office

Masters
Yale College Dean
Graduate School Dean
Professional School Deans

Vice President & Director of New Haven & State Affairs and Campus Development

Vice President & Secretary

Vice President & General Counsel

Provost

Vice President Finance & Business Operations

Vice President Development

Vice President HR & Administration

Vice President West Campus Planning & Program Development

Office of New Haven & State Affairs

University Properties
Construction & Renovation
Facilities Operations
Municipal Government Relations
State Government Relations
Community Relations
Neighborhood Partnerships
Public School Partnerships

Secretary's Office
Association of Yale Alumni
Alumni Magazine/Publications
Public Affairs
Commencement Office
Corporation Secretary
International Affairs
International Students & Scholars
Marketing & Licensing Programs
Digital Dissemination
President's Council on
 International Activities
Sustainability

University Council
University Police Department
University Printer
University Security Programs
Visitor Center

Office of the General Counsel
Federal Relations
Enterprise Risk Management

Provost's Office
Faculty of Arts & Sciences
Yale College
Graduate School of Arts & Sciences
School of Architecture
School of Art
Divinity School
School of Drama
School of Engineering &
 Applied Science
School of Forestry &
 Environmental Studies
Law School
School of Medicine
School of Music
School of Nursing
School of Management
School of Public Health
Institute of Sacred Music
Institution for Social & Policy Studies
MacMillan Center
Cooperative Research
Environmental Health & Safety
Health Services
Institutional Research
University Library
Art Gallery
British Art Center
Collection of Musical Instruments
Institute for Biospheric Studies
Peabody Museum
Yale-New Haven Teachers Institute
Whitney Humanities Center
Center for the Study of
 Globalization
Center for Language Studies
Yale World Fellows Program

Business Operations
Business Transformation
Finance
 Capital Budgeting
 Controller
 Funds Management
 Internal Auditing
 Procurement
 University Budget
Student Financial & Administrative
 Services
 Dining Services

Information Technology Services

Research Administration
 Grants & Contracts Administration
 Research Compliance

Office of Development
Annual Fund/Reunion Giving
Principal Gifts
Major Gifts
Special Gifts
Parents Annual and Capital Gifts
Corporate & Foundation
 Relations for Science,
 Technology, Business
Foundation Relations for
 Humanities, the Arts,
 International
Planned Giving
Marketing & Communication
Information & Support Services
School/Department Development
 Offices:
 Architecture
 Art
 Divinity
 Drama
 Forestry & Environmental
 Studies
 Graduate
 Medicine
 Nursing
 Art Gallery

Human Resources
Administration

Office of Digital Infrastructure

Note: Dashed lines indicate joint reporting
Source: Office of the Secretary
W102 Yale University Organizational Chart
Last Updated: 03/03/2009 (note that not all changes discussed in the self-study are reflected in this version)

PREFACE

In June of 2008, President Richard C. Levin convened a group of senior administrators and advisers to discuss plans for Yale's 2009 reaccreditation. Those assembled included John Goldin, director of institutional research; Joseph Gordon, deputy dean of Yale College; Judith Dozier Hackman, associate dean of Yale College and coordinator of the 2009 Yale NEASC reaccreditation; Penelope Laurans, associate dean of Yale College, special assistant to the president, and coordinator of the 1999 Yale NEASC reaccreditation; Peter Salovey, provost of the University; and Lloyd Suttle, deputy provost of the University.

The group discussed the ways in which the reaccreditation process as a whole, and the self-study process in particular, might demonstrate the University's fitness for accreditation and be of most use to the University at this particular time. With the president's approval, committee members agreed that this self-study should, to the degree possible, present a full and thorough consideration of all standards, with special emphasis given where appropriate to Yale College and the Yale Graduate School of Arts and Sciences. We also agreed to address the following areas identified by the Commission after the 1999 comprehensive evaluation:

1999 Ten-Year Review Issues

1. **Proliferation of academic programs**: Ensuring that as a part of the ongoing evaluation of instructional programs, careful consideration is given to the impact of the proliferation of academic programs on the institutional resources needed to maintain them at an appropriate level of strength, with particular attention to the anticipated expansion in the sciences;

2. **Teaching evaluation**: Enhancing the quality of teaching by means of systematic evaluation;

3. **Faculty diversity achievements:** Achieving the University's own goals for ethnic, racial, and gender diversity on the faculty;

4. **Faculty procedures for tenure and promotion:** Ensuring that the procedures for evaluating faculty for tenure and promotion are transparent and widely understood.

With this as background, the working group advised the president in the nomination of a steering committee and chairs, associate chairs, and members for the eleven standards committees. Participants were drawn from the faculty, administration, and student body. The number of members involved in this process was purposely large—more than eighty people in all—since President Levin wished to include a representative segment of the community.

In September 2008 the president met with the steering committee and standards committee chairs to give them their charge. Virtually all eleven committees began meeting immediately, drawing on others around the University. In late September, Barbara Brittingham, president and director of the NEASC CIHE, visited Yale and helped the steering committee, chairs, and associate chairs refine their approach. In January 2009, President Levin received progress reports and chapter outlines from the committees and met with the steering committee to review the committees' work. The steering committee's advice was passed on to chairs by Ms. Hackman. In March the steering committee met again to review the first self-report draft collated from submissions of the standards committees; once again

their comments were conveyed to committee chairs and associate chairs. In April, Morton Schapiro, then-president of Williams College, currently president of Northwestern University, and chair of Yale's Visiting Team, came to campus and met with the steering committee, chairs, and associate chairs to review major issues identified by the reaccreditation self-study process and to plan the November visit.

After revisions, the second full draft was submitted to Ms. Brittingham and Patricia O'Brien, deputy director of the NEASC CIHE. Their helpful advice was incorporated into the third draft shared with the Yale Corporation, which endorsed the report at its June meeting. In September the final self-study was placed on the Web for external comments. Finally, in late September the report with supplementary appendices was distributed to the Visiting Team.

Appreciations

Sincere thanks go to Rebecca Friedkin, senior researcher, Office of Institutional Research (OIR); Nina Glickson, assistant to the president; Mr. Goldin; Mr. Gordon; George Levesque, assistant dean of academic affairs; and Howard el-Yasin, assistant director, Teaching Fellow Program, for their guidance with reaccreditation preparation. In addition, Ms. Friedkin, Mr. Goldin, and their OIR colleagues Russell Adair, Leilani Baxter, Cynthia Langin, and Beverly Waters contributed greatly to assessment aspects of the self-study and to preparation of report appendices. Ms. Friedkin and David Baker, senior editor of the Yale Bulletin Series, provided extensive help with editing. The reaccreditation Web site was designed by Mr. el-Yasin and executed by Lisa McNellis of the Yale ITS office. Ms. Hackman is coordinator of the self-study and reaccreditation visit.

Report Organization

The self-study report begins with an overview of the current state of Yale University including primary findings from this ten-year review. Reports from each of the eleven standards committees follow, organized according to description, appraisal, and future agenda.

OVERVIEW

> Like any institution or society, Yale is a partnership between those who have gone before, those who are here now, and those who are yet to come. As partners in such a society we are the custodians of its character and purposes. As the warden of its treasures we have the opportunity and obligation not just to conserve them but to augment them for the future use of those who will enter into this partnership with us long after we have gone. And participation in such a compact confers a kind of immortality upon us, because it amplifies our energies and accomplishments while it protects them against the erosions of time and the depredations of change.

> —Martin Griffin, Dean of Undergraduate Studies, 1976–1988

Since Yale's last reaccreditation in 1999 the University has continued with successful long-range planning for both academic and extracurricular programs, strengthened efforts to gain faculty and staff diversity that matches the diversity in the student body, and completed an impressive array of building construction and renovation.

The challenges of recruiting and maintaining our distinguished faculty have led to changes in Yale's tenure system since our last reaccreditation. In 1999 the visiting accreditation team questioned Yale's "slot-based promotion system," which did not offer a tenure track to nontenured faculty. In 2007 the Faculty of Arts and Sciences unanimously adopted the recommendations of the Faculty of Arts and Sciences Tenure and Appointments Policy Committee (FASTAP), and the new system became effective July 1, 2007. Nearly all of Yale's nontenured faculty have opted for the new tenure track system. We also continue to recruit tenured faculty members from other institutions to Yale, in larger numbers than those from Yale who decide to accept positions elsewhere. The percentage of tenured women in the Faculty of Arts and Sciences has gone from 12.4% in 1998–99 to 19.3% in 2008–09; women in the nontenured ranks have jumped from 29.2% to 40.2% in the same period.

Our undergraduate student body includes over one-third who are members of minority groups, but faculty diversity in the Faculty of Arts and Sciences remains a distinct challenge, and since the 1999 NEASC evaluation, increasing faculty diversity has been a major objective. We have aggressively recruited a good number of minority faculty to Yale, but the national pool is still quite small. We have also focused on faculty mentoring. Each department now has a mentoring plan, which provides improved opportunities for scholarly interaction between senior and nontenured faculty, and which helps retain faculty. The deputy provost for faculty development works with the provost and the president on these issues of recruitment and mentoring. All these efforts, coupled with our modified tenure procedures, have produced good results, but there is more work to be done.

Collaborations with New Haven continue to be a University priority, and the great success of our town-gown relations is in large part a result of the extensive efforts of the Office of New Haven and State Affairs. Partnerships have resulted in strengthening neighborhood development and attracting new retail to the City. The City approval of the zoning required for the creation of two new undergraduate residential colleges would not have been possible

two decades ago. Community outreach is an important component of all of Yale's graduate and professional schools, and we continue to encourage outreach to New Haven schoolchildren and others in the community through Yale's Museums and Galleries, as well as through our community service initiatives.

Two important changes have occurred on the staff side. First, we have twice split the position of vice president for finance and administration, now re-named vice president for finance and business operations. Oversight for facilities has moved to our vice president for New Haven and state affairs and campus development. And a new vice president for human resources and administration arrived in fall 2008, bringing extensive human resources experience and leadership to Yale. Already there are considerable successes under his guidance. Second, at the recommendation of an outside advisory council to the president, we named a chief diversity officer in late fall 2008, which was a successful promotion from within. She has been working on strategies for staff development that are already showing positive strides.

A comprehensive review of Yale College was completed in spring 2003 with the report of the Committee on Yale College Education (CYCE). The CYCE report has served as a guide for most new initiatives in Yale College for the past six years. Assessment is ongoing, but new programs to enhance student writing and increase scientific and quantitative reasoning have been put into place, and the distributional requirements have been modified. There is now a significantly enhanced emphasis on international experiences for undergraduates as well. Furthermore, we have focused on enhancing the freshman year experience, and we are proceeding with CYCE recommendations to strengthen the arts, both as part of the curriculum and in extracurricular activities. Attention is currently focused on strengthening the culture of science and engineering in undergraduate life. Visibility for engineering has been enhanced by the establishment of the School of Engineering as part of the Graduate School of Arts and Sciences and the recent recruitment and appointment of a new dean of Engineering. Finally, in response to a recommendation from the 1999 NEASC reaccreditation committee, the Yale faculty approved an online course evaluation system. This approach was instituted five years ago, and the high quality of the student responses has made it a very successful venture all around.

Much needed building renovation and new construction on campus proceeded at a rapid pace for a decade until the recent economic downturn brought a slowdown to many of the University's newest projects. More than five million square feet of renovations have been made on the central, medical, and athletic campuses. These renovations have included classroom buildings, laboratories, and residential areas, and the results have brought an incredible vitality to the campus. Nearly completed are the 15-month-long renovations of each of our residential colleges; this past spring we began renovating the eleventh of our twelve undergraduate residences. New construction has been equally exciting. During the last decade, new buildings on the central, medical, and athletic campuses have totaled approximately two million gross square feet, and an additional two million gross square feet have been acquired for use on the central and West campuses. In the medical area, several buildings have opened since our last reaccreditation. On the central campus, in addition to a new biomedical engineering building, we have two other new science buildings and two more in the planning stages. The Sculpture facility that is part of the School of Art became our first LEED (Leadership in Energy and Environmental Design) Platinum building last year. The

School of Forestry & Environmental Studies has a new home, Kroon Hall, and we expect this building to be awarded LEED Platinum status as well.

Building a sustainable campus is a priority for our next ten years. In 2005 the University committed to a greenhouse gas reduction target of 10% below 1990 levels by 2020, requiring a 43% reduction from 2005 levels. In 2004 we hired a director of sustainability to foster development of sustainability programs on campus and to increase collaboration and coordination among University groups on these issues. An Office of Sustainability was created in 2005, and with vision and significant effort on the part of the director and the University leadership, the outlook has moved quickly from local focus to include national and international initiatives.

Several additional initiatives have transformed the University in the past few years. Dramatic expansion of financial aid for undergraduates has allowed us to target with success applicants from lower- and middle-class backgrounds who might have thought Yale College beyond reach. In the class of 2012, 56% are receiving financial aid, compared to 44**%** the year before. Graduate student stipends have been increased including year-round funding. A transformational gift to the School of Music has made that school tuition-free for new students, and this generosity is having a positive effect on increases in donations for financial aid in several of our other professional schools. Joint degree programs, such as the one between the School of Management and the School of Forestry & Environmental Studies, have received very positive feedback from both faculty and students. The residential colleges have welcomed graduate student affiliates from the Graduate School of Arts and Sciences for a number of years, and the dean of the Graduate School and the president initiated small group faculty conversations on challenges in graduate education during the 2008–09 academic year.

The entrance of Yale into its fourth century brought a focus on internationalization, and we have worked steadily to create a truly global university. *"The Internationalization of Yale: 2005–2008, The Emerging Framework"* served as the initial blueprint for Yale's international initiatives, and that document is now being updated. We continue to focus on China, but we have established a new India Initiative, and we are developing programs to create partnerships with other educational institutions around the world. We strongly encourage our undergraduates to include an overseas experience during their Yale careers, and we have provided financial assistance to make this possible for all. The numbers taking advantage of international opportunities have risen dramatically, from 550 undergraduates in 2003–04 to over 1,225 in 2007–08. At the same time, the University's enhanced financial support for international students has resulted in a jump in the number of international students enrolling in Yale College from three to ten percent. International faculty research collaborations have been strengthened and encouraged, and the Yale Center for the Study of Globalization and the World Fellows Program are two initiatives that have broadened our outreach and visibility. And just this past spring, we were able to announce the establishment of the Jackson Institute of Global Affairs, which will work closely with our undergraduate and graduate programs in international studies and international relations respectively, and which will add depth and breadth to the programs offered by the Whitney and Betty MacMillan Center for International and Area Studies, which now also houses a new Global Health Initiative.

Other University developments have moved far beyond what we imagined as recently as ten years ago. Perhaps the most notable is the expansion and use of the Internet, the connections that have been made as a result, and the ways this powerful tool has changed our lives in the classroom and beyond. The digitization of our intellectual treasures is a component of the myriad possibilities presented by the Internet, and several projects are in the works. Our fledgling initiative to create open courseware available to individuals around the world without charge is an exciting venture that is already expanding rapidly to much acclaim worldwide.

Lastly, the Yale Corporation has been a key partner in reviewing Yale's governance. The trustees evaluate the president's progress on goals and priorities every year, and this past June they completed their third five-year institutional assessment, a practice that has been in place since the beginning of the Levin presidency.

The exhilarating changes since our last reaccreditation do not permit complacency. We are eager to move forward on the successes outlined above, and we will continue to work on those areas that still need strengthening. For example, academic advising is under review. And although we have added an adult presence to the Old Campus, where most of our freshmen reside, and in fall 2008 hired a new dean of freshmen, we need to pay particular attention to our first year students. We will continue to look for ways to improve student life overall. In addition, we still need to address the issue of access to seminars in popular undergraduate majors, including increasing the number of faculty available to teach them.

The steering committee and the committees working on the eleven standards of Yale's 2009 reaccreditation self-study have been engaged fully in the issues and challenges that Yale faces in the twenty-first century. We look forward to meeting with the Visiting Team headed by President Morton Schapiro, most recently of Williams College and now of Northwestern University, and learning from the fresh perspective that he and the Team's members from across the country can provide. Through this thorough process and review, Yale can use the lessons learned to further strengthen the University in the years ahead.

STANDARD ONE: MISSION AND PURPOSES

Higher education should aim at intellectual culture and training rather than at the acquisition of knowledge, and it should respect remote rather than immediate results.

—Noah Porter, President of Yale, 1871–1886

Yale College

Mission Statement

The mission of Yale College is to seek exceptionally promising students of all backgrounds from across the nation and around the world and to educate them, through mental discipline and social experience, to develop their intellectual, moral, civic, and creative capacities to the fullest. The aim of this education is the cultivation of citizens with a rich awareness of our heritage to lead and serve in every sphere of human activity.

Description

For three centuries the seminal documents about Yale undergraduate education consistently emphasize intellectual training over course of study. The Yale Report of 1828—said to be the most influential educational document ever to emanate from Yale—declares that

> No one feature in a system of intellectual education is of greater moment than such an arrangement of duties and motives as will most effectually throw the student upon the resources of his own mind. Without this, the whole apparatus of libraries, and instruments, and specimens, and lectures, and teachers will be insufficient.

President Richard Levin, in many of his addresses, has enunciated these themes for a new generation. In his 1994 Baccalaureate address, he reminded students that "though discussion of what it means to be an educated person usually focuses on the content of one's course of study, the essence of a liberal education is to develop the freedom to think critically and independently, to cultivate one's mind to its fullest potential."

And in his 2008 Baccalaureate, Levin reminded students of the University's mission and emphasized its global importance when he stated:

> … your Yale education has equipped you for more than your next step; it is yours for a lifetime. And its aim has not been merely to prepare you for successful careers and personal fulfillment, but to prepare you for lives of service…it extends to the practice of civic virtue that was identified as the purpose of a Yale College education in our founding charter of 1701. And civic virtue, envisioned as distinctly local three centuries ago, must embrace the global as well as the local in the shrinking world we inhabit today.

Academic requisites. To these ends, the College emphasizes the discipline of the mind, the enlargement of knowledge, and the cultivation of human empathy through its curriculum, its special form of residential life, and its extracurricular opportunities.

In its curriculum, as the *Yale College Programs of Study* declares, the College enforces discipline of the mind by requiring both distribution and concentration in studies. It requires of its students "a balance of breadth and depth" so that its "courses bear such a relationship to one another that they both broaden understanding in several areas and deepen it in one or two." In addition, beginning with the class of 2009, as recommended by the 2003 Report on Yale College Education, the College requires that all students take courses in three foundational skills—writing, quantitative reasoning, and foreign language—that hold the key to opportunities in later study and later life. Yale College urges all of its students to consider a summer, a term, or a year abroad sometime during their college careers.

Appraisal and Future Agenda

Yale College has always considered that its mission and purposes are well expressed in the first pages of the *Yale College Programs of Study,* which are reviewed annually by the dean of undergraduate education. These pages articulate the College's philosophy of education and its commitment to a special kind of residential life as a part of this education.

In order to respond to the occasional need for a briefer statement of its mission and purposes, the leadership of Yale College developed the mission statement that opened this chapter of the self-study. The statement will be reviewed periodically to engage the community and ensure that it sufficiently embodies the College's primary goals. The College has placed this mission statement on the Yale College Web site and will include it in College publications as is deemed appropriate. The College plans to preserve the front pages of the *Yale College Programs of Study* in their present form as a more elaborate statement of its purpose.

Graduate School of Arts and Sciences and the Professional Schools

Description

In his short history of Yale University, George Pierson recalls that as early as 1732 Bishop Berkeley had donated his farm in Rhode Island to provide support for "a few 'Scholars of the House' residing in the College between their first and second degrees." During the eighteenth and most of the nineteenth centuries, Yale was at the forefront of the development of higher learning and of the kind of liberal arts university we know today. A revisionary movement under President Noah Porter reasserted the centrality of Yale College and inhibited the development of graduate programs. In 1892, however, graduate instruction was at last formally recognized and reorganized with its own dean.

It was Ezra Stiles who, as president in 1777, first drew up a visionary "Plan of a University," proposing the addition of four professorships for the teaching of the professions, leading the way to the inception of the Medical Institution (1813), the Theological Department (1822), and the Law School (1824). Today, in addition to the descendants of these schools, Yale has a Music School (1894), a School of Forestry & Environmental Studies

(1900), a Nursing School (1923), a Drama School (set up in 1925 and given its independence as self-governing in 1955), an Art School (1865, first as the School of Fine Arts), an Architecture School (1972), and a School of Management (1974). Yale also has a School of Public Health, accredited in 1946 and moved from departmental to school status by the Yale Corporation in 2007 with faculty appointments remaining through the Medical School Board of Permanent Officers, and a School of Engineering & Applied Science that was reconstituted as a school in 2008 with faculty governance, faculty appointments, and student admissions continuing within the Faculty of Arts and Sciences (the combined faculties of Yale College and the Graduate School of Arts and Sciences). All of these schools are supported by the extensive resources of laboratories, galleries, libraries, and museums, and by a broad range of scholarly research and teaching, carried out in component and affiliated organizations, such as the Institution for Social and Policy Studies, the Whitney and Betty MacMillan Center for International and Area Studies, the Economic Growth Center, and many others.

Faculty members from most professional schools participate in the teaching of Yale undergraduates. Yale takes particular pride that Yale College and its graduate and professional schools perceive themselves not simply as individual units but as connected parts of a whole. As such, they help create a special kind of atmosphere for education, one where interdisciplinary thinking is encouraged to flourish, and where the interaction among individual units makes the whole University more than the sum of its parts.

Mission Statements

Yale's professional schools as well as the Graduate School of Arts and Sciences have been encouraged to develop mission statements, which are delineated below.

Graduate School of Arts and Sciences. The mission of the Graduate School of Arts and Sciences is to seek students of the highest intellectual promise and achievement of all backgrounds, from across the nation and around the world, and to educate them to be scholars, teachers, and leaders for many sectors of society. The larger aim of this enterprise is to prepare and stimulate each new generation to perpetuate and advance human knowledge and to contribute to the health and development of the human community.

School of Architecture. The task of architecture is the creation of human environments. It is both an expression of human values and a context for human activity. Through the design process, architecture addresses the interrelated environmental, behavioral, and cultural issues that underlie the organization of built form. The student of architecture is called upon to direct sensitivity, imagination, and intellect to the physical significance of these fundamental issues in designing a coherent environment for people. Architectural design as a comprehensive creative process is the focus of the Yale School of Architecture.

The objectives of the School of Architecture reflect the view that architecture is an intellectual discipline, both an art and a profession. The program, therefore, is based on the following intentions: (1) to stimulate artistic sensitivity and creative powers, (2) to strengthen intellectual growth and the capacity to develop creative and responsible solutions to unique and changing problems, and (3) to help the student acquire the individual capabilities necessary for the competent practice of architecture and lifelong learning.

School of Art. The mission of the Yale University School of Art is to teach studio art within the context of a liberal arts university. The school has a long and distinguished history of educating artists at the highest level. The full-time faculty of the school works in conjunction with a broad cross-section of visiting artists to produce a wide range of educational programs.

The School of Art is founded on the belief that art is a fundamental force in culture, and that the caliber of any nation's artists provides a measure of the society itself. The Yale University School of Art teaches at the graduate and undergraduate levels, and consequently the student body consists of those whose full attention is devoted to art as well as those for whom art is studied as part of a liberal education. The school currently offers degrees and undergraduate majors in the areas of Graphic Design, Painting, Photography, Printmaking, and Sculpture.

Divinity School. Yale Divinity School has an enduring commitment to foster the knowledge and love of God through critical engagement with the traditions of the Christian churches in the context of the contemporary world. It furnishes resources for the churches to reflect critically on their identity and mission in response to changing social and cultural realities and other religions of the world. It offers a university setting for the scholarly assessment of the religious features of human existence. Ecumenical and university-based, the school recognizes as indispensable to its mission a communal environment that combines rigorous scholarly inquiry, public worship and spiritual nurture, practical involvement with the churches' ministries, and mutual regard among human beings across the diversities of gender, sexual orientation, race, class, nationality, and culture.

The Divinity School pursues its mission through three principal activities: (1) it enables women and men to prepare for the lay and ordained ministries of the Christian churches; (2) through its own programs and through the participation of members of its faculty in programs of the Graduate School, it shares in the education of those who will become scholars and teachers on the faculties of theological schools and departments of religious studies; and (3) in conjunction with other professional schools of the University, it equips persons anticipating professional service in education, law, health care, social work, community organizations, public life, or the arts to understand more fully the theological basis of their vocations.

School of Drama. Yale School of Drama and Yale Repertory Theatre are committed to rigorous, adventurous, and passionate exploration of this art form. They embrace a global audience. Their highest aim is to train artistic leaders—in every theatrical discipline—who create bold new works that astonish the mind, challenge the heart, and delight the senses.

The School of Drama professes the following core values: artistry, professionalism, collaboration, discovery, diversity, and community. The goal of Yale School of Drama is to develop the artistry, craft, and attitudes of its students to prepare them for careers in the professional theater. Yale School of Drama and Yale Repertory Theatre together are a unique conservatory for theater training within the University. In each discipline of the School of Drama the aesthetic sensibility is translated into the language of the stage. The process of applying theory to professional practice is central to the School of Drama, and Yale Repertory Theatre serves as the master teacher toward this aim. Although many graduates' paths evolve into distinctive careers in film, television, teaching, and alternative forms of theatrical

production and presentation, the primary focus of training at Yale School of Drama is the artistry of the legitimate stage.

School of Engineering & Applied Science. The mission of the School of Engineering & Applied Science is to provide a modern liberal education, based on scientific principles and engineering practice, which forms the foundation for leadership in careers vital to society.

School of Forestry & Environmental Studies. The Yale School of Forestry & Environmental Studies prepares new leaders and creates new knowledge to sustain and restore the long-term health of the biosphere and the well-being of its people.

For over one hundred years, first as a pioneering school of forestry, Yale has marshaled the expertise of diverse disciplines in the service of responsible stewardship of the environment. As the world's population grows and development accelerates, conserving the beauty, diversity, and integrity of the natural world becomes at once more important and more challenging. Such conservation is a practical and moral imperative.

Law School. The primary educational purpose of Yale Law School is to train lawyers and to prepare its students for leadership positions in the public and private sectors both in the U.S. and globally. The primary scholarly role of Yale Law School is to encourage research in law and in interdisciplinary approaches to law and public policy. Throughout the school's history, its teachers, students, and deans have taken a broad view of the role of law and lawyers in society. The school long has trained lawyers for public service and teaching as well as for private practice. Our students are expected to advance our knowledge and understanding of the law, to expand the reach of the law, and to inculcate knowledge about the central role that the rule of law plays in a free society. The professional orientation of the Law School is deeply enriched by an intellectual environment that embraces a wide variety of intellectual currents and is designed to produce lawyers who are creative, sensitive, and open to new ideas.

School of Management. The Yale School of Management was founded in 1974 with the mission to educate leaders for business and society. The school embodies its mission through its innovative integrated M.B.A. curriculum, launched in 2006; through its distinctive leadership model; through its traditional multi-sectored focus; and through its vision that Yale School of Management graduates are broadly engaged, inspiring leaders who own and solve hard problems that matter.

School of Medicine. As a preeminent academic medical center that supports the highest-quality education, research, and patient care, the Yale School of Medicine will (1) educate and inspire scholars and future leaders who will advance the practice of medicine and the biomedical sciences; (2) advance medical knowledge to sustain and improve health and to alleviate suffering caused by illness and disease; and (3) provide outstanding care and service for patients in a compassionate and respectful manner.

School of Music. The Yale School of Music educates and inspires students with exceptional artistic and academic talent for service to the profession and to society. The school fosters a vibrant musical environment where graduate-level performers and composers realize their highest artistic potential with an internationally distinguished faculty. To prepare students for roles as cultural leaders, the school engages fully with the University's extraordinary

intellectual and technological resources while collaborating with artistic centers throughout the world.

School of Nursing. The ultimate mission of the Yale School of Nursing is to contribute to better health care for all people. Through the systematic study of the nature and effect of nursing practice, students are prepared to become effective nurse clinicians and nurse scholars capable of improving practice through sound clinical judgment, scholarship, and research. In this endeavor the School of Nursing faculty is mindful not only of its privilege and freedom as educators in this resource-filled private university, but also of its responsibility and accountability with colleagues to consumers. The former allows it to be creative in its thinking and innovative in its practice, while the latter demands a commitment to implementation and a realism in problem solving.

School of Public Health. The School of Public Health provides leadership to protect and improve the health of the public. Through innovative research, policy analysis, and education that draw upon multidisciplinary scholarship from across the graduate and professional programs at Yale, the school serves local, national, and international communities with its knowledge and expertise.

Appraisal and Future Agenda

All Schools of the University have mission statements or statements of objectives regularly reviewed by their Executive Committees or other comparable faculty bodies, and published in their catalogs.

Yale University

Of course, the University as a whole also tries to communicate a sense of its mission.

Mission Statement

Like all great research universities, Yale has a tripartite mission: to create, preserve, and disseminate knowledge. Yale aims to carry out each part of its mission at the highest level of excellence, on par with the best institutions in the world. Yale seeks to attract a diverse group of exceptionally talented men and women from across the nation and around the world and to educate them for leadership in scholarship, the professions, and society.

Description

In preparation for Yale's fourth century, the Yale Corporation in 1992 endorsed a mission statement for the University and elaborated on its long-term objectives. The version cited above incorporates changes proposed by a University working committee charged with issuing the 2009 University mission statement for purposes of Yale's reaccreditation.

Intrinsic to this mission are the faculty's dual responsibilities for outstanding teaching and original research, carried out in a community made up of Yale College, a Graduate School with broad coverage of the arts and sciences, and an array of professional schools in arts, sciences, and learned professions. This mission requires a continuing commitment to the excellence, the competitive position, and the reputation for academic leadership that Yale has earned over more than three centuries.

On the basis of its core values, the University has set the following objectives:

- Maintain standards of academic excellence in teaching and research that are second to none.
- Attract faculty and students who combine a record of intellectual achievement with energy, creativity, and leadership.
- Enhance Yale's role as an international center of learning and its global presence.
- Preserve access to a Yale education on the basis of each individual's character, talent, and potential, without regard to financial circumstances.
- Pursue policies of nondiscrimination, equal opportunity, and affirmative action in accordance with Connecticut and federal law.
- Enable students to experience a broad array of outstanding extracurricular activities that support and supplement Yale's academic programs.
- Ensure positive relations with the New Haven community, the state, and region.
- Maintain a balanced operating budget over time, even as the University seizes new opportunities to enlarge knowledge and improve educational programs.
- Invest sufficiently in Yale's physical plant to ensure its long-term integrity and its ongoing ability to embrace the research, teaching, residential, athletic, and support requirements of the University.

Appraisal and Future Agenda

The University's mission statement is reviewed periodically by the Institutional Policy Committee of the Yale Corporation, in order to ensure its accuracy and completeness in a changing University climate.

STANDARD TWO: PLANNING AND EVALUATION

> We strive to be the best in the world in quality of research, teaching, faculty, students. Why not have aspirations for managing the University that are at the same level?
>
> —Richard C. Levin, President of Yale, 1993–present

Introduction

Since Yale University's 1999 reaccreditation, significant changes have occurred in several areas of planning and evaluation. The Corporation has made changes in its own practices and procedures. The University has invested substantial time and resources in planning for facilities, has integrated systematic capital planning with a well-established operational budget planning process, has introduced a new performance management process for managerial and professional staff, and has expanded the assessment of outcomes for Yale undergraduates. Planning and evaluation continue to be pursued through a network of committees appointed by one or more of the University's officers and deans. This chapter provides an overview of planning by the officers and Corporation, by the major standing and ad hoc committees of the faculty, and by the Yale College Dean's Office. The chapter also reviews faculty evaluation and assessment of student outcomes as conducted and supported by the Office of Institution Research (OIR), by studies of the Consortium on Financing Higher Education (COFHE), and by established procedures in the Faculty of Arts and Sciences and Yale College.

Planning

Description

Institutional priorities. Major institutional goals and priorities are determined by the officers and the Corporation. The officers meet regularly, often with presentations by other senior administrators on issues of university-wide impact or concern. The Corporation meets six times per year, with the first meeting normally a multi-day retreat. At that meeting, the president presents to the Corporation a set of goals and priorities for the year, along with a set of annual goals developed by each of the officers. The Corporation retreat includes substantial discussions of institutional priorities and long-range plans, in the context of which the Corporation and officers set the formal agenda for the coming year.

Financial planning. As stated in the Yale Corporation By–Laws, it is the responsibility of the provost to "prepare the operating and capital budgets of the University on the basis of the estimated operating income and capital receipts furnished by the vice president for finance and business operations." The deputy and associate provosts work closely with the University budget director and his staff to develop the University's financial planning model, which is designed to assess the University's long-range financial equilibrium. That model includes ten-year projections of the University's operating budget, capital budget, capital replacement costs, endowment values and income, and debt obligations.

The provost and vice president for finance and business operations meet weekly with the Budget Steering Committee, which consists of the deputy and associate provosts, the director of the budget office, and the business operations leadership team to develop annual budget guidelines consistent with the long-range financial plan, and to discuss issues related to the implementation of these guidelines in unit budgets across the University. The provost chairs the University Budget Committee, a university-wide group of deans, directors, faculty, and senior administrators. This committee meets monthly to offer advice and feedback on issues related to the University's annual operating and capital budgets and other matters of financial planning and policy.

At each meeting of the Corporation, the Finance Committee reviews the University's financial performance, plans, and projections and provides advice and feedback to the president, provost, and vice president for finance and business operations. At its final meeting in June the University's annual operating and capital budgets are approved by the Corporation.

Campus planning. In 1993 the officers and Corporation decided to tackle the problems of the University's decaying physical infrastructure by undertaking a series of "area studies" that focused on facilities classified by their academic function. Three years later, the officers recognized the need to develop a general framework that would bring greater coherence to the University's campus planning efforts, to respect the distinctive character of the various parts of the campus, and at the same time provide better connections among them. The officers sought not a master plan, but instead a set of guidelines for design within various parts of the campus, as well as suggestions for improving the systems that unify the campus. They also sought guidance on how to understand the physical relationship between the University and the City of New Haven. The firm of Cooper, Robertson & Partners was selected as consultants for this campus planning exercise, and after three years of intensive consultation, conversation, and thinking about Yale's campus, they issued a report entitled "*Yale University: A Framework for Campus Planning*." That framework has guided the University's investments in rebuilding and expanding the campus for the past decade.

Campus planning, which includes planning for major renovations of existing buildings and construction of new facilities, is the responsibility of the director of university planning. Working closely with the president on issues of design and architect selection, the Provost's office on issues of programmatic priorities, and the director of capital budget management on issues of funding, the director of University planning oversees the planning process for all major capital projects at the University. On most major projects, recommendations about programming and design are made in consultation with an ad hoc building committee consisting of faculty, students, and staff who will occupy the building, staff from the facilities planning office, representatives from the Provost's Office, and outside architects and consultants. Major projects (those with a budget of $4 million or more) and all projects that affect the external appearance of a building or the campus receive a careful review by the officers, often with presentations by the architect. The Building and Grounds Committee of the Corporation reviews both design and funding issues for all major projects.

Academic planning. The provost, who is the chief educational officer of the University after the president, is responsible for directing educational policies and activities throughout the University. Together with the deputy and associate provosts, the provost works closely with

the deans of all the schools, the chairs of the departments and programs in the Faculty of Arts and Sciences (FAS), and the directors of major academic support units (e.g., the library, museums and galleries, information technology services, and the Office of Student Financial and Administrative Services) to develop and oversee academic programs and planning throughout the University.

In FAS the major planning committees initiate, filter, and review ongoing work of the academic departments and programs. The FAS Executive Committee is the committee officially charged with the formal administration of FAS. It is composed of the president, the provost and the deans of Yale College, the Graduate School and the School of Engineering & Applied Science. It acts as the final authority for most major FAS issues and allocations and is the group that reviews and modifies recommendations of major committees and makes final recommendations to the Corporation for changes in such important matters as appointments procedures. The FAS Executive Committee, the dean of engineering, the vice president for West Campus planning and program development, and the relevant deputy provosts meet on a regular basis with directors of the four academic divisions (Humanities, Social Sciences, Physical Sciences and Engineering, and Biological Sciences) as the Expanded Executive Committee. This group considers overarching FAS business and cross-disciplinary issues and selects departments that will receive the outside reviews that are conducted on a rotating basis.

The FAS Steering Committee, composed of the provost, the deans of Yale College, the Graduate School, and the School of Engineering, the vice president for West Campus planning and program development, and the deputy, associate and assistant provosts, implements the policies of the Executive and Expanded Executive Committees and carries out the goals concerning all FAS matters, especially the allocation and reallocation of faculty positions. This committee also is the first to discuss reports from outside review committees, and it annually solicits, receives and accepts or rejects recommendations from chairs for special merit salary increases.

The academic planning that is undertaken and overseen through the administrative structure described above is supplemented in essential ways by the University's standing committees. Among the most important committees are the Advisory Committees for each of the four divisions in FAS; the Tenure Appointments Committees in the four divisions; the Standing Advisory and Appointments Committees in most of the professional schools; the Advisory Committee on Library Policy; the Information Technology Services Advisory Committee; the Committee on the Economic Status of the Faculty; the Advisory Committee on Foreign Language Instruction; the Arts Area Advisory Committee; and a long list of other committees appointed by the president, the provost, or the deans of individual schools.

Ad hoc committees—such as the Committee on Yale College Education (CYCE) appointed by the president in 2001 and chaired by the dean of Yale College, and the FAS Tenure and Appointments Policy Committee (FASTAP) appointed by the provost in 2005— respond to the faculty's interest in reviews of particular areas. Many of the issues raised by these committees are ultimately reviewed and adjudicated not only by appropriate administrative committees, but also by the Yale College and graduate faculties, with resulting legislative changes voted on by these bodies. In many cases the recommendations of ad hoc committees are reviewed by the Educational Policy Committee of the Corporation.

Appraisal and Future Agenda

Planning is pervasive at Yale. Some of it is top-down, as the Corporation and officers establish major institutional goals that set priorities for the allocation of resources and in some cases provide a mandate for new programs. Planning is also bottom-up, as schools and departments, along with standing and ad hoc faculty committees, develop their aspirations for new and expanded programs.

There have been three major developments in Yale's planning processes and tools over the past decade.

- **Financial Equilibrium Projection.** For many years the University used one long-range planning model for its operating budget, a separate model for its capital budget, and a third model for its endowment payout. In 2003 Yale developed a Financial Equilibrium Model that provides an integrated projection of all three major classes of assets—programs, as represented by the operating budget; physical infrastructure, as represented by capital investments and the Capital Replacement Charge (see next paragraph); and financial assets, as represented by its endowment and long-term debt. This integrated approach now serves as an essential tool for financial planning.

- **Capital Replacement Charge.** In 2003 the University developed a financial model that anticipates the replacement costs of Yale's physical infrastructure, to maintain its viability to support programs over the long term. As a result, a certain fraction of the replacement cost of each type of building is charged as an expense in the annual operating budget. On average, this Capital Replacement Charge (CRC) is 2.7% of inflation-adjusted replacement cost. The CRC was phased into the operating budget over the following six years, and in 2008–09 a total of $199 million was set aside for this purpose. This amount increases each year in direct proportion to the growth in square footage of campus buildings and an index of construction costs.

- **West Campus.** In 2007 Yale was presented with what President Levin called a "once-in-a-century opportunity" to purchase the 136-acre research campus in West Haven, Connecticut, formerly occupied by Bayer Health Care Company. This property contains 1.6 million gross square feet of space in twenty buildings, including three state-of-the-art laboratory buildings, office space, and a large warehouse/factory space. The officers and Corporation immediately recognized that the Bayer campus would offer the University unprecedented opportunity to strengthen the quality, visibility, and reputation of science, as well as new possibilities for collections storage and display, library preservation and conservation, natural wetland education and leisure, and medical service delivery. It also presented an unanticipated challenge to develop an integrated planning process that would embrace the programmatic opportunities presented by the new space, the financial impact on the University's operating and capital budgets, and the long-term development of a 43% increase in the size of the campus. Initially, primary responsibility for West Campus planning rested with the provost, who developed a series of ideas and proposals based on meetings with faculty groups, deans, and directors from across the University. At its retreat in September 2007 the Corporation held a lengthy discussion with the officers on the topic "Envisioning the

West Campus." In the summer of 2008 the president announced the newly created position of vice president for West Campus planning and program development.

In the past ten years, Yale planning processes have been oriented primarily toward planning for growth, fueled largely by the extraordinary increase in the endowment. Between July 1, 1999, and June 30, 2008, the market value of the endowment grew from $7.2 billion to $22.9 billion, and the payout from the endowment grew from $281 million in the 1999–00 budget to $1.15 billion in the 2008–09 budget. During this same ten-year period the operating budget grew from $1.3 billion to $2.7 billion, and annual capital disbursements grew from $191 million to $664 million. The growth in the endowment also enabled Yale to take on more than $2 billion of additional long-term debt to fund its ambitious capital program. The Corporation and officers recognized that this extraordinary growth in resources required a concomitant increase in planning for their wise and responsible use. Many of the financial, campus, and academic planning processes described above were created or enhanced as a direct result of the growth in resources.

The primary challenge for at least the next few years will be to shift from planning for growth to planning for a period of financial constraint. Since late 2008 University planning has assumed a 25% drop in the value of the endowment from July 1, 2008 to June 30, 2009. We do not project that the endowment will recover to its July 2008 level for many years. The careful planning for the use of limited financial resources will become even more critical, as Yale seeks to maintain and enhance the excellence of its programs, protect the enormous investments made over the past decade in the University's physical infrastructure, and at the same time identify funds to support important priorities (e.g., student aid) and pursue new initiatives.

Evaluation

Description

Evaluation of the performance of Yale's officers, staff, and faculty, the quality and distinction of its academic programs, and the educational outcomes of its students is carried out broadly, regularly, and rigorously.

Officers and staff. Each year the president presents to the Corporation at its first meeting of the year a set of institutional objectives that he and the other officers hope to achieve during the year. At the Corporation's final meeting of the year, the president meets with the Corporation in executive session to review the progress made during the year toward the achievement of those goals. In addition, in 2007–08 all of the officers and many of the senior administrative staff at the University were evaluated through a "360 degree appraisal" process. For each 360 degree review, the president (i.e., the officer's superior), the officer's direct reports, a set of peers of the officers (i.e., the other officers), and a set of other individuals who were well placed to comment on the effectiveness of the officer were surveyed in an electronic format, and in some cases interviewed, by a nationally recognized human resources enterprise. Each officer was given both written and oral feedback, and the president held individual sessions with each officer to review the results and to design individual development plans.

In 2007 the University introduced a new performance management process for its entire managerial and professional staff, called Feedback and Ongoing Coaching for University Success (FOCUS). This year-round multi-stage process begins with a meeting in which the supervisor and employee create together the employee's annual performance and developmental goals, objectives, and accountabilities. There is a mid-year meeting to review progress on those goals and develop a plan to get the employee back on track if there appear to be problems in any areas. At the end of the year the employee completes a self-assessment, and the supervisor solicits feedback about the employee's performance from staff, faculty, clients, or others as appropriate. The supervisor then prepares a written performance narrative indicating a rating for how the employee performed on each goal, and meets with the employee to discuss his or her performance for the year.

Faculty. In FAS all faculty complete an annual Faculty Activity Report in which they describe their teaching (including formal courses as well as supervision and mentoring), research and publications, lectures and conferences both at Yale and elsewhere, grant support, patents and consulting, service to Yale (committee work and administrative positions), service to the profession, citizenship (service to local, national, and international nonprofessional organizations), and honors and awards. These reports are reviewed by the chair of the faculty member's department and used as a basis for salary recommendations and, in the case of nontenured faculty, for mentoring. The reports are also reviewed by the deputy provost who oversees the department, and as appropriate by the deans, as input to the annual salary decision. They remain on file in the department and in the provost's office.

As described more fully in Standard 5, in 2007 the FAS faculty unanimously adopted the recommendations of the [report of the Faculty of Arts and Sciences Tenure and Appointments Policy Committee](#) (FASTAP), which created a new system of tenure and promotion policies and procedures. Under this new system, all nontenured faculty are reviewed for reappointment or promotion, including to tenure, in the penultimate year of their appointment. Since Yale's tenured faculty are expected to stand in competition with the foremost leaders in their fields throughout the world, the review for tenure is especially careful and thorough. As noted in the FASTAP Report, "The procedures [for review] animate the high standards for scholarship and research, for teaching students, and for university citizenship that have long placed Yale among the great universities. For these reasons, they must be rigorous, clear, and fair, and must be perceived as such."

In the non-ladder ranks, faculty with appointments of three years or longer are also reviewed by their departments in the penultimate year of each appointment. Their reappointment is contingent on a positive evaluation by the department.

Teaching. In 2002, following recommendations from the 1999 NEASC Reaccreditation Report, the faculty of Yale College approved a recommendation of the Teaching and Learning Committee to implement a Web-based application that permits students to evaluate courses online. This online course evaluation (OCE) replaced the traditional paper-based evaluations that had been in use in Yale College for many years. OCE is limited to courses with an enrollment of five or more students, in order to protect the desired anonymity of students in very small courses. In 2004 OCE was expanded to include the evaluation of graduate-level courses by students in the Graduate School.

Each evaluation is available to the instructor, the chair of the department, the deans of Yale College and the Graduate School, the provost, and the chairs of various committees that oversee curricula. Graduate student teaching fellows may also read their evaluations. Students may see summaries of responses to three quantitative questions (i.e., those that require ratings rather than narrative responses) through the online course selection system. The incentive for students to complete online course evaluations is early access to their course grades.

Academic programs. The overall programs of Yale's schools and departments are reviewed in three ways. First, ten of the twelve professional schools undergo a reaccreditation review at least once every ten years (see Dataform E1b). These involve a detailed self-study, discussions with a visiting team, and response to the accrediting organization's report. In addition, the Educational Policy Committee (EPC) of the Corporation normally reviews two or three of Yale's professional schools each year, and the entire Corporation normally devotes one meeting per year to an in-depth review of a particular school. A written report is distributed in advance, and the dean of the school meets with the EPC or the full Corporation to discuss the strengths, weaknesses, priorities, and strategies for improvement of the school. Such reviews are also conducted of major academic support units, such as the University Library. Finally, the EPC reviews annually a report of Yale's record in recruiting and retaining ladder faculty in FAS in the prior year.

For departments and programs in FAS, the FAS Steering Committee oversees external reviews of between four and six departments each year. Those reviews begin with a self-study conducted by the department, followed by a visit from an external committee. The external committee's report is then reviewed by the FAS Steering Committee and the Divisional Advisory Committee, and is shared with the department. In these meetings, recommendations of the external report are considered and, where appropriate, implemented.

In addition, various advisory groups, described in Standard 3, provide advice to the president, the Corporation, and individual schools.

Undergraduate curriculum. The Course of Study Committee of the Yale College faculty reviews and acts on substantive changes in academic courses proposed by departments and programs and periodically studies such general curricular matters as senior and distributional requirements. All new courses and those with substantial changes are reviewed by this committee and submitted to the Yale College faculty for approval. All academic programs are subject to regular review. When considering significant changes to the curriculum or renewing or extending existing programs, the Yale College faculty customarily establishes ad hoc committees to review the change or the renewal after a period, typically, of three to five years. At intervals that they establish, departments offering a major program conduct their own self-studies of offerings and requirements. The Teaching, Learning, and Advising Committee also focuses on specific topics. Finally, the Committee on Majors conducts regular reviews of all the majors offered in Yale College. It also reviews proposals for new majors, with particular attention to the question of whether there are adequate teaching and other resources to support the major over time, before submitting them to the Yale College faculty for final approval.

Student outcomes. Assessment of undergraduate outcomes is overseen by a team established by the dean of Yale College in early 2008. This team is led by the Yale College associate dean for assessment (former director of the Office of Institutional Research) in close collaboration

with researchers from OIR, who have been engaged in various Yale research and assessment activities for decades (see below). The team meets regularly for guidance with the Assessment and Accreditation Advisory Group, composed of the Yale College deputy dean, Yale College assistant dean for academic affairs, an assistant to the president, and director of OIR.

In 2008–09 the assessment team focused on two major projects: (1) Yale's 2009 NEASC self-study and (2) an update on implementation of recommendations from the 2003 Report on Yale College Education.

As described in detail in Standard 4, the report of the Committee on Yale College Education (CYCE) was submitted in April 2003, and since the 2004–05 academic year it has served as the blueprint for most new initiatives in Yale College. Assessment of CYCE impact is ongoing. Following two prior updates (in 2006 and 2007), a third interim update was completed in spring 2009 and presented to the officers and Corporation. A much fuller assessment of the impact of new initiatives and requirements will be conducted beginning in fall 2010, five years after implementation of the Yale College faculty-approved curriculum recommendations and with graduation of two full Yale cohorts under the changed curriculum and support recommended by the CYCE.

The assessment team is collecting and analyzing evidence from several sources, including: current and historical surveys of alumni, seniors, and all enrolled students; several specially designed surveys regarding quantitative reasoning, writing, foreign language study, and international experiences; analysis of course-taking patterns for areas with changed distributional and skills requirements; and descriptions of activities and new staffing from administrators leading the eight CYCE goals.

Office of Institutional Research. Since its inception in 1971, this office has routinely monitored the basic facts related to undergraduate outcomes: attrition rates (by ethnicity-gender subgroups), time to degree, postgraduate activities and employment. For the last forty years, OIR has contacted recent graduates to inquire what they are doing in terms of professional study, employment, and postgraduate education. OIR also conducts a number of periodic surveys to monitor student and alumni perceptions of Yale programs and activities and satisfaction with them. Many of these surveys are done in conjunction with other highly selective private institutions, which allows Yale to compare its survey results with norms at similar schools. Other special studies are conducted as needed, often initiated by standing or ad hoc faculty committees or by deans or other academic staff. The CYCE assessment effort has produced several such studies.

Graduate School outcomes assessment surveys. The Graduate School continues to survey graduate students as cited in the University's report to NEASC in 1999, conducting an exit survey of students upon their submission of dissertations (with an average participation rate of 96%) and then again through the Graduate School's Office of Graduate Career Services five years after graduation (with an average participation rate of 60%). The results of this survey on employment are reported on the Graduate School's Web site along with data regarding admissions, total enrollment, and time to degree as part of a statistical profile that is provided for each degree program, as well as in aggregate by division and for the Graduate School overall. These statistics are among the most detailed and extensive published by any graduate school in the United States and enable prospective students to make informed decisions about the opportunities and outcomes experienced by graduate students at Yale.

The Graduate School initiated a self-review of its doctoral programs in 2006. Dubbed the "2–4 Project" by the dean, this evaluation focused on the second through fourth years of graduate study, particularly on the best ways to enable students to prepare within the structured environment of course work for the rigors of demonstrating proficiency in their field, developing an independent research agenda, and, ultimately, writing the dissertation. There is a [report on the "2–4 Project"](#) posted on the Graduate School's Web site for each program outlining any issues that were identified and the improvements made as a result. This project has not only facilitated a highly productive exchange of best practices among departments, but also provided prospective students with an unprecedented window onto the often opaque mechanics of graduate study in advance of their decision to enroll.

Appraisal and Future Agenda

Faculty performance. Yale does not maintain information about the productivity and accomplishments of its faculty in any systematic and easily accessible way. FAS faculty members are required to complete an annual Faculty Activity Report, but the information they provide about teaching, publications, scholarly and scientific research, and University service is of limited use because it is stored in paper copies in their department chair's office and, for two years, in the provost's office. Yale needs a better way to monitor and document the accomplishments of its world-renowned faculty. The provost has therefore established a new university-wide Office of Faculty Affairs, which will oversee the development and administration of a new faculty record system. This new system will offer several improvements of our current systems: (1) it will improve the efficiency of maintaining up-to-date and accurate information about faculty; (2) it will enable the University to maintain more comprehensive and consistent information about faculty across all schools; and (3) it will improve access to faculty information, including a "faculty portfolio" that summarizes teaching, research, and service.

Financial operations. Prompted first by a federal investigation of Yale's grants and contracts financial administration, and more recently by financial constraints, the University has undertaken a major project, called YaleNext, to improve the quality and reduce the cost of administrative and financial operations. This project will focus on five areas: human resources, finance, procurement/accounts payable, information technology, and research administration. One of the key components of YaleNext is the creation of a service management group that will constantly measure the performance of the new structures, procedures, staff, and service agreements that will be established.

Student outcomes. While the University does not have a formal set of activities labeled as "Outcomes Assessment," it does have a number of interrelated activities that together allow it to evaluate whether goals for undergraduates and graduate students are being achieved. At a basic level, the University regularly monitors the activity of Yale College and Graduate School of Arts and Sciences graduates immediately after they leave school. In addition, participation in a consortium of highly selective undergraduate institutions provides comparative statistical and survey data with our peer institutions. Through these, the University should continue to identify particular areas where special evaluation and planning efforts can make substantive differences.

Institutional Effectiveness

Every five years the Yale Corporation undertakes an institutional assessment in which it reviews the University's work in the prior five years. The innovation grew from a request by President Levin at the time of his appointment in 1993 for the Corporation to undertake a five-year university-wide review of his performance. Yale expanded the concept to include an institutional and presidential assessment; these were conducted in 1998 and 2004. The next assessment took place in April and June 2009.

The assessment is conducted by two teams of two trustees each who interview faculty, staff, students, key alumni, and civic leaders. The assessments have contributed to the University agenda in important ways. The 1998 review reinforced the president's desire to intensify Yale's international agenda, and the 2004 review highlighted the need for greater attention to human resource issues. The five-year assessment ensures that the Corporation does not become isolated from the views of major constituencies.

STANDARD THREE: ORGANIZATION AND GOVERNANCE

> The University is essentially a living thing. Like other organisms it must grow by casting off that which is no longer of value and by adding that which is. . . . Meanwhile it will always be true that where the great investigators and scholars are gathered, thither will come the intellectual elite from all over the world.
>
> —James Rowland Angell, President of Yale, 1921–1937

Description and Appraisal

Overview of Yale's Governance Structure

The University's governance structure, defined by its Charter of 1701, provides a source of particular stability. One of the Charter Colleges discussed in the U.S. Supreme Court's 1819 ruling *Trustees of Dartmouth College v. Woodward*, Yale has been protected from unilateral amendment or impairment of its charter by the Connecticut General Assembly and thus has enjoyed more independence than most private universities in this country. The charter was last amended by mutual agreement of the General Assembly and the Yale Corporation in 1872.

The Yale Corporation is the institution's governing body, and its nineteen members are entrusted through the Charter and the By–Laws with the authority to exercise the responsibilities of governance required in NEASC Standard 3. No changes or amendments have been required in the last decade to satisfy any aspect of this standard, although the by-laws have been amended as described in this chapter to advance the operations of the University.

The Corporation Fellows, with the exception of the president, are unpaid independent volunteers. The "Responsibilities of the Fellows," as adopted by the Corporation in 1994, make clear the trustees' fiduciary responsibilities. Also the Corporation's rigorous conflict-of-interest policies require formal annual disclosure statements, including, since 2007, disclosure of a fellow's service on other nonprofit and for-profit boards. The small size of the Corporation permits intensive deliberation and thereby is a source of strength. The Corporation, in fact and deed, is the governing body with ultimate responsibility for the institution's quality and integrity.[1]

Major Developments since the Last Reaccreditation

Although the formal governance structure of the University is unchanged, numerous developments at Yale in the last decade have focused on ensuring the quality of governance in a greatly expanding enterprise. At the time of the last reaccreditation, the University's annual budget was $1.6 billion versus $2.7 billion in 2008–09, and the University employed 2,700 fewer individuals. The greater ambitions for Yale, in both academic matters and in

---

[1] The University Organization Chart illustrates governance authority of the Yale Corporation.

administrative support, have required new managerial structures and policies to ensure continued effective governance.

Academic Developments

Outlined below are academic developments in the last decade that entailed substantial governance issues.

The West Campus. One of the most important developments since the last reaccreditation is the purchase in 2007 of the West Campus, described in Standard 2. It was decided that the campus would not have a separate governance structure: it operates under the authority of the Corporation and is administered by the officers. A position of vice president for the West Campus was created in 2008 for a period of three years to plan and oversee development of the campus. Michael Donoghue, G. Evelyn Hutchinson Professor of Ecology and Evolutionary Biology and former director of Yale's Peabody Museum of Natural History, was named to the position. He reports to the president and the provost and joins the officers in their twice weekly meetings and semi-annual off-site planning reviews, where his presence has added another senior faculty member to those discussions.

School of Public Health and School of Engineering & Applied Science. At the time of the last reaccreditation, Epidemiology and Public Health was a department of the School of Medicine; Engineering was a division of the Faculty of Arts and Sciences (FAS). Each was led by a faculty member with the title of dean. In 2007 the Trusteeship Committee recommended that Public Health be named a school, with existing faculty appointment mechanisms remaining with the Medical School Board of Permanent Officers. In 2008 the committee recommended that Engineering & Applied Science be designated a school, with faculty governance responsibilities continuing within FAS. Both recommendations were approved by the Corporation.

Strengthening Engineering & Applied Science through FAS appointments. Prior reaccreditations have taken note of Yale's distinctive structure for FAS, wherein overall responsibility is shared among the provost and deans of the College and Graduate School. In the last decade, more responsibility has shifted to the two deans. Traditionally, the president, provost and FAS deans constituted the FAS Executive Committee and authorized all tenure searches. In 2008 the dean of Engineering & Applied Science was added to the committee. She also joins the deans of the College and Graduate School as a standing member of the Tenure and Appointments Committee and serves as "cognizant dean" for the engineering departments.

Research administration. Research is one of Yale's fundamental purposes, and the University receives more than $500 million a year in revenue from research grants and contracts. Following implementation in the early part of this decade of a new financial IT system that complicated grants administration, Yale was challenged to keep pace with faculty success in securing federal research grants. Yale commenced a major initiative to improve its grant management and accounting activities in 2005, and accelerated this effort in 2006 with a new Office of Research Administration, after several federal agencies opened an investigation of Yale's grant accounting. The mission of the new office is to coordinate the activities of the various University offices that support faculty, staff, and students on sponsored projects; to

assure that service provided by those offices is of the highest caliber; and to serve as an effective representative for the research enterprise within Yale and nationally. New senior positions of associate vice president for research administration and university research compliance officer have led the office in developing mandatory training programs for faculty and staff, revising numerous policies and procedures, and implementing a new easy-to-use Web-based effort reporting system. The University also established a Standing Senior Management Committee, chaired by the vice president for finance and business operations, to review regulatory action on audit, internal controls, and compliance issues. The Corporation mandated that the Corporation Audit Committee receive regular reports on research compliance, including updates on corrective actions recommended in previous reports on these and other matters.

An expanded role and staff for Yale College. Undergraduates constitute almost half of the student body at Yale. Yet the Yale College Dean's Office has traditionally been remarkably small. The 1999 reaccreditation self-study concluded that the Yale College Dean's Office should be expanded to keep pace with the University's programs and initiatives. Important additions to the office and the dean's authority have since been made, resulting in more effective leadership and governance of the College.

The 1999 NEASC report and Yale's 2003 Report on Yale College Education led to creation of three new positions in areas emphasized by both reports: science education, international affairs, and the arts.[2] In 2008 the Yale College Office of Business Operations was created, led by a new director of business operations position with increased staff support. The associate dean of administrative affairs became associate dean for physical resources and planning, providing leadership and oversight for all issues regarding space and facilities planning in Yale College. The associate dean for development and resources became associate dean for assessment, with responsibility for accreditation and assessment.

The system of residential colleges is perhaps the most distinctive feature of the Yale College experience. College masters are appointed by the president; however, in 2008 the reporting channel was amended and there is now a dual reporting system to the dean of Yale College and the president to maximize the effectiveness of the residential college system.

Administrative Developments

Growth of Yale since 1999 has required the creation or expansion of several administrative services and units. In each case, governance questions were integral to planning discussions.

---

[2]Appointed in 2004, the associate dean for science education provides strategic planning and oversight for initiatives in science and quantitative reasoning, including implementation of distribution requirements; new course development; tutoring and other support programs; and opportunities for experiential learning in the sciences. Appointed in 2006, the associate dean for international education leads advancement in both curriculum and off-campus opportunities, implementing the report's recommendation that undergraduates have the opportunity to go abroad once during their four years with financial assistance where needed. Appointed in 2009, the associate dean for the arts will support academic departments, programs, and extracurricular activities in architecture, art, creative writing, dance, digital media, film, music, and theater.

New officers of the University. The central administrative group reporting to the president has historically been quite small, six officers in 1999,[3] compared to a number of our peers. This small, close-knit group has wide peripheral vision across the University through its twice weekly meetings; and five or six days of planning retreats each year.

In recognition of the enormous expansion in financial and administrative activities, in the summer of 2008 Yale created the role of vice president for human resources and administration to assume some of the responsibilities previously shouldered by the vice president for finance and administration. Yale recruited Michael Peel, one of the country's most respected human resources executives, thereby permitting Shauna King, vice president for finance and business operations, who had an outstanding career in the private sector, to devote her attention to the critical task of improving business systems. The new position of vice president for the West Campus was discussed earlier.

Also, there was some realignment of responsibilities among existing officers. Bruce Alexander, the vice president for New Haven and state affairs, a former national leader in major urban redevelopment projects, assumed in 2006 oversight for all capital programs and building operations. Responsibility for alumni affairs and the Chaplain's Office was transferred to Linda Koch Lorimer, vice president and secretary, and she assumed oversight of the Office of International Students and Scholars.

New offices at Yale. In the past decade, Yale has created new management structures. Among the key new offices are:

- University Properties Office (created in 1996) under the then vice president for New Haven and state affairs (this title and responsibilities were expanded in 2006)
- Office of International Affairs (2004) under the vice president and secretary
- Office of Sustainability (2005) now reporting to the vice president and secretary
- Office of Federal Relations (2005) under the vice president and general counsel
- Office of Research Administration (2006) under the vice president for finance and business operations
- Office of Business Transformation (2007) under the vice president for finance and business operations
- Enterprise Risk Office (2007) under the vice president and general counsel
- Emergency Management Office (2008) under the vice president and secretary
- Office of Digital Assets and Infrastructure (2008) under the provost, with a dotted line to the vice president and secretary

Heightened attention to compliance. Over the last several years the University has focused great attention on financial oversight and regulatory compliance, particularly in the area of sponsored research. At the Corporation level, this was reflected in changes to the Corporation Audit Committee, discussed below in detail.

---

[3] The six officers reporting to the president in 1999 were the provost, who after the president is the chief academic officer; the vice president and secretary; the vice president and general counsel; the vice president for development and alumni affairs; the vice president for finance and administration; and the vice president for New Haven and state affairs.

Institutional Governance

Corporation Governance Advances

The Corporation began to give heightened attention to corporate governance more than fifteen years ago. The Ad Hoc Committee on Trusteeship worked throughout 1993–94 to create a set of governance recommendations considered to be "best practices" by many sister universities. Many changes instituted in response to the committee's recommendations were discussed in the 1999 reaccreditation self-study and have contributed to effective stewardship of the University and compliance with NEASC Standard 3.3.[4] Since 1999 the Corporation has refined these practices and has added several other features:

Strategic "fact-finding" visits to sister institutions. The Corporation has extended its vision through a program of biennial visits to other institutions. Since 1999 the Corporation has met at the University of Virginia, Stanford University, the University of Cambridge, and MIT; it will visit Duke in the fall of 2009. The agenda includes discussion with the host institution's faculty and administration regarding areas where Yale hopes to improve its own programs and structure. In 2005, at the University of Cambridge, sessions included how Cambridge conducts commercialization of faculty research and attracts high-tech companies. In 2007, at MIT, the focus was technology transfer and MIT's approach to life sciences and engineering.

Review and reorganization of Corporation Audit Committee. In October 2006 the Audit Committee benchmarked both its own protocols and the mechanics of its oversight of University Audit with those of highly respected universities and corporations. From the review, twenty-four best practice recommendations were adopted by the Corporation in December 2006. In addition, a revised charter for the Audit Committee was adopted in February 2007 which clarified and expanded the responsibilities of the committee, established membership criteria, added meetings and formalized multiple executive sessions at each meeting. The committee also mandated that it receive summaries of audit reports with findings and corrective actions in a format to facilitate tracking and monitoring.

Creation of a standing committee on the School of Medicine. The Corporation has eleven standing committees and the authority to convene ad hoc committees. In 1997 an Ad Hoc Medical School Committee was created in recognition of the increasing importance of the school in the life of the University. Today the school represents 44% of the operating budget. The Trusteeship Committee voted in February 2009 to recommend to the full Corporation that the Ad Hoc Committee on the School of Medicine be made a standing committee and in April 2009 the Yale Corporation voted to create a new standing Committee on the School of Medicine.

Institutionalization of the five-year University assessment. At the time of the last reaccreditation, one five-year institutional assessment had been conducted by the Corporation. The innovation grew from a request by President Levin at the time of his appointment in 1993

---

[4] These governance improvements included preparation of a Corporation and Committee Annual Agenda; presentation of annual goals by the president and an annual evaluation of progress toward those goals; a formal trustee orientation program; a Standing Committee on Trusteeship with specific responsibility for corporate governance; trustee educational sessions in either plenary or Friday evening sessions; annual planning retreats for the Corporation and officers; and an extensive trustee-led five-year institution-wide evaluation.

for the Corporation to undertake a five-year university-wide review of his performance. Yale expanded the concept to include an institutional and presidential assessment; these were conducted in 1998 and 2004. The most recent assessment was in April and June 2009.

The assessment is conducted by two teams of two trustees each who interview faculty, staff, students, key alumni, and civic leaders. The assessments have contributed to the University agenda in important ways. The 1998 review reinforced the need to intensify Yale's international agenda, and the 2004 review highlighted the need for greater attention to human resource issues. The five-year assessment ensures that the Corporation does not become isolated from the views of major constituencies.

Expansion of annual Corporation assessment. At the end of each academic year, the fellows critique the year in a several-hour executive session with the president, which includes evaluation of his written assessment of progress made toward the annual goals he developed and shared with them at the beginning of the academic year. Each fellow also completes a written survey covering all aspects of Corporation meetings, topics that require review in the future, ways in which the officers can keep the fellows better informed, and areas where the fellows believe they can make a particular contribution. The Trusteeship Committee is currently studying what further steps might be advisable in assessing the Corporation and will consider whether there should be a mid-term assessment of trustee performance to supplement the evaluation undertaken when successor trustees are considered for reappointment after their sixth year.

Enterprise Risk Management expanded. In December 2007 the Corporation approved the establishment of an Enterprise Risk Management (ERM) program to foster a deliberate, coordinated, and anticipatory approach to risk identification, mitigation, and management. An ERM office was established reporting to the vice president and general counsel and is in the process of developing a program tailored to Yale's needs and culture. The ERM office reports semi-annually to the Corporation through the Institutional Polices Committee in coordination with the Audit Committee.

Expanded Services for Connection to, Counsel by, and Communication with Key Stakeholders

NEASC standard 3.1 calls for a system of governance that "involves the participation of all appropriate constituencies and includes regular communication among them," and this has been a theme during the last decade. Under President Levin's leadership the University has strengthened and created new opportunities for constituents to be heard and for tapping their expertise.

External Advisory Bodies

The University Council has served as a confidential advisory board to the president since 1947. Currently there are thirty-two alumni members. Recent meetings[5] have included

---

[5] University Council Committees 2000 – 2009: Committee on a Digital Yale (April 2009); Committee on a Sustainable Yale (December 2008);Committee on the Yale School of Music (April 2008);Committee on Workplace Diversity (November 2007);Committee on Theater at Yale (March 2006);Committee on New Haven

discussions on the use of information technology in teaching, curricular reform and international education in Yale College, strategic planning for the sciences, Yale College admissions, and the schools of Drama, Medicine, and Music. The major work of the council is conducted through committees that are impaneled by the president under the auspices of the council, to study a specific matter. In 2008–09 a committee was working on Yale's digitization efforts and another on the School of Art. Committees generally meet three to four times over the course of a two-year period, and the chair provides interim reports to the full council, which meets twice a year. A committee's confidential final report is presented to the president and council and is shared with the Corporation.

The President's Council on International Activities was created at the Corporation's suggestion in 1998 to help shape the University's growing international agenda. The group, which now comprises eighty-three alumni and friends of the University, includes distinguished diplomats, leaders of NGOs, and business executives with substantial expertise around the world. They are an ongoing source of counsel to the president and the Office of International Affairs.

The Campaign Executive Committee includes approximately 400 influential alumni, parents, and friends who help with Yale's current capital campaign and offer advice on key issues facing the University including planning for the new residential colleges.

The President's Advisory Committee on Digital Yale was formed in 2009 on a recommendation from the University Council Committee on a Digital Yale. Its members are Yale alumni and friends who are leaders in technology. The Advisory Committee will meet annually with the president to help shape Yale's initiative for digital dissemination of the University's intellectual treasures.

New advisory boards for professional schools. The deans of the Law School and the Divinity School have benefited from the counsel of effective advisory boards for decades. In the last ten years the schools of Medicine, Drama, Nursing, Music, Forestry & Environmental Studies, Management, and Engineering & Applied Science have begun using their advisory boards more regularly and effectively, and the School of Architecture has created an advisory board for the first time. The School of Art is now working on establishing a board as well.

Visiting committees for departments in the Faculty of Arts and Sciences. Since the last reaccreditation report the provost has instituted an annual process (described in Standard 2) for the review by external scholars of the strengths and weaknesses of a set of departments.

University Engagement with Community and Collaborative Stakeholders

Since the establishment of the Office of New Haven and State Affairs in 1997, its engagement with the City of New Haven and region has resulted in many partnerships. The University has extended its commitment to community economic development, neighborhood revitalization,

---

Economic Development (March 2006);Committee on Religious and Spiritual Life at Yale (December 2004);Committee on Undergraduate Student Services (April 2003);Committee on Distance Learning (April 2002);Committee on Yale School of Architecture (May 2001).

support of public schools and youth programs, and local retail. The vice president for New Haven and state affairs and campus development sits on several community boards.[6]

Consultative and Deliberative Bodies on Campus

Each professional school has a faculty board of permanent officers or equivalent leadership group. Meetings of the Yale College faculty occur monthly during the academic terms and are open to all ladder faculty of the Arts and Sciences and high-level administrators such as deans, directors, the librarian, and provosts. In 2008 the faculty voted to extend invitations to non-ladder instructors (i.e., lecturers and lectors) who have multi-year contracts and who have taught for at least one year. A roster of those appointed annually by either the president or the provost to university-wide committees is published in the *Yale Bulletin & Calendar*.

In addition to these formal governance mechanisms, ad hoc committees and informal communication channels are created to address issues of consequence. A 34-person committee consisting of faculty, students, and administrators studied the possibility of two new residential colleges and reported to the president and Corporation in spring 2008, and a faculty advisory committee worked with the provost and vice president for finance and business operations to formulate a more robust research administration structure.

Consideration of Student Views

The deans of Yale College and the Graduate School and each of the deans of the professional schools have formal and informal ways of engaging student leaders. The dean of the Graduate School meets with the Steering Committee of the Graduate Student Assembly (GSA) biweekly throughout the academic year and usually once or twice in the summer. The dean of Yale College meets weekly with the president of the Yale College Council (YCC), and the YCC officers meet twice a month with the dean of student affairs. The president of the University meets with representatives of the student press after each Corporation meeting and talks to the *Yale Daily News* reporter assigned to the president's office an average of five times a week. In addition, the president has student office hours by appointment. At the Corporation level, a delegation of the trustees meets annually at separate sessions with YCC leadership, the GSA, and the Graduate and Professional Student Senate (GPSS). The secretary's office arranges the participation of individual Corporation members in student events such as master's teas both on and off campus.

Communications with Other Constituencies

The Internet has made communications with constituencies much easier. In addition to Web posting of the *Yale Alumni Magazine* and *Yale Bulletin & Calendar* and the expansion of the Public Affairs Web site, the University introduced an electronic newsletter published monthly

---

[6] The boards on which the vice president for New Haven and state affairs and campus development sits include Tweed Airport Authority, Community Foundation of Greater New Haven, Economic Development Corporation of New Haven, and he chairs Market New Haven. He meets frequently with the mayors of both New Haven and West Haven to ensure open lines of communication. In addition, the associate vice president for New Haven and state affairs serves on the boards of the Arts Council of Greater New Haven and the Greater New Haven Chamber of Commerce.

during the academic year, initially directed to alumni and extended to Yale College parents and to all faculty and staff who wished to "subscribe."

In order to share more successfully how Yale is governed, both currently and historically, the offices of the secretary and the general counsel developed an expanded Web site that gathered all basic governance documents. Although many of these documents currently appear on various University Web sites, they are often difficult to locate. The new site was launched on June 15, 2009 and provides easy access to policies and important reference materials, including student and faculty handbooks, conflict-of-interest policies, and the University organization chart.

A major development in staff communications has been the introduction of a periodic Employee Climate Survey that gives staff a means to comment on workplace satisfaction and dissatisfaction. The first survey was completed in March 2005, and results of the most recent survey were published in January 2009. Nearly 70% of Yale's over 9,000 employees (excluding faculty) participated in the confidential 52-question survey. More than 80% described Yale as a great place to work. In addition to demonstrating their high level of commitment, the survey revealed that most staff members feel positive about Yale's leadership, workplace diversity, employee productivity, performance management, and staff rewards. Areas in need of improvement included innovation, decision speed, development, and teamwork. In addition, in the 2006–07 academic year, the University introduced the first work-life survey of the ladder Faculty of Arts and Sciences and a similar survey in the School of Medicine. The surveys and results are discussed in Standard 5.

Future Agenda

The organizational and governance structures of the University have been enhanced and expanded over the last ten years to reflect Yale's growth and new initiatives. We will continue to focus on finding ways to improve Yale's governance in the years ahead.

STANDARD FOUR: THE ACADEMIC PROGRAM

> The purpose of the liberal arts is not to teach businessmen business, or grammarians grammar, or college students Greek and Latin. . . it is to awaken and develop the intellectual and spiritual powers in individuals before they enter upon their chosen careers, so that they may bring to those careers the greatest possible assets of intelligence, resourcefulness, judgment and character.
>
> —A. Whitney Griswold, President of Yale, 1950–1963

Introduction

The past ten years have been a time of great creative energy and renewal for the academic programs at Yale. In the fall of 2001, coinciding with Yale's tercentennial, a complete reexamination of the undergraduate curriculum was launched by the Committee on Yale College Education (CYCE), whose four Working Groups included undergraduates, recent alumni, and faculty members. The committee's 2003 report generated a host of new initiatives, as described below, many of which built on ideas that emerged from the 1999 self-study and NEASC Visiting Team report.

Leadership in developing these changes, and in monitoring ongoing curricular issues, is vested in a number of faculty committees, each of which is chaired by a senior faculty member. We believe Yale has particularly strong faculty involvement in curricular issues in the College, resulting in strong buy-in to new and ongoing efforts to strengthen undergraduate education. The Course of Study Committee reviews all new or substantially revised courses and considers proposals for relatively small changes in the requirements of a major to insure that standards are met consistently across Yale College. It also sometimes functions as an educational policy committee. The Committee on Majors reviews proposals for new majors and for substantial changes to a major and coordinates internal reviews of several majors each year. The Teaching, Learning, and Advising Committee considers broad pedagogical issues, academic advising at all stages of the undergraduate career, and the annual award of teaching prizes. It also takes up special issues as needed, such as the use of Advanced Placement credits, and developed a new online course evaluation procedure, as recommended by the previous NEASC review. The Committee on Honors and Academic Standing hears individual student's petitions for extensions of deadlines and waivers of requirements and, on the basis of nominations, awards distinction in the major and College-wide honors and prizes.

Given the significant campus-wide investment in the work of the CYCE, we have organized the following discussion around the major initiatives that emerged from that committee's report. The emphasis, therefore, is on the work of Yale College, but information about the academic programs in the graduate and professional schools is included at the end of the chapter. A more comprehensive review of the Graduate School of Arts and Sciences, which may evolve into a project similar to that of the CYCE, is in the initial planning stages.

Implementation of CYCE Curricular Recommendations

Changes in the system of distribution requirements ("General Education") were among the major recommendations of the CYCE, and those changes have now been implemented. In brief, the new requirements stipulate that students successfully complete two courses in each of three "areas" (humanities and arts, sciences, and social sciences) and satisfy requirements for three "skills" (quantitative reasoning, writing, and foreign language). The quantitative reasoning (QR) and writing (WR) requirements take the form of two courses chosen by the students from many available accredited options; the language requirement is more complex and entails between one and three term courses, depending on the previous achievements of the student. Throughout the general education requirement, and particularly in the "skills" areas, we emphasize "distance traveled." In other words, all students should improve their abilities regardless of their starting point; "placing out" of a requirement is not an option. For example: students with strong previous foreign language skills are nevertheless required to complete at least one additional course in that language, or begin the study of a new language for at least two semesters; similarly, students with strong quantitative skills are still required to take two QR courses to maintain and enhance those skills. This lack of a "place-out" option is very unusual, perhaps unique, but seems to us appropriate for students like ours who begin their college careers with significant previous accomplishments.

Mary Miller, dean of Yale College, plans to commission an in-depth study reviewing the impact of the CYCE recommendations beginning in fall 2010 after two classes have graduated under the new requirements. This review will include detailed studies of student enrollment patterns, achievements, and experience. These assessment exercises constitute a "future agenda" for the entire distribution requirement program. In the meantime, several studies have been undertaken in individual distribution areas. These are briefly described below and in more detail in the interim report, available to the visiting team as Appendix 4A.

Writing

Description. Yale's writing requirement takes the form of "writing across the curriculum." Courses are sponsored by academic departments, and any department can propose writing courses, which are designed explicitly to teach about writing and to include feedback on writing. The curriculum is coordinated by a newly enhanced Writing Center and by the faculty Writing Center Advisory Committee, whose approval is required for courses to be designated as fulfilling the writing requirement. Approximately 325 courses in more than 45 departments currently fulfill the writing requirement; 300 of these are seminars, and 100 "writing sections" are attached to 25 lecture courses. Although 80% of courses are in humanities disciplines (especially English and History), support in the other divisions is growing, particularly writing sections in introductory lecture courses in the social sciences.

In addition to supporting the curriculum for the WR requirement, recent Writing Center initiatives include expanded tutorial options for students, a new focus on international students for whom English is a second language, and substantial efforts in conjunction with the Graduate Teaching Center (GTC) to help graduate teaching assistants learn appropriate pedagogical approaches to writing. The Writing Center has also developed resources to educate students about the proper use and citation of sources and to assist faculty with

teaching students how to avoid plagiarism. (See the discussion of academic integrity and plagiarism in Standard 11 and the Writing Center Web site for more information.)

Appraisal. The Writing Center has a good reputation among students and faculty, and the breadth of tutoring options and WR offerings has increased. However, it is clear that writing instruction could become more central to many courses outside of the humanities. For example, our assessment projects show that laboratory reports in the sciences are potentially very useful for developing writing skills, but we have yet to take full advantage of this opportunity.

The Writing Center tutorial programs appear to be very successful. Over 1,000 tutorial sessions occur each year through the Writing Center Partners, a peer tutoring program. Clients evaluate every session before leaving the Writing Center, and satisfaction has been above 99%. The Bass Writing Tutors program, established in 1979 and staffed by professional writers and editors, provides tutoring by appointment in each residential college. A substantial majority of students in this program also report feeling well helped; most of the dissatisfaction comes from students who wish the tutor would rewrite or copyedit their papers, a misconception of the tutoring role.

Recently the Writing Center began two assessment projects. In spring 2008 a brief survey was conducted of undergraduates in all classes about their experiences with writing. More than 70% of students report satisfaction with their range of choices for fulfilling the WR requirement. Sophomores were much more likely to report that it was easy or moderately easy to find WR courses that interested them, presumably reflecting the extension of WR courses across the curriculum. The second project is an in-depth portfolio study of sixty students' writing over their undergraduate careers. Preliminary results suggest that many courses outside of the humanities, and many non-WR courses, foster improvement in writing, supporting the "writing across the curriculum" concept and implementation.

Future agenda. The Writing Center hopes to increase its support for faculty who wish to develop WR courses or want to enhance their students' writing but without the WR designation. Assisting students who perceive themselves as well prepared is an ongoing challenge, and is crucial to the success of the "distance traveled" approach. To date, most of the focus of the Writing Center has necessarily been on underprepared and ESL students. The portfolio analysis should be completed this year and should provide the basis for further recommendations for enhancing writing at all levels and throughout the curriculum. However, the current economic situation may limit innovative programming in the near term.

Science and Quantitative Reasoning

Description. The faculty adopted the CYCE recommendation that the former science requirement be divided into a science (Sc) area requirement and a quantitative reasoning (QR) skills requirement. The content of courses that could be applied to these (and other) requirements was to be scrutinized; that is, departmental affiliation alone would be insufficient to allow a course to count for Sc or QR credit. This latter change required the establishment of faculty committees (the Science Council and the QR Council) to evaluate courses proposed for the requirement. To support and assess these changes, the Science and Quantitative Reasoning Center was established. This center also provides a focus for tutoring

and for a greatly expanded program of undergraduate research in the sciences, another important priority recommended in the CYCE report.

The two faculty councils established a series of guidelines for Sc and QR courses and then examined all courses of this kind then in the curriculum. In a number of cases substantial revisions to course content were requested. A policy of re-review of all courses without prerequisites was also established in an effort to ensure that appropriate standards in these courses would be maintained; we believe that such continuing review of course content is unusual, and may even be unique among our peer institutions. Initially there was some faculty resistance to this kind of examination of long-established courses. However, the fact that the councils were made up of ladder faculty, many of whose courses were also being examined, combined with the ability of the councils to provide resources for enhancing course offerings, has mitigated much of this initial opposition. One immediate concern was the subset of students for whom no then-existing Yale QR courses were appropriate. To accommodate these students, "invitation only" seminars were established. Overall there are now 47 courses without prerequisites that satisfy the Sc requirement, and 41 courses without prerequisites that satisfy the QR requirement.

Appraisal. Faculty members are now accustomed to submitting their courses to the committees and have largely accepted the guidelines the councils have established. Indeed, the continuing dialogue between the councils and faculty is supporting course improvements, generating new courses, and seeding the creation of innovative placement and assessment instruments. However, the teaching burden for Sc and QR courses still falls disproportionately on a few specific teachers and courses (often quite large). There are considerable professional pressures against the significant effort required to develop and teach such courses, so the ability to sustain and build on our successes may depend on establishing incentives for FAS ladder faculty to do so.

The Quantitative Reasoning Council developed an online survey of quantitative attitudes and background that was piloted with a stratified sample of seniors in spring 2008 and administered, with minor revisions, in spring 2009 to the first class of students to go through the new requirements. The QR and Science Councils hope to conduct a study of freshman and sophomore year experiences and their effect on the pursuit of Science and QR majors and careers. There is also interest in developing open-ended questions to assess science and QR knowledge and skills directly. This effort is fraught with complexity because of the diverse ways in which both requirements can be fulfilled at Yale; we have not found any existing direct assessment that would be appropriate to the Yale context.

The new QR requirement has also put new pressure on the introductory courses in calculus, which were a focus of the 1999 NEASC report. Since then we have made some progress in this area, including appointment of a faculty member in mathematics with primary responsibility for coordinating introductory calculus, significant expansion of tutoring options, and the establishment of calculus courses specifically designed for students in engineering and in economics. However, comments from students and faculty suggest that there is some distance yet to go in this area.

Future agenda. Premedical education is inextricably intertwined with almost all other aspects of science education. The Science Council and the dean of Yale Medical School have played an important role in helping to promote a national discussion of premedical requirements. The

councils eagerly look forward to changes, expected within the next few years, in the nominal requirements for entry to medical school. In the interim, Yale is proceeding with related enhancements to the current curriculum in areas such as mathematics and physics.

Now that the considerable initial burden of implementing the new requirements has been overcome we will need to address other clear challenges. We need more courses for non-majors in science and quantitative reasoning. In particular, there are relatively few offerings for non-majors with moderate to strong preparation. It would be especially useful to have small courses that would entice students away from the large lecture courses where they currently congregate to satisfy these requirements. As noted above, problems of placement and assessment, particularly of QR, are only just beginning to be addressed. The alienation of Yale students from sciences reported by the CYCE continues to merit attention. Isolation of the science departments from the center of undergraduate life was to be addressed by student activity centers planned for Science Hill, and by the proposed location of the new residential colleges; unfortunately these initiatives are now on hold.

Foreign Languages

Description. As noted earlier, one of the most significant changes to the distribution requirements is that students may no longer "place out" of the foreign language requirement on the basis of a test score. At a minimum, all students must successfully complete one to three term courses in a foreign language, depending upon the level at which they begin. To accommodate the range of language preparation among our incoming students, the new requirement is complex and the effect on students and on the language departments is a matter of some debate.

Appraisal. For the 2008–09 academic year, the Language Study Committee (LSC) set as one of its main agenda items an analysis of foreign language enrollment patterns under the new language requirement. Preliminary findings show an overall high level of language learning among the class of 2009. Total language enrollments have increased slightly since the new requirements were implemented, but there are shifts in where those enrollments occur. In general, enrollments have increased in Asian languages and in Arabic but have declined in Western European languages; enrollments have increased in elementary and advanced courses but have declined somewhat in intermediate courses. These changes are a concern to language departments because they complicate course scheduling and affect resources. At this point it is difficult to know the extent to which these changes are related to the new language requirement or to other factors and national trends, but analyses will be ongoing.

OIR also conducted an in-depth survey of seniors in spring 2008. The survey was part attitudinal and self-assessment and part inventory of experiences. It covered foreign language learning and international experiences. Among major issues of interest to the LSC are the connection between language learning in a study/internship/research abroad context and courses taken at Yale, as well as the assessment of potential gains made during the study abroad experiences. The study may be repeated in the future, in which case the 2008 survey results will provide a good benchmark.

Future agenda. Assessment issues have become critical as the new language requirement demands a more fine-tuned placement instrument to place students accurately in appropriate

course levels. In fall 2008 the Center for Language Study (CLS) began a long-term assessment initiative that will address placement examination issues. It will also focus on familiarizing foreign language departments with a broad range of assessment choices, such as proficiency examinations and portfolio assessment. The CLS technical team has been evaluating software that can be adapted to language testing both for placement and for proficiency testing and has been seeking funding for a three-year project on assessment. The project also intends to engage language departments in a broader discussion to align curricular objectives with appropriate assessment practices. The CLS will also focus its efforts on providing additional opportunities for the study of the less commonly taught languages at Yale through increased collaboration with its peer institutions and by building up infrastructure for distance learning. Another priority is to explore innovative pedagogical models that encourage students, faculty, and staff to combine their disciplinary interests with the study of language. Greater emphasis should also be given to the language learning needs of the professional schools.

Arts, Humanities, and Social Sciences

Unlike the other distribution requirements, humanities and social sciences do not have dedicated committees and teaching centers for their areas. The Course of Study Committee is responsible for adjudicating requests for credit in humanities and social sciences and has devoted considerable effort to this task. Nevertheless, there is less opportunity to conduct detailed studies of the status and outcomes in these two areas, and the purpose of these requirements may also be somewhat less clearly defined. The future agenda in this area will be to decide whether further attention and resources need to be devoted to these areas, as has already been done for the other distribution requirements.

While no requirement for course work in the arts was recommended by the CYCE, there was significant focus on improving opportunities in this area of the curriculum. The key problem they identified was the lack of resources, both in terms of space and of faculty, many of whom are borrowed from the professional schools. An initiative to fund joint positions between the College and the professional schools has been contemplated but has not progressed far. Although the current plans for two new residential colleges include more space for undergraduate arts, this project is now on hold because of the economic situation. All of these points are high on the agenda of Dean Miller and will be a primary focus for the new associate dean for the arts.

Majors and Assessment of Student Learning in the Major

Description. Yale College offers more than seventy-five academic programs from which every student must choose a major. Upon nomination by the program chair, the dean of Yale College appoints a director of undergraduate studies (DUS) for each program. The DUS is a faculty member charged with primary responsibility for the undergraduate curriculum and the advising of students electing a major. The DUS works closely with the chair, the other faculty holding appointments or offering undergraduate courses in the program, and a student advisory committee. The number of course credits required to complete a major varies by program and the number of prerequisites, but the average number is 12 to 14 courses, and all

programs have a senior requirement, which may take the form of a senior essay, a senior project, one or more senior seminars, or a departmental examination.

Appraisal. One significant change brought about by the 1999 NEASC review process was the creation in the fall of 2000 of a new faculty Committee on Majors (COM) that oversees evaluation of existing majors and consideration of new majors. Each year, the COM reviews four to six majors by conducting surveys of recent alumni, meeting with student majors and the DUS and chair of the program.[1] One concern that the COM was charged to monitor was the proliferation of majors, so the committee has established stricter standards for approving new majors. Faculty proposing a new major must develop a compelling rationale and design for the major and demonstrate sufficient undergraduate interest and an adequate resource base for staffing courses and advising. The proposal must also compare the proposed program to ways in which its study is organized at peer institutions. Given that the addition of a new major is not tied to any increase in the size of either the Yale College faculty or the student body, the COM also seeks to learn which other programs might benefit or lose courses or enrollments. Interdisciplinary programs without power of appointment are especially scrutinized to ensure that there are adequate and sustainable faculty and administrative resources.

Some departments have also initiated internal reviews of their undergraduate curriculum, independent of the COM (e.g., Physics). These internal reviews are supplemented by those of visiting committees from outside the University, which are conducted under the auspices of the Office of the Provost and the University Council. This overlapping system of evaluation has brought benefits both to the programs under review and to the faculty and students as a whole. These benefits include improvements in advising, especially guidance for senior theses/projects and restructuring of curricula and requirements.

During 2007–08 the Course of Study Committee undertook a comprehensive review of senior project requirements throughout Yale College. The review included an inventory of practices in each major program, a query to department chairs about the intellectual goals for their majors and the ways in which the senior requirement reflects and supports those goals, and input from over 1,300 alumni from four recent classes. The committee's report to the faculty includes a compendium of "best practices" gleaned from the alumni survey and makes recommendations to the College and to departments. The committee reaffirmed the value of departmental autonomy within the structure of Yale College, noting that "disciplinary specificity is vital to the design of the senior requirement . . . [and] there could and should never be a uniform senior requirement across Yale College."

There is also a level of scrutiny applied to the very best student work through the awarding of prizes. Thus departmental assessment of student work is not confined to simply ensuring that all students meet some appropriate minimum standard, but very close attention is paid to the highest levels of achievement.

For the purpose of this self-study report, the steering committee asked the departments that sponsor our six largest majors (Biology, Economics, English, History, Political Science, and Psychology) and the several departments that collectively sponsor our undergraduate

---

[1] A list of majors reviewed since the last NEASC visit is given in Appendix 4B.

engineering majors to provide specific information about their programs to include in this self-study report. Their responses are summarized in Dataform E3. Although these programs are vastly different in many respects, they share common goals and challenges. Each seeks to give students broad exposure to their field of study, while also encouraging the highest levels of specialized research. Each must balance the need to provide introductory service courses to a large number of non-majors with the need to supply upper-level seminars to their majors. Each recognizes the importance of mentoring within the major, but they all face the difficulty of fostering close relationships within a large department. Each gives serious attention to their senior projects, but they are all looking for ways to provide more support for students to complete them.

In general, we have found that there is a consistent effort across the departments to evaluate their curriculum and requirements to make sure that they reflect the educational aims of their program. We have also found that all current major programs are academically solid and appropriate as a component of a liberal arts education. There is, however, some concern that there might be too many variants on what constitutes a major and insufficient coordination among those that are competing for resources. A few large, departmentally based majors seem understaffed; a number of junior and senior seminars in some of our larger majors are taught by short-term visitors. Some large programs also face challenges in providing advising and administrative support. There are also interdisciplinary programs without any primary faculty appointments that must negotiate annually for courses with little to bargain with in return, and some joint majors between departments that offer few courses of their own. There is also concern that students cluster in a small number of majors.

Future agenda. The COM has provided important new levels of oversight in the evaluation of existing majors and in the consideration of new majors, but their work for the most part has been conducted by reviewing one major at a time, which can miss some of the larger educational questions. The committee plans to give more attention to looking at similar groups of majors at the same time. For example, it recently reviewed all majors related to the visual and performing arts and all of our "area studies" majors sponsored in collaboration with the MacMillan Center for International and Area Studies. These thematic reviews have allowed the committee to identify common issues and make recommendations based on the successes of similar programs.

An item currently on the committee's agenda is a proposal from some departments to offer an optional minor. The College has heretofore not offered minors, and the proposal brings up some of the same issues concerning majors noted above: teaching and advising resources, intellectual coherence, common standards, the impact on enrollment in other programs, and the overspecialization of student experiences. The committee made a preliminary report to the faculty in May 2009, citing some of the potential advantages and drawbacks to offering a system of minors. The committee will continue to investigate this option in 2009–10 and discuss specific proposals from departments before making a recommendation to faculty.

Other CYCE Recommendations

Small Courses in the Freshman and Sophomore Years

Description. Yale College launched the Freshman Seminar program in the fall of 2004. The program is administered through the Yale College Dean's Office under the oversight of a faculty advisory committee. Beginning with 11 seminars, the program has more than quadrupled in size to over 45 seminars for 2009–10, enrolling an average of 475 students each year. Freshman seminars build on the success of two long-standing special academic programs for freshmen, Directed Studies and Perspectives on Science, which enroll an average each year of 125 and 60 freshmen, respectively. In addition, a large number of small, discussion-based courses in writing and literature are offered primarily for freshmen through the English department and enroll an average of 1,400 students (freshmen and upperclass students) annually.

Appraisal. Student interest in the Freshman Seminar program has been very high. The number of student applications has nearly doubled from 419 students in 2004–05 to 837 students in 2008–09. The most popular seminars can attract well over 100 applications. During the 2008–09 academic year only 72% of applicants were offered a place in a seminar. It is also of some concern that a disproportionately low number of first-generation college students, public high school graduates, and students with lower verbal SAT scores, who might especially benefit from a Freshman Seminar, enroll in one.

The CYCE recommendation also called for more seminars for sophomores. On this point, we have made little progress. Indeed, many sophomores complain that the problem has only worsened since creation of the Freshman Seminar program because they now have the lowest priority on campus. They are ineligible to take Freshman Seminars and frequently do not have enough seniority or previous experience to take upper-level seminars.

Future agenda. The challenges to expanding the number and breadth of courses in the Freshman Seminar program are both individual and institutional. Although faculty report that teaching in the program is rewarding, they also find that Freshman Seminars require more work than other kinds of teaching and result in a "long tail" of responsibilities as many of their students become sophomore advisees and senior essay advisees. Indeed, one of the goals of the program is to foster these kinds of relationship, but they do create an extra burden for faculty beyond simply teaching the course. As a consequence, though many faculty enjoy teaching in the program, they have to count the cost of doing so, and they usually commit to teaching only once every several years. In addition, departments have to balance the value of offering Freshman Seminars with the needs of their majors and demand for service courses. Consequently some departments with a large numbers of majors, such as Political Science, offer very few Freshman Seminars.

The Freshman Seminar Advisory Committee will continue to discuss some strategies for increasing the number of Freshman Seminars with Dean Miller. One recommendation, initially proposed by CYCE, would make it an expectation of all faculty in the humanities and social sciences to teach a seminar designed for freshmen (such as Directed Studies, a Freshman Seminar, or an introductory English course) at least once every three years. Such an expectation might help recruiting efforts but could compound problems for departments

having difficulty providing enough upper-level seminars. Dean Miller recently announced creation of the Yale College Seminar Office to centralize existing resources and efforts to maintain a vibrant Freshman Seminar program and renew our long-standing commitment to residential college seminars. She has also recently appointed a senior faculty member to serve as DUS for the freshman program and to assist with its promotion.

Globalization and International Study

Description. Historically, most Yale students have opted to stay in New Haven for the duration of their undergraduate careers. While Yale has had strong engagement in some non-U.S. locations for some time (notably the Yale-in-London program and the Light Fellowships for language study in East Asia), Yale as an institution has not explored international opportunities for undergraduates as extensively as some of our peers. The CYCE strongly recommended that Yale work to support much broader opportunities for global education. These might include not only formal study abroad, but also internships and research experiences abroad that do not carry academic credit, and enhanced opportunities for non-U.S. students to come to New Haven. To implement this recommendation, Yale created the Center for International Experience (CIE), directed by a new associate dean for international education.

The expansion of study abroad over the past five years is one of the most dramatic changes in Yale College since the CYCE report. The number of students participating in an international experience has more than doubled from 550 in 2003–04 to 1,229 in 2007–08 (see Table 4.1). Indeed, this number nearly meets the CYCE goal of annual participation equivalent to a Yale College class, with the ultimate goal of at least one international experience per Yale graduate. Many new programs have been established, notably including the joint Yale undergraduate program at Peking University in Beijing and many summer study and internship opportunities (see the Center for International Experience 2007–08 Annual Report for more information). The online Student Grants and Fellowships Database brings together in a comprehensive and searchable resource those grants and fellowships funded and/or administered by Yale, many of which are open only to Yale students. We also have made a large institutional commitment to provide funding for summer opportunities for students receiving financial aid through the International Summer Award (ISA) program. More than 300 students now receive ISAs each summer for study, research, and internships abroad. These developments, together with an associated change in attitude among faculty, students, and administrators, have resulted in many more students taking advantage of a much wider range of opportunities. These experiences generally take place during the summer; a modes number of undergraduates leave New Haven during the academic year.

Appraisal. The CIE has created much more effective tracking of international experiences by undergraduates, and in 2008 it developed systems to aggregate data from many different offices about international experience, to link such data to student attributes, and to track trends over time. Now that the software and organization are in place, more sophisticated assessment of the wide range of international engagement of Yale students is possible. CIE has also created online evaluation forms for students receiving summer fellowships to report on their experiences. Students' assessments are overwhelmingly positive, but this initiative has not yet risen above the level of a satisfaction survey.

Table 4.1. International Experiences in Yale College 2003–2008

Program	2003–04	2004–05	2005–06	2006–07	2007–08
Academic year study abroad	156	158	144	199	152
Yale Summer Session (YSS) abroad	75	150	209	213	310
Summer study (non-YSS)	103	120	178	180	214
Summer Internships	40	92	196	231	258
Research and independent projects	176	206	250	269	295
TOTALS	550	726	977	1,092	1,229

Source: Center for International Experience 2007–08 Annual Report

Future agenda. CIE is now developing a wide-ranging assessment program with a pilot in 2009–10. Using the Light Fellows, control groups, and study abroad and internship participants, the CIE will apply assessment tools validated in the field of international education and report on learning outcomes for our students on an ongoing basis. The challenge of this initiative is that existing assessment tools are not all we would wish, and it can be difficult to know what correlations are truly causal, and what changes in student attitudes and perceptions are due to maturation and other factors not directly attributable to international experience. Also beginning in 2009, Undergraduate Career Services (UCS) is instituting a performance review and assessment project for internship supervisors and participants abroad. We will thus review both academic and nonacademic programs abroad to ensure that the support provided to our students will enable them to develop their understanding of their host environments as effectively as possible.

Connections between the College and Professional Schools

Another important CYCE recommendation was to find ways to harness the power of Yale's professional schools more effectively for education in Yale College. In some schools, notably Art, Architecture, Drama, Forestry & Environmental Studies (F&ES), and Music, significant connections were already established, but these were limited by resources and by a lack of understanding of how resources could be tracked between the professional schools and the College. The new associate dean for the arts should greatly facilitate coordination between Yale College and the professional schools in the arts. Courses in Environmental Studies, frequently taught by F&ES faculty, expanded from 11 in 2003–04 to 21 in 2008–09. The CYCE also suggested that Public Health might benefit from connections between the College and the professional schools.

Since 1999, three small joint programs have been developed between Yale College and professional schools: (1) The five-year joint degree program between the School of Forestry & Environmental Studies and Yale College allows undergraduates who want to pursue a career in the environmental field to earn either a Master of Environmental Science (M.E.Sc.) or Master of Environmental Management (M.E.M.) degree; (2) the Select Program in Public Health offers Yale College students interested in the field of public health the opportunity to earn a bachelor's degree from Yale College and an M.P.H. degree from the Yale School of

Public Health in a five-year joint program; and (3) the Silver Scholars Program admits a select handful of Yale College seniors to a three-year M.B.A. program at the School of Management.

Advising

Description. Our advising system provides general and pre-major advice through the residential colleges and offices allied to the Yale College Dean's Office, such as the Office of Fellowship Programs, Undergraduate Career Services, and the cultural centers. Specific advice about courses and majors is provided through the faculty and DUS offices of academic departments. The CYCE noted that, despite some deficiencies, our system works relatively well, but the committee recommended a number of changes, Among recent improvements have been increasing the attention paid to academic advising during freshman orientation, giving students more formal opportunities to meet with their residential college dean and other advisers, and providing more centralized advising support to the colleges and departments from the Yale College Dean's Office.

Appraisal. Despite these enhancements, we are conscious that more work can be done to improve the advice students receive and make advising relationships more meaningful. To help give more formal attention to advising, the purview of the Committee on Teaching and Learning was recently broadened and it is now the Committee on Teaching, Learning, and Advising (TLA). During the 2008–09 year this committee began a comprehensive review of all aspects of advising, from freshman year to senior essay advising. Much of the information gathered by the committee so far has confirmed long-standing opinions about the strengths and weaknesses of our current system, but their review has been more systematic and the recommendations more concrete than in past reviews.

Future agenda. The TLA committee has made a preliminary report to the dean and will continue its review of advising practices across the College during 2009–10. In the meantime, we are beginning to implement some of the committee's initial recommendations, including the following:

- Develop an "Adviser's Web Portal" to improve the delivery of information to advisers
- Improve the training materials for advisers to clarify the goals of freshman advising and the expectations of advisers
- Improve advising publications for students to educate them about their role in the advising process
- Devote more attention to transitions: from freshman to sophomore year, and from sophomore year to choosing a major
- Develop a better system for recognizing the work of advisers in the departments and in the colleges
- Promote more sharing of good advising models among residential college deans and DUS offices

Assessment and Support of Teaching

Description. One of the primary NEASC recommendations in 1999 was that Yale should completely revamp its system of student course evaluations. This was accomplished through the [Teaching and Learning Committee](), which recommended an online evaluation system that was adopted by the faculty and has now been in operation for seven years. Response rates have ranged from 81% in fall 2002 to 90% in fall 2008. A subsequent review of the system more recently resulted in implementation of a number of new recommendations. The heart of the system is the idea that students who complete the online forms receive early access to their grades; this has resulted in a very high rate of completion for the online system. We believe that Yale has moved from a weak position to one of great strength in this area.

Support for teaching has also improved. As noted above, new centers for pedagogy have been created in science and quantitative reasoning and in international study; existing teaching centers in writing and language study have been enhanced. In addition, a very active [Graduate Teaching Center]() helps graduate Teaching Fellows improve their teaching skills, and our programs for supporting IT in the classroom have been strengthened. Thus we have improved feedback on teaching and have generated the facilities and resources necessary to respond positively to constructive criticism.

Appraisal. The new course evaluation system appears to work very well. There is a very good response rate (better than 80%), and many instructors report that the quality of student comments is high. There have been only a few instances out of over 200,000 evaluations in which the protocols established to remove abusive comments from the system had to be invoked. The feedback to students has been improved to the extent that Yale students almost never resort to commercial evaluation sites like RateMyProfessor.com. All of the individual teaching centers are very strong and active, both for faculty support and for tutoring and helping students. However, since there is no overarching teaching center, some disciplines and types of courses have less support than others, and it is not clear that faculty are fully aware of all the options for support.

Future agenda. One key set of recommendations from the recent review of course evaluations concerned the use of student evaluations for promotion and hiring. Clearly an assessment of teaching is important for such decisions, and student evaluations should have appropriate weight in that process. But there are dangers in relying solely on the opinions of students immediately upon completion of the course. Therefore the committee recommended that such evaluations only be used in conjunction with other systematically collected sources of teaching assessment. Thus far, however, little attention has been paid to what kinds of other assessments of teaching might be obtained and how they might best be collected. Whether Yale should consider creating an overarching teaching support organization that would contain all the various current teaching centers is likely to arise in the context of the 2010–11 evaluation of the CYCE initiatives.

Graduate and Professional Schools

Yale is much more than just a college, and indeed its standing as an international research university is embodied in the strength and attractiveness of its graduate and professional programs.

Graduate School of Arts and Sciences

Description. Fifty-four departments and programs offer courses of study leading to the Ph.D. degree. In 2008–09 the Graduate School community included 2,700 graduate students—about 2,300 in doctoral programs and 400 in master's programs—and a faculty of 900. Currently each entering class is made up of about 500 students selected from an annual applicant pool that has ranged in recent years from 7,000 to 9,000 prospective students. Yale's Graduate School alumni have pursued careers in colleges and universities, research laboratories, government, the nonprofit sector, and private industry. Their education equips them for leadership roles in all these callings. A major change over the past decade is that all Ph.D. candidates are now guaranteed full financial support for the expected duration of their programs.

Appraisal. The programs in the Graduate School are largely overseen by the individual departments. However, enrollment levels in each program are regulated by the Graduate School of Arts and Sciences in accordance with the intellectual resources available at Yale in that field, as well as the demonstrated record of a particular program for mentoring students toward completing the dissertation in a timely manner and obtaining suitable employment.

The Graduate School recently completed a project (the "2–4 Project") in which it worked systematically with administrators and doctoral students to evaluate each program's success at guiding students through the transition from course work to independent research. This process has generally enhanced communication between students and faculty and, in some cases, resulted in revisions to the structure of qualifying examinations and newly offered workshops early in the program that directly support the goal of developing a research prospectus.

Few universities provide "vital statistics" for each program (e.g., time to degree, graduation rates, and career data) as extensive as those posted on the Yale Graduate School Web site. These statistics illustrate the commitment of the Graduate School to offer prospective students realistic portraits of the expected duration of graduate education and possible career outcomes.

Future agenda. Over the past year, the dean of the Graduate School and the president of the University have hosted a series of conversations with many faculty members on the future of graduate education. Together, the faculty conversations and the earlier "2–4 Project" may lead in the next several years to a full review of Ph.D. programs comparable in scope, if not focus, to the CYCE review of the College.

Professional Schools

Yale's professional schools also engage in continuous program improvement, including the following examples.

School of Management. Of note is the redesign of the first-year core curriculum in the School of Management, introduced in 2006. The core of the new curriculum is a series of nine multidisciplinary courses, taught by teams of senior faculty. The sequence culminates in the Integrated Leadership Perspective class, which gives students practical experience in synthesizing the lessons of the core through a series of case studies and group projects. To

support the multidisciplinary nature of the curriculum, the online case studies feature "raw" source documents, reflecting the way managers must access and analyze information to make informed decisions. Other elements of the program fulfill the school's leadership mission by developing personal leadership skills and aligning students' professional goals with their values and aspirations.

Law School. To support its mission of serving the public interest, the Law School recently implemented major changes to enhance the public interest program and improve financial support for its alumni. These changes were recommended by a faculty-administration Public Interest and Financial Aid Committee formed by former Dean Harold Koh in 2004. These changes include substantial increase in the loan forgiveness program, doubling the number of postgraduate public interest fellowships from fourteen to twenty-eight, and increased funding for summer public interest opportunities.

School of Medicine. Dr. Robert J. Alpern was recently appointed to a second term as dean of the School of Medicine. Over the past five years Dean Alpern has overseen an expansion of the medical school's research and clinical operations, some details of which are discussed in Standard 9, and has greatly improved the relationship between the School and Yale–New Haven Hospital. The School of Medicine also launched a strategic planning process for medical education in 2008, focusing on innovation in teaching and reinforcement of the Yale system of medical education. This approach emphasizes personal responsibility for learning, strong education in fundamental principles, and training in methods of investigation.

School of Nursing. The Yale School of Nursing is phasing out the Doctor of Nursing Science Program and launched its Doctor of Philosophy in Nursing program (administered by the Graduate School of Arts and Sciences) in fall 2006. The new Ph.D. program builds on the school's commitment to clinical practice and clinical research. (Yale is ranked seventh among schools of nursing in receipt of NIH funds.)

STANDARD FIVE: FACULTY

The acid test of any university is its ability to attract and hold a faculty of outstanding distinction. The success which the University enjoys in this respect is probably the most objective and accurate measure of its reputation; and while reputation may sometimes be influenced by other things, in the long run, in this particular measurement, it rests on intrinsic worth. Thus whatever we may say or think about Yale, nothing speaks with more authority than Yale's success (or lack of it) in this notoriously unsentimental, highly competitive professional practice.

—A. Whitney Griswold, President of Yale, 1950–1963

Introduction

The combined faculties of Yale University include approximately 3,600 members, divided among the Faculty of Arts and Sciences (FAS, which serves both Yale College and the Graduate School of Arts and Sciences) and twelve professional schools: Architecture, Art, Divinity, Drama, Engineering & Applied Science, Forestry & Environmental Studies, Law, Management, Medicine, Music, Nursing, and Public Health.[1] Each of these faculties includes tenured faculty, nontenured ladder faculty, and non-ladder faculty such as lecturers, lectors, and research scientists. The size of the faculty at each school for the 1998–99 academic year and the 2008–09 academic year is shown in Figure 5.1 (following page) and documented in detail in Appendix 5A. Total faculty headcount has grown 32% over the last decade, with the greatest contribution to that increase deriving from a net increase of 482 faculty members in the Medical School. This self-study report will focus on FAS, although it is important to recognize that the ranks, standards, regulations, benefits, and procedures of FAS faculty provide the model for most of the other faculty, with the *Faculty Handbook* spelling out relevant differences. FAS faculty has also grown over the last decade, though less dramatically than the professional school faculty. The total FAS faculty has increased from 933 to 1,109 over this decade, including an increase of 72 tenured faculty members. Despite efforts to expand and improve the science departments, fewer scientists have been added to the ladder faculty in the last decade than in the humanities plus social sciences.

FAS faculty are organized into four divisions: Humanities, Social Sciences, Physical Sciences and Engineering, and Biological Sciences. There is no dean of FAS at Yale; many of the responsibilities elsewhere carried out by such a dean are divided among the dean of Yale College, the dean of the Graduate School of Arts and Sciences, and the provost. Governance of FAS is formally in the hands of the FAS Executive Committee, composed of the president, the provost, the dean of the School of Engineering & Applied Science, the dean of Yale College, and the dean of the Graduate School.

---

[1] See Standard 3 for recent designation of Epidemiology and Public Health and Engineering & Applied Science as professional schools.

Figure 5.1: Faculty Headcounts, 1998–2009
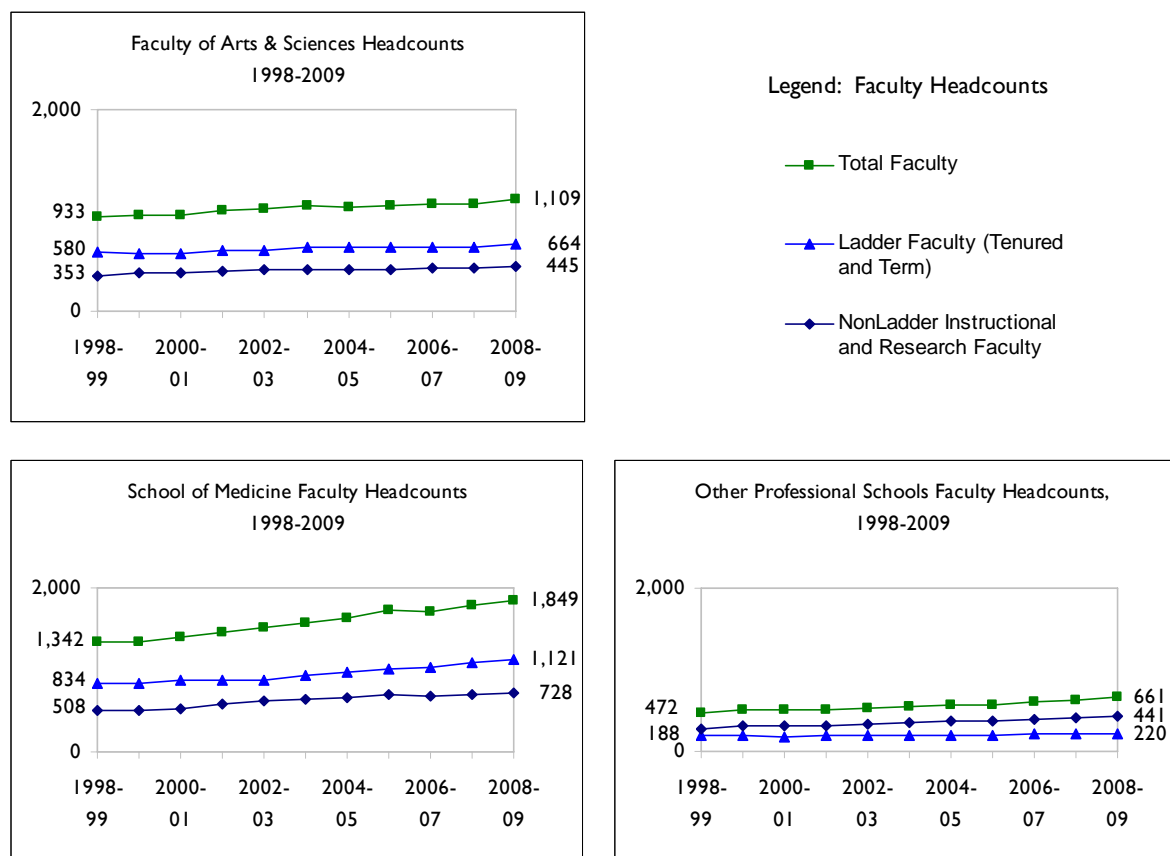
The number of FAS faculty is quite large relative to the number of students in Yale College and the Graduate School. There are approximately 664 full-time ladder faculty to teach 5,277 undergraduates and 1,003 full-time graduate students (M.A., M.S., and Ph.D.) in the first and second years of study. That is a ratio of less than 10 to 1 for those groups. Faculty bear, of course, additional teaching responsibilities for graduate students who are no longer taking courses, but there are also approximately 300 non-ladder faculty and a small number of graduate students engaged in teaching courses.

Course loads differ by discipline, but all Yale ladder faculty teach, and virtually all FAS ladder faculty teach undergraduates. Excusing faculty from undergraduate teaching responsibilities has never been used as tool in recruiting or retention. Faculty who are recruited to Yale understand and for the most part appreciate its commitment to undergraduate instruction. Faculty also play an important role in student advising; this is discussed at length in Standard 4.

Faculty also are heavily engaged in the management of the institution. A list of FAS and university-wide committees composed largely of faculty members is included in Appendix 5B. Faculty responsibilities and policies are described in the *Faculty Handbook.*

While there are differences among departments and among the divisions of Yale, it is widely recognized that members of the FAS faculty at all ranks are highly productive

researchers and scholars. Institutions often rely on the National Research Council Survey of Research-Doctorate Programs (NRC) rankings of departments as a benchmark, since faculty scholarly output is a major component of these rankings. Unfortunately, NRC rankings of our departments have not been available since Yale's last reaccreditation report. Appendix 5C shows the most recent NRC rankings, when available, for Yale departments alongside the less reliable but more timely rankings provided by *U.S. News and World Report.* (The U.S. News and World Report survey of peers is far less extensive than the NRC's, and some quantitative measures such as department size are given considerable weight in the rankings.) It is, of course, easier to attract the very best scholars to departments with the highest rankings, but faculty in all departments strive to make appointments that will maintain or increase the national reputation of the department. In order to serve these ends, the administration engages in extensive recruiting efforts, including mortgage assistance and placement for partners. These recruiting efforts can be difficult and expensive, especially in the sciences with large laboratory set-up costs. An important indication that Yale is successful in this endeavor is that each year Yale is generally able to recruit more faculty members from tenured positions at other institutions than the number of tenured members of the Yale faculty who leave for positions elsewhere.

Future faculty growth will be constrained by economic resources and, in many cases, facilities. However, two opportunities will make strategic growth of the faculty possible in the coming years. First, the eventual expansion of Yale College will afford some opportunities to hire in departments where teaching needs are expected to increase relative to current faculty teaching capacity. Second, planned improvements in science facilities on central campus and the new West Campus facilities should increase the attractiveness of our science departments to recruits.

If Yale departments are to continue or to increase their success in national reputation—especially if they are to accomplish this without imprudent expenditures of University resources—it is critical that each department develop a coherent strategic plan to guide the allocation of departmental resources, the design of departmental programs, hiring strategies, and junior faculty mentoring. There are currently two main mechanisms by which this process takes place at Yale.

First, for each of the four FAS divisions, the president appoints a Divisional Advisory Committee. These committees meet regularly with chairs of departments and programs and among themselves to provide advice to the deans and provost about the quality and effectiveness, as well as the appointment needs, of departments in their division. They also review recommendations made by departments to promote assistant professors to associate professors without tenure and to appoint individuals to tenured positions.

Second, FAS has reestablished periodic external departmental reviews. The processes for these reviews are discussed more fully in Standard 2. As part of each review, the department conducts an in-depth self-study of its programs and faculty. Evaluation of the research trajectory and productivity of the faculty as well as the teaching effectiveness of the department are both important components of these reviews. Recommendations of the external committee are reviewed by the Divisional Advisory Committee, the cognizant dean, and members of the provost's office.

The advice of the divisional committees and of the external reviewers are important factors in the ultimate assignment of resources to each department, including, most importantly, the assignment of faculty slots. Major decisions involving the implementation of each department's plans, including the allocation of faculty slots to departments, are undertaken in weekly meetings of the FAS Steering Committee. The FAS Steering Committee is composed of the dean of Yale College, the dean of the Graduate School, the dean of the School of Engineering & Applied Science, the provost, and the deputy, associate, and assistant provosts. Appropriate members of the Office of the Provost and the cognizant dean meet periodically with the chair of each department to discuss both routine implementation of departmental business and the department's strategic planning for the future. As is perhaps endemic to these governance structures, it is a constant struggle to ensure that the exigencies of daily departmental business do not overwhelm the focus on long-run departmental strategy.

The remainder of this self-study chapter highlights five areas of faculty policy at Yale, either areas for which significant changes have recently been made that must be evaluated carefully in the future or areas that we believe will present important policy challenges in the coming decade. Specifically, we review:

- Appointment and tenure procedures
- Challenges in improving faculty diversity
- Role of non-ladder faculty at Yale
- Role of graduate students in Yale College
- Changing age distribution and retirement patterns of the Yale faculty

Appointment and Tenure Procedures

### Description

In its 1999 report on Yale's reaccreditation, the Visiting Team questioned the wisdom of Yale's adherence to a slot-based promotion system that did not offer a tenure track to nontenured faculty. Under this system the department of a nontenured faculty member nearing the end of his or her contract chose whether to request a tenured slot for the nontenured faculty member. Evaluation for tenure began only if a slot resource for a tenured faculty member was provided to the department. Internal candidates for tenure were evaluated in an open search in competition with external candidates. Of these procedures the team wrote: "The question of the tenure system at Yale continues to be controversial, perhaps the most divisive single issue on campus." They observed that for nontenured faculty, "the perception of low tenure prospects…is a continuing problem" and that "the understanding of the system…is not the greatest."

The message was reinforced when the Yale Corporation interviewed members of the FAS faculty during the course of its 2004 institutional assessment. In 2005 the provost charged a committee of faculty with evaluating Yale's appointment procedures. In 2007 the FAS faculty unanimously adopted recommendations of the [Report of the Faculty of Arts and Sciences Tenure and Appointments Policy Committee](#) (FASTAP), creating a new system of tenure and promotion effective July 1, 2007. The primary change is the adoption of a tenure-track system; the resources required to support the promotion of a nontenured faculty member are created when the faculty member is initially hired by the University. All nontenured associate

professors in the penultimate year of their Yale contracts are entitled to evaluation for tenure. The new system abandons the open search; internal candidates are evaluated on their own merits, though comparisons with named individuals in the field are requested. The referee letters now used resemble more closely those employed throughout American higher education. The new procedures shorten maximum time in the nontenured ranks from ten to nine years and create a system of guaranteed full-year research leaves at full pay. Appendix 5D shows a comparison of the major features of the old versus new tenure and appointment procedures. Figure 5.2 displays the timeline for a nontenured assistant professor entering Yale under the new system.

Figure 5.2: New FAS Promotion and Tenure Timeline
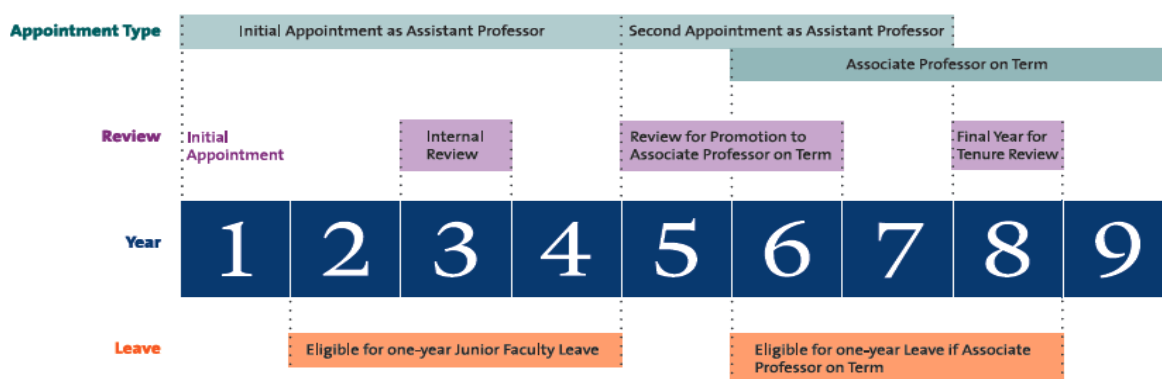
One unusual feature of Yale's system remains unchanged by the new procedures—the tenure system is entirely faculty-driven. To be granted tenure, a faculty member must receive a positive vote first from his or her department, then from the divisional tenure appointments committee, and finally from attendees at a meeting of all full professors in the Faculty of Arts and Sciences (the Joint Boards of Permanent Officers of the College and Graduate School). Although the president has the power under the Yale Corporation By–Laws not to do so, the president approves and transmits nominations for tenure appointments to the Corporation, whose action is the final step in the appointment. Grievance procedures outlined in the *Faculty Handbook* apply to claims that University policies were not followed, charges of unfair or inadequate consideration, and allegations of discrimination, but grievances may not consider "substantive issues of professional competence."

Appointments of all new nontenured faculty entering Yale have followed the new promotion procedures since July 1, 2007. During the 2007–08 academic year, existing nontenured faculty were given a choice of joining the new system or remaining on the old system. Of the 183 nontenured faculty eligible to choose between the new and old systems, 158 chose the new system and 25 chose the old one. Given the popularity of the new system, we believe that it will benefit Yale's ability to recruit nontenured faculty.

The 1999 Visiting Team commented not only on the lack of understanding of the tenure system by nontenured faculty, but also on the more general lack of nontenured faculty mentoring at Yale. These findings were echoed in a Faculty Satisfaction Survey[2] commissioned by the provost's office in 2006–07 and stressed in the 2007 FASTAP report. While the survey results suggested that Yale faculty are on average very satisfied with their employment at Yale, a majority of nontenured faculty reported dissatisfaction with the level of transparency of the (old) tenure system and reported that they had not received adequate mentoring while at Yale.

The new FASTAP procedures require each department to formulate a departmental mentoring plan. The differences among these plans reflect substantial field differences across departments. However, many of these plans appoint formal mentors for each nontenured faculty member, require annual meetings between each nontenured faculty member and the chair, and create new opportunities for nontenured faculty to present their work informally to others in the department. Strategies to improve mentoring are incorporated into other FASTAP provisions. For example, each nontenured faculty member requesting a research leave must write a proposal that is evaluated by a committee of senior faculty in the department and discussed with the nontenured faculty member, so that the nontenured faculty member receives the committee's considered advice on his or her research plans in a collegial setting. While nontenured faculty mentoring is the primary goal of these changes, some senior faculty have commented that the procedures have created new opportunities for scholarly engagement, to the benefit of the intellectual environment for both senior and nontenured faculty.

Appraisal and Future Agenda

The fact that the overwhelming majority of existing junior faculty chose the new system is evidence that the new system is likely an improvement over the old. Yale clearly has undertaken a major change in its appointment and promotion policies, but it is simply too recent to be seriously evaluated. Going forward, we see two general ways in which the success of the new procedures should be appraised. First, in the timeframe of two to three years, a faculty committee aided by a faculty survey (to be implemented) should provide preliminary evaluation of whether the new system provides a satisfactory level of transparency and whether the new junior faculty mentoring scheme has led to improvements in the degree to which junior faculty receive feedback on their work. Second, the effect of the new system on the overall quality and productivity of the Yale faculty must be evaluated. However, these effects will become clear only over a longer time horizon; formal investigation of this question should be scheduled in the future.

Challenges in Improving Faculty Diversity

Description

Increasing faculty diversity has been a major objective since Yale's 1999 NEASC evaluation. At that time, then-Provost Alison Richard and President Richard Levin urged the faculty to

---

[2] The *Report on the 2006-2007 FAS Faculty Survey* is included in Appendix 5E.

search as broadly as possible, affirming that financial resources would not be a barrier in the recruitment of a more diverse faculty to the University. In a 2005 letter to the Faculty of Arts and Sciences, the president and then-Provost Andrew Hamilton announced plans for a renewed initiative to increase faculty diversity in FAS. The initiative reaffirmed that resources would not be a barrier to hiring a more diverse faculty and also set an explicit goal of adding thirty new minority faculty over the following seven years, and of increasing the number of women faculty by thirty in those departments where women are currently underrepresented (the physical sciences, the biological sciences, Economics, Mathematics, and Statistics).

Figure 5.3 and Appendix 5F show current and historical snapshots of faculty composition including a detailed racial/ethnic breakdown. Nearly every minority group has increased its representation substantially at the University over the past decade. However, progress has been uneven across groups. For example, the University's second Native American faculty member is scheduled to arrive in fall 2009, and the increase in Hispanic faculty has been small relative to the increase in African American and Asian faculty.

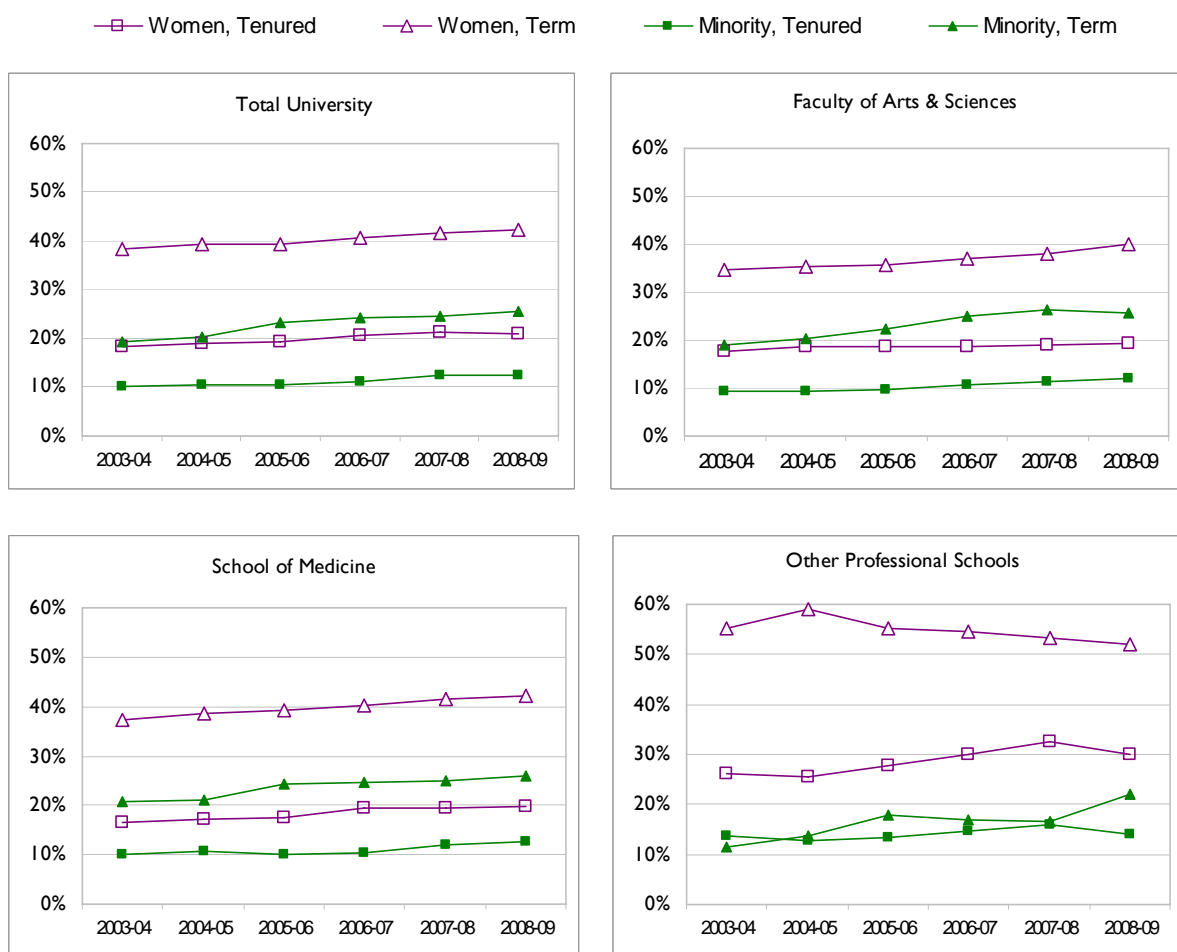**Figure 5.3: Faculty Headcounts, % Women and Minority by Rank and School**

Table 5.1 shows the progress in recruitment and retention of women and minorities in FAS since the inception of the new diversity initiative four years ago. The table shows net additions of twenty minority faculty and net additions of sixteen women faculty in those fields where they are underrepresented. Yale is ahead of the targeted pace to achieve the goal of thirty additional minority faculty in seven years and is slightly behind pace to achieve the goal of thirty additional women in underrepresented fields.

Table 5.1: Progress on FAS Diversity Initiative, FY 2006–07 to FY 2009–10

Nontenured Faculty

	New Hires	Promoted	Resigned		Net
		–	–		
Men (sciences)	36	16	14		+6
Women (sciences)	21	3	7		+11
Minorities	34	12	21		+1
Non-minorities	120	28	79		+13

Tenured Faculty

|	New Hires	Promoted	Resigned	Retired	Deceased	Net
		+	–	–	–	
Men (sciences)	13	16	8	13	1	+7
Women (sciences)	4	3	1	1	0	+5
Minorities	9	13	1	2	0	+19
Non-minorities	44	28	14	26	2	+30

Note: Sciences also includes Economics, Mathematics, and Statistics

Figure 5.4 on the following page compares Yale's representation of women and minorities in FAS to that of peer institutions. Yale's representation of minorities is similar to that of its peers at the nontenured level, but lags behind them at the tenured level. Also of concern is that Yale ranks last in the percentage of women in the biological sciences compared to its peers, in nontenured and tenured ranks (detailed peer comparisons are not shown).

Although recruitment is crucial, retention of minority and women faculty is also important to achieving Yale's diversity goals. Appendix 5G presents an analysis of tenure rates across entering cohorts of new assistant professors, comparing eventual tenure rates for men vs. women and minorities vs. non-minority. We focus on the 1985–1999 cohorts because most members of these cohorts have had their tenure status resolved. The tables suggest comparable tenure rates for women vs. men and minority vs. non-minority faculty at Yale. However, retention of women and minority senior faculty in these groups has been challenging. For example, Yale's Office of Institutional Research reports that, for the cohorts of assistant professors arriving from 1985 to 1999, of the 26 women who eventually received tenure, 35% (nine) have subsequently departed Yale. In contrast, of the 71 men who received tenure from these cohorts, only 8% (six) have subsequently departed Yale. This bears

particularly on Yale's difficulty with achieving representation of women in the sciences; four of the eight women in these cohorts who received tenure in the sciences have subsequently departed Yale.

**Figure 5.4: % Women and Minority FAS Ladder Faculty by Tenure Status
Yale vs. Select AAU Peers, 2007-08**

☐ Yale ☐ Peers
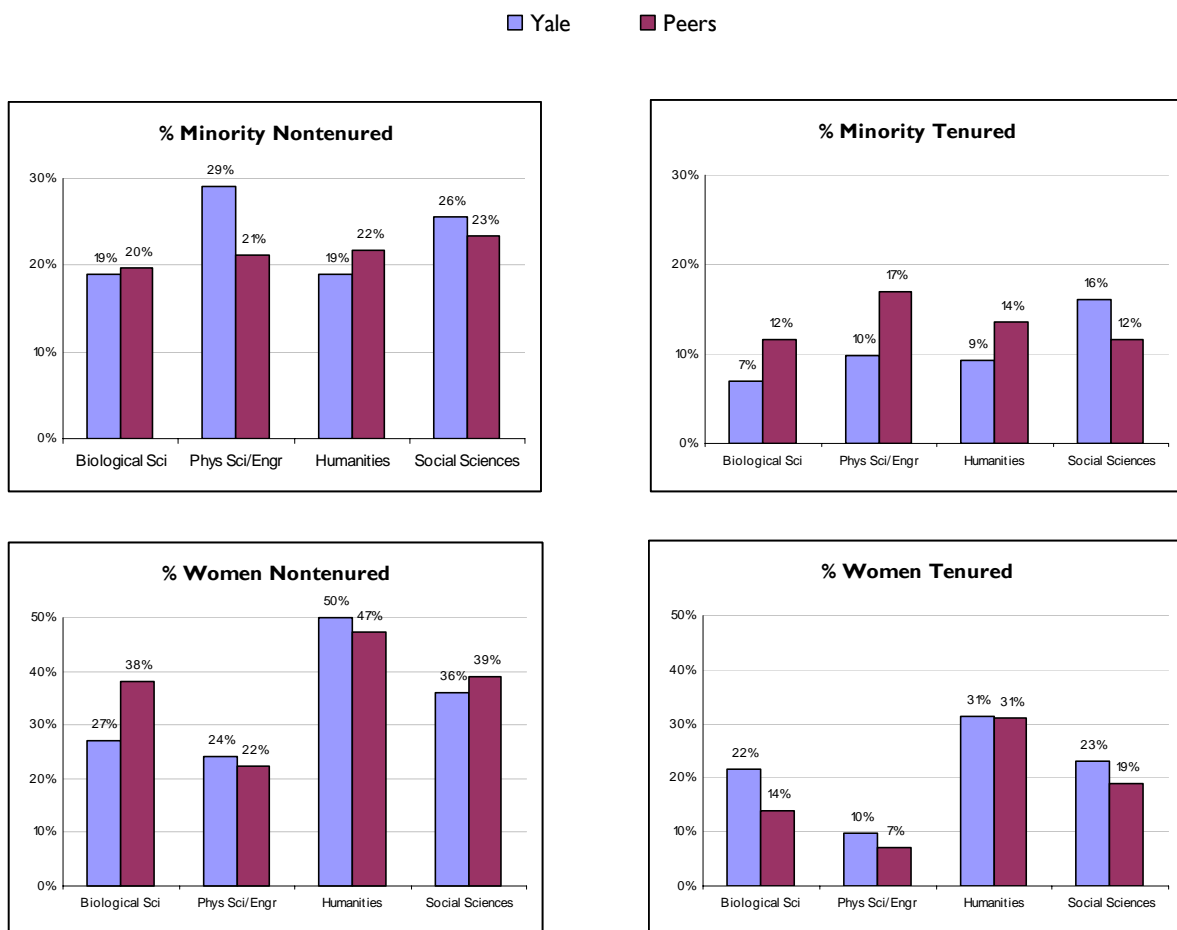
The disparity between minority and non-minority faculty retention is less stark than the disparity in retention of women vs. men, but still suggestive of a problem. For the cohorts of assistant professors arriving from 1985 to 1999, of the 15 minorities who eventually received tenure, 27% (4) have subsequently departed Yale. Of the 82 non-minority faculty who received tenure from these cohorts, only 13% (11) have subsequently departed Yale.

Many initiatives have been undertaken in FAS with the aim of increasing faculty diversity in addition to the policy of making incremental resources available for diversity opportunities. The new initiatives are detailed in Appendix 5H.

Assessment and Future Agenda

Of course, there are many areas for potential improvement in the future. For example, Yale lags behind its peers in the representation of women in the biological sciences; furthermore,

the biological sciences have not had significant growth in women faculty since the onset of the diversity initiative. This raises the question why recruiting and retaining women in the biological sciences have been particularly problematic for Yale, even relative to its peer institutions.

Both geographic reality and traditional approaches to hiring may have contributed to the difficulty we have had in recruiting and retaining women in the biological sciences. According to a recent study of faculty at thirteen universities, more women than men who are in academic couples have domestic partners in their same field.[3] In the natural sciences, 83% of women scientists in couples are partnered with another scientist. As Yale is the only research-intensive academic institution in New Haven, to achieve gender diversity we must be prepared to be flexible in our hiring practices and to have the necessary resources for dual recruitments.

Child care is of particular importance to the recruitment and retention of women. In particular, the length of the training period prior to first faculty position for the biological sciences (at minimum six years' Ph.D. plus five years' postdoctoral training) puts women scientists in the midst of their child-bearing years as junior faculty. On site or nearby center-based child care accommodates the work-life needs of faculty of both genders across disciplines. While Yale has made some strides in expanding child care options, the long waiting lists for the existing centers close to the Yale campus in New Haven reveal that the need here is still great. This is particularly true for infant care, which is the most expensive child care to provide and the most sought after.

Our analysis suggests that Yale's track record in recruiting women and minorities has been better than its record in retaining them. The work-life satisfaction survey carried out by the provost's office in 2006–07 reveals perceptions about the climate at Yale that may affect retention of women and minorities. Women and minorities reported that they had fewer opportunities for career advancement than men/non-minorities, that they were more likely to feel excluded from informal networks, that they lacked mentors, and that they suffered from a lack of professional respect relative to their peers. University-wide climate change will be difficult and will take time, but several of the ongoing efforts reported above involve education of the faculty in unintentional bias and an attempt to provide rigorous mentoring for all junior faculty. To succeed in this requires continual emphasis of diversity goals in discussions with department chairs and also continued resource support of efforts by departments to improve junior faculty mentoring.

The Role of Non–Ladder Faculty in Yale College

Description

Non-ladder faculty in Yale College are teaching or research professionals who are not on a tenure-track contractual system. Non-ladder faculty whose primary careers are teaching in Yale College generally hold the titles of senior lecturer, lecturer, senior lector, or lector. The term "lector" is used in the language departments while the term "lecturer" is used in all other

---

[3] Schiebinger et al., *Dual Career Academic Couples: What Universities Need to Know* (Stanford, Calif.: Michelle R. Clayman Institute for Gender Research, Stanford University, 2007)

departments. Yale's formal policies regarding individuals holding the lecturer rank and the lector rank are laid out in the *Faculty Handbook* and are generally very similar. The title "senior lecturer" is generally reserved for individuals with at least six years of demonstrated excellence in teaching at the "lecturer" or a ladder faculty rank. The title "senior lector" similarly requires demonstrated excellence in language teaching, plus the capacity to carry out administrative or other department responsibilities such as directing specific courses or contributing to the training of language teachers.

Yale uses two titles differently from many institutions. The title of visiting professor is generally used for individuals whose primary career is not at Yale; it is not used for one-year appointments of new Ph.D.s, for example. The title of adjunct professor is generally used for individuals a significant fraction of whose time is spent on nonacademic professional activities either at Yale or outside Yale. For example, the title may be used for professional writers, performing artists, business leaders, or journalists.

In the 2008–09 academic year, FAS employed 311 non-ladder teaching faculty, versus 259 a decade earlier. For comparison, there were 664 ladder tenured or nontenured ladder faculty in FAS in the 2008–09 academic year, up from 580 a decade earlier. Lecturers and lectors constitute approximately 80.5% of the non-ladder faculty, while adjunct and visiting professors account for most of the remainder. Foreign language lectors constitute more than half of the full-time non-ladder faculty working with undergraduates.

More than 60% of course enrollments in Yale College are in courses for which the primary instructor is a Yale ladder faculty member. Thirty percent of course enrollments are taught by lecturers and lectors and 5% by visitors and adjuncts. Graduate students are the primary instructors in fewer than 4% of Yale College course enrollments. Overall, approximately 66% of the full-time non-ladder faculty working with undergraduates in Yale College teach in the Humanities division, with 20% divided among the Social, Biological, and Physical Sciences and the remaining 14% teaching in the residential college seminar program.

It is important to recognize that the lector and lecturer ranks at Yale are not, for the most part, occupied by a transient faculty. The majority of lecturers and lectors (58%) are employed full time at Yale. Approximately half of the lecturers and lectors teaching in Yale College during the 2008–09 academic year hold multi-year appointments. Indeed, 27% of lecturers and lectors have accumulated 11 or more years of service at Yale, while another 18% have 6 to 10 years of service. Especially in recent years, most lecturers and lectors have been selected by a national search process. Overall, 56% of lecturers and lectors hold a doctoral degree. Because of these factors, non-ladder faculty become deeply involved in responsibilities at Yale in addition to classroom teaching, including student advising, academic planning, course and curricular development, and even governance.

Appraisal and Future Agenda

We examined student course evaluations to determine whether students rate courses taught by non-ladder faculty equivalently to their ratings of courses taught by ladder faculty. Appendix 5I presents mean and median scores given by students in answer to the question "What is your overall assessment of this course?" (Scale: 1=poor, 2=below average, 3=good, 4=very good, 5=excellent) in the online Yale course evaluation system for the years 2006–07 and 2007–08.

The results suggest that non-ladder lecturers and lectors earn somewhat higher course evaluations than ladder faculty and that visiting faculty earn slightly lower course evaluations. Of course, the use of different types of instructors varies across fields and courses of different sizes. To control for possible confounding effects of these factors, regression analyses, described in Appendix 5J, were undertaken. Ladder and non-ladder faculty earn roughly equal ratings in the regression specifications. Visiting faculty earn slightly lower ratings, but the effect is not statistically reliable. Thus the evidence suggests that lecturers and lectors are effective in the classroom at Yale.

In the last few years the University has been adjusting its policies regarding non-ladder faculty to reflect the stability and professionalism of the positions. The following changes have been implemented in the past two years: (1) establishing criteria for promotion and opportunities for promotion from lecturer or lector to senior lecturer or senior lector; (2) extending attendance and voting rights to non-ladder faculty at Yale College faculty meetings; (3) establishing professional development leave opportunities for multiple-year non-ladder faculty; (4) allocating curricular innovation and conference travel funds for non-ladder language faculty through the Center for Language Study; and (5) commencing July 2009, a new policy of awarding eight weeks of teaching relief for non-ladder faculty for the purpose of child rearing.

Despite these strides, many improvements still could be made to non-ladder faculty professional benefits and career development opportunities. For example, concerns about pay inequity and limited salary increases are repeatedly expressed by full-time non-ladder faculty. For the first time this year, the Committee on the Economic Status of the Faculty has been explicitly charged with examining the economic status of the non-ladder faculty. One obstacle to thorough analysis of this issue is the difficulty of obtaining comprehensive data on non-ladder faculty salaries from sources like the AAUDE (Association of American Universities Data Exchange) that are so useful in benchmarking ladder faculty salaries.
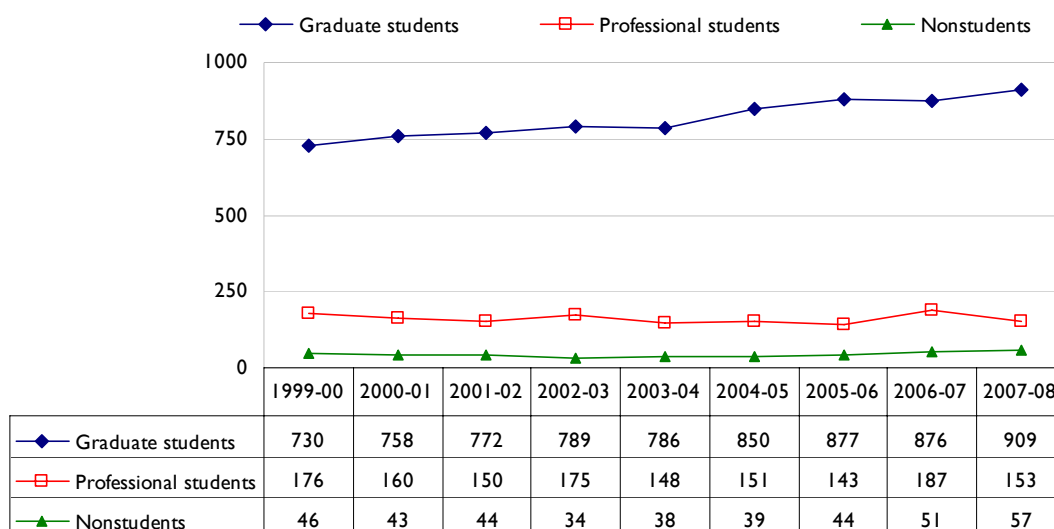
Although advances have been made in non-ladder faculty career development opportunities, Yale still lacks a complete professional development plan for non-ladder faculty; the University should charge a member of the provost's office with analyzing and implementing best practices in non-ladder faculty development. Professional development for non-ladder faculty should include yearly orientation sessions for new non-ladder faculty to provide information about Yale's missions and procedures, annual meetings between each non-ladder faculty member and the department chair to evaluate the non-ladder faculty member's performance, and codification of non-ladder faculty roles in departments. Conference and professional development opportunities external to Yale now available to non-ladder faculty through the Center for Language Study should be available to non-ladder faculty in other fields, and guidelines for funding non-ladder faculty attendance at conferences or participation in other professional development activities should be formulated. Improvements of this type could help make the University more competitive in attracting and retaining non-ladder faculty and ensure that non-ladder faculty develop their professional skills in ways that would enhance the educational experience of Yale College students. Given the lack of a permanent relationship to the University and a lack of training in University guidelines for teaching, more care should be taken in assigning visiting faculty to courses that are crucial to a major program of study.

The Role of Graduate Students in Yale College Courses

Description

Yale graduate students engage in two kinds of teaching: (1) as assistants to faculty (called Teaching Fellows, or TFs) by leading small discussion sections for lecture courses, leading lab sections, grading, or language tutoring and (2) a much smaller number with responsibility for full course instruction (Part–Time Acting Instructors, or PTAIs) in small introductory classes or independent seminars. Graduate students at Yale are never allowed to teach lecture courses. Figure 5.5 shows the number of teaching assistants assigned to undergraduate courses in one or both terms over the 1999–2008 period. Note that most doctoral students in teaching years assist with courses in both academic terms whereas other assistants serve for one or two terms.

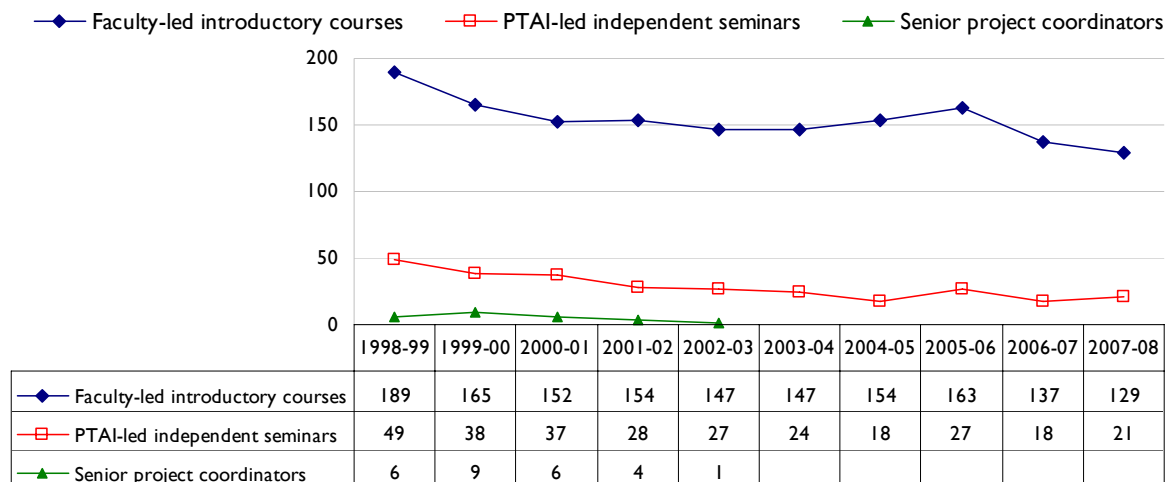**Figure 5.5: Teaching Assistants in Undergraduate Courses**

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Graduate students	730	758	772	789	786	850	877	876	909
Professional students	176	160	150	175	148	151	143	187	153
Nonstudents	46	43	44	34	38	39	44	51	57

In 2007–08, 1,119 individuals assisted in undergraduate courses. This included 863 doctoral students, 46 FAS master's students, 153 professional school students, and 57 nonstudents. Courses must enroll 30 students to be eligible for discussion section leaders or graders; for lab section leaders, language assistants, and graders in courses with heavy quantitative homework, required enrollments are lower. A maximum of 18 students is allowed in regular discussion sections, with exceptions strongly discouraged and requiring written permission from the Graduate School. Teaching is a critical part of every Ph.D. program and is expected in all Yale doctoral programs. Students assist with courses at different stages of their graduate careers in different programs.

A small number of Ph.D. students serve as Part Time Acting Instructors (PTAIs). Figure 5.6 (next page) shows that the number of PTAI instructors has dropped steadily from 244 in 1998–99 to 150 in 2007–08. Some Ph.D. students teach one section of introductory courses in the foreign languages, music, English, and mathematics departments; they work from a common syllabus prepared by faculty, are overseen by faculty, and have responsibility for the course grading. A very small number of Ph.D. students, now limited mainly to American

Studies, African American Studies, History, and the Residential College Seminar Program, compete to teach a seminar of their own design in which they are responsible for the instruction and grading.

Figure 5.6: Part-Time Acting Instructors

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Faculty-led introductory courses	189	165	152	154	147	147	154	163	137	129
PTAI-led independent seminars	49	38	37	28	27	24	18	27	18	21
Senior project coordinators	6	9	6	4	1					

The training of graduate students to be excellent teachers is supported by the work of the Graduate Teaching Center (GTC). Two full-time staff members (one dedicated specifically to teaching in the sciences) and 19 graduate student fellows of the GTC within the Graduate School's McDougal Center prepare highly popular workshops and training sessions for TFs. The GTC has produced one of the very best books on college teaching: *Becoming Teachers: The Graduate Student Guide to Teaching at Yale* (2004–05). Faculty are expected to meet with TFs weekly to discuss the TFs' ongoing instructional experiences and preparation. The Graduate School's "FEAST for Teaching" program sponsors four free lunches for faculty and graduate students each semester to encourage faculty/teaching fellow interactions.

Appraisal and Future Agenda

A balance must be struck between two competing goals in designing policies for graduate student teaching. As described above, it is a fundamental value of Yale College that the ladder and non-ladder faculty are responsible for teaching Yale College students. This goal suggests minimizing graduate students' responsibility for courses. However, experience in teaching—especially teaching independently—is valued, perhaps expected, by potential academic employers. By not providing these opportunities, we fail to maximize the impact that our graduate students can have on higher education.

This balance must be reassessed continuously. In one attempt to balance these goals, in 2009–10 the Graduate School will pilot a new Associate in Teaching Program that will allow six advanced Ph.D. students to co-teach with faculty in either seminars or lecture courses. Ph.D. students will assume responsibility for a small amount of instruction and work with faculty to prepare or revise a course syllabus, thereby gaining substantial teaching experience as a preparation for the job market and professional advancement.

We should reevaluate the assignment and use of TFs as section leaders in lecture courses. Most faculty would agree that the opportunity to attend a small-format discussion section provides a pedagogical benefit in a large 250–person lecture course. But perhaps not all large lectures need discussion sections. In a 30– or 40–person course, and even in large lecture courses, students might be well served through a more interactive format with discussion interwoven by the faculty lecturer rather than relegated to the separate discussion section. Course evaluation questions currently do not elicit information about whether students perceive the course format/discussion sessions as maximally helpful.

Regression analysis was used to assess PTAI teaching relative to the non-ladder and ladder faculty and distinguishing between PTAIs leading independent seminars and those who teach sections of introductory courses. The analysis suggests that independent seminars led by PTAIs are quite successful but that sections of introductory courses led by PTAIs who receive ratings are less successful when compared to ladder and non-ladder faculty.
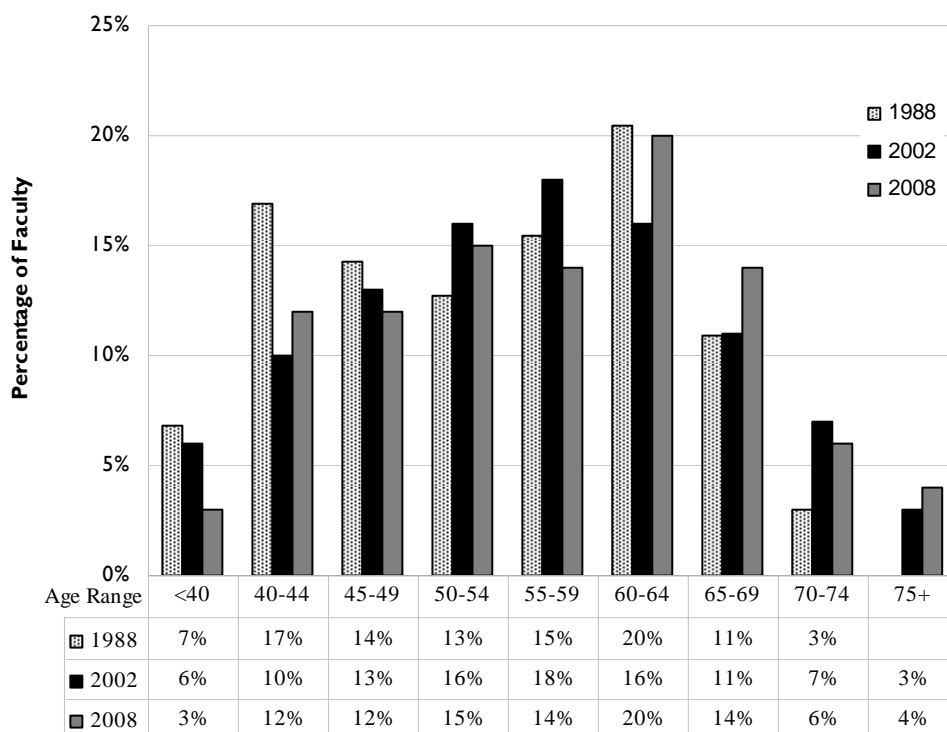
The limited PTAI teaching, chosen through competitive application processes in History, African American Studies, and American Studies, could be replicated in other departments. Students perceive the quality of these independent seminars to be very high. At the same time, the evaluation data also suggest that the Graduate Teaching Center might provide more training for graduate students teaching introductory courses and that the courses would benefit from more active oversight by faculty overseeing the graduate students.

Changing Age Distribution of the Faculty and Retirement Patterns

Description

It has been more than fifteen years since the end of mandatory retirement. Snapshots of the age distribution of those tenured in the Faculty of Arts and Sciences (FAS) at Yale in 1988, 2002, and 2008 show that indeed growing numbers of faculty members have chosen to remain active well past the former compulsory terminus of age 70 as shown in Figure 5.7 on the next page. The number of faculty members aged 70 to 74 has doubled since 1988; in 1988 a total of 3% of the faculty were above age 70; in 2008 that number has climbed to 10%. Going forward, we will need to address important questions about the changing age distribution of the faculty, its implications for the hiring of junior faculty, and its impact on the pace of intellectual renewal for departments and programs, and do so in a manner consistent with our principle that age discrimination has no place in our community.

The aggressive recruiting of tenured faculty from the outside has contributed to an increase in the representation of the oldest pre-retirement groups. In 2008, 44% of those tenured in FAS were aged 60 or over as compared with 37% in 2002 and 34% in 1988. The 2008–09 economic downturn has likely had significant effects on this group's retirement savings. While it is too soon to say with certainty, it seems likely that some, perhaps many, faculty will elect to work beyond their previously intended retirement age in order to mitigate recent losses.

Figure 5.7: FAS Tenured Faculty Ages by Year

Age Range	<40	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+
1988	7%	17%	14%	13%	15%	20%	11%	3%	
2002	6%	10%	13%	16%	18%	16%	11%	7%	3%
2008	3%	12%	12%	15%	14%	20%	14%	6%	4%

For those Yale faculty members who have retired, the Henry Koerner Center for Emeritus Faculty, opened in 2003, has provided intellectual camaraderie and practical support. The center is supervised by a faculty advisory board and makes available twelve offices. Altogether 156 emeriti faculty are registered as fellows of the center; approximately 90 are active participants. The center provides clerical help and on-site computer assistance for office holders, hosts lectures and panel discussions for fellows, as well as film screenings and cultural trips to New York. Since the center opened its doors, its fellows have published 92 books.

The center also provides funds for emeritus teaching. In 2007–08 thirteen fellows taught undergraduate courses. The center pays the customary rate of $20,000 for each course after it has been approved by the department and the Course of Study Committee. Since 2003 more than $500,000 has been expended for this purpose. In addition, the center funds research and travel for fellows to present papers at academic conferences. While the Koerner Center is an important resource, Director Bernard Lytton emphasizes that its presence alone does not seem to be an incentive for retirement, even if the teaching opportunity outlined above has emerged as an attractive option for retired faculty.

Appraisal and Future Agenda

Unlike many universities, Yale has never offered a retirement incentive (or "buy-out") program. A 2007 American Association of University Professors (AAUP) survey of faculty retirement policies noted that such plans have become "accepted practice among institutions

of higher education since the end of mandatory retirement." More than a third of the 567 institutions participating in the survey had offered one or more buy-out plans since 2000.[4] Especially in light of the difficult financial environment facing Yale faculty who choose to retire, the prospect of offering incremental retirement resources should be systematically re-evaluated. As retirement is not purely a financial decision, the role of the Koerner Center should be part of any systematic analysis of faculty retirement patterns and the objectives and obstacles faced by faculty making this important decision.

Concerns about retirement are not the sole province of faculty of age 60 and over. We do not have reliable metrics of how well informed or advised younger faculty are about retirement savings programs; we do not know whether they take full advantage of the Yale University Retirement Annuity Plan (YURAP) as early in their careers as they might and should. Recent research in behavioral economics suggests that, in general, employee decisions about retirement savings plans with regard to participation, contribution rates, and asset allocation are often ill-informed.[5] Furthermore, the research suggests that employer interventions such as changing the default options in plans to favor retirement saving can have a substantial impact on eventual employee retirement savings. Benefits counseling can have significant effects. Changes to the YURAP, effective July 1, 2009, include default options to increase retirement savings and a base University contribution that does not require employee contribution.

---

[4] Valerie Martin Conley, *Survey of Changes in Faculty Retirement Policies 2007* (Washington, D.C.: AAU, 2007), p. 8.
[5] For a discussion of the many research papers on this topic, see Richard H. Thaler and Cass Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (New Haven, Conn.: Yale University Press, 2008).

STANDARD SIX: STUDENTS

> . . . a liberal education is not defined only and solely by its academic component. Part and parcel of a liberal education are those experiences or extracurricular activities that enable an individual to give fuller force and potency to . . . academic training.

> —Martin Griffin, Dean of Undergraduate Education, 1976–1988

Admission, Retention, and Graduation

Since its founding, Yale has sought to prepare young people for life-long learning and service in the world. Yale has grown in student size and diversity, and the range of issues and services it provides has grown commensurately. This self-study chapter focuses on students in Yale College, and in masters and doctoral programs in the Graduate School of Arts and Sciences, who together make up 75% of student enrollment at Yale. The report deals in limited fashion with students in post-baccalaureate professional schools (e.g., Architecture, Law, Medicine, Management), most of which are reviewed by various accrediting bodies that influence the nature of the experiences and services provided there.

Consistent with its mission, Yale seeks to "attract a diverse group of exceptionally talented men and women from across the nation and around the world." In virtually every school across the campus, the number of applications for admission has increased dramatically over the last decade. (See Appendix 6A for applications, admissions and yield data per school.)
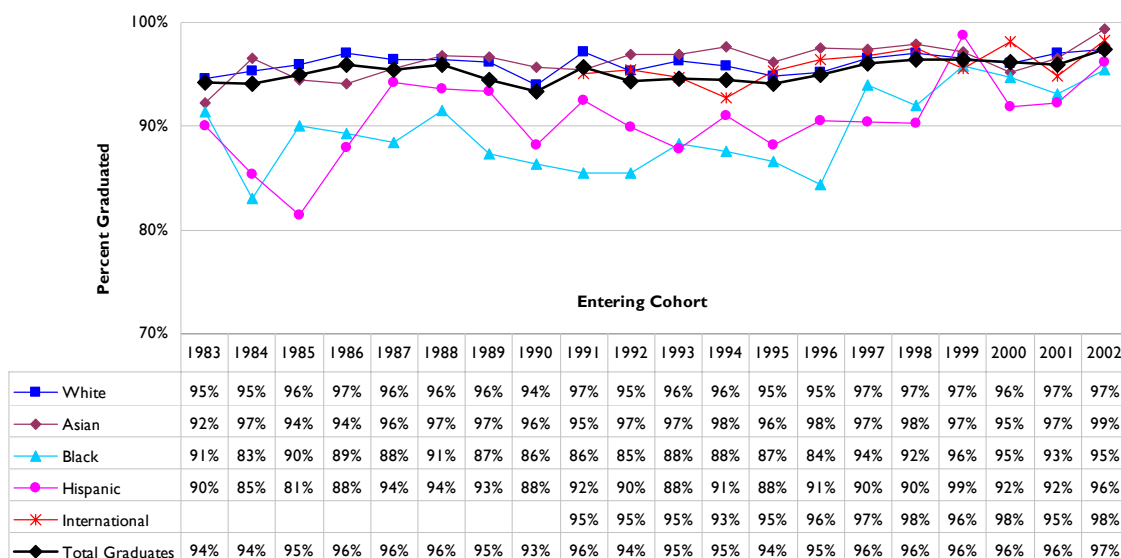
Yale College

In Yale College, the number of superbly qualified applicants continues to increase, with 26,000 applications received for the class of 2013. Since the spring of 2004, Yale College has admitted fewer than 10% of its applicants. Long-serving admissions officers agree that Yale now denies admission to hundreds of applicants who would have been admitted five or ten years ago. An important reason for adding two residential colleges is, in fact, to provide access to Yale for more of these highly qualified applicants. Six-year graduation rates in Yale College continue to be excellent, ranging from 94% to 97% over the most recent ten cohorts for which data are available. (See Figure 6.1, next page.)

Graduate School of Arts and Sciences

In 2008–09 the Graduate School received a near-record 9,000 applications from around the world. It enrolls an annual entering class of 550 students, most pursuing the doctorate. The median years to Ph.D. for degrees awarded in 1998–99 through 2007–08 was 6.3. Seventy-one percent of students who entered the Graduate School from fall 1994 through fall 1998 were awarded doctoral degrees. Year-to-degree data for Ph.D. students in the Graduate School, by school, division, and individual department, are routinely posted on the Graduate School Web site; detailed data are also available from the Office of Institutional Research.

Figure 6.1: Six-Year Graduation Rates, Yale College

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
White	95%	95%	96%	97%	96%	96%	96%	94%	97%	95%	96%	96%	95%	95%	97%	97%	97%	96%	97%	97%
Asian	92%	97%	94%	94%	96%	97%	97%	96%	95%	97%	97%	98%	96%	98%	97%	98%	97%	95%	97%	99%
Black	91%	83%	90%	89%	88%	91%	87%	86%	86%	85%	88%	88%	87%	84%	94%	92%	96%	95%	93%	95%
Hispanic	90%	85%	81%	88%	94%	94%	93%	88%	92%	90%	88%	91%	88%	91%	90%	90%	99%	92%	92%	96%
International									95%	95%	95%	93%	95%	96%	97%	98%	96%	98%	95%	98%
Total Graduates	94%	94%	95%	96%	96%	96%	95%	93%	96%	94%	95%	95%	94%	95%	96%	96%	96%	96%	96%	97%

Note: Students identifying themselves as "American Indian" or "Other/NA" are not included in this chart.

Only U.S. citizens and permanent residents are counted in the race/ethnicity categories. Non-resident aliens are counted as "International."

Prior to 1991, international students were included in the "Other" category.

Source: OIR Report 09R0002, Yale College Six-Year Graduation Rates for Freshman Cohorts, 1983-2002.

Student Services

This report focuses on four themes to organize our presentation of student services:

- Building community in residential and nonresidential settings
- Transitions into and out of Yale and New Haven
- Supporting and enhancing diversity
- Web-based support and integration of student services and technology

Building Community in Residential and Nonresidential Settings

Yale College

Description. Yale's system of twelve undergraduate residential colleges is the centerpiece of the undergraduate experience; it delivers a wide range of student services in collaboration with the Yale College Dean's Office staff, programmatic centers, and cultural houses. The system has been well described and studied in previous reports, and it houses more than 95% of Yale College students. This section concentrates mainly on appraisals and prospects as they relate to the residential college experience in building community and providing services.

Appraisal. The 75-year-old Yale residential college system works so well at building community that it has been or is being introduced at numerous institutions in the U.S. and around the world, including the University of the Americas in Mexico, Fudan University in Shanghai, and the National University of Singapore. Since 1998 the University's ambitious plan to renovate all of the residential colleges and Old Campus freshman residences has

proceeded with highly successful, attractive, and functional results. The renovated colleges have attracted renewed student and alumni loyalty, and have added to the functionality and comfort of student living and social spaces. Beginning in 2000, administrators began deliberating about possible expansion of the system, given its success and the huge admissions pool of talented students who could be admitted, as noted above. In 2008 a student-faculty study committee recommended expansion, and the Yale Corporation approved and began budgeting for construction of two new colleges. Planning and design are now fully underway, but construction has been delayed because of current economic uncertainty.

Future agenda. Strengthening the residential college experience for building community will continue to be central to a Yale College education. Yale is continuing with long-planned renovations of the existing colleges despite the economic downturn.

Campus–Wide Student Activities and Performance Spaces

Description. Closely connected with the residential college system and renovations to existing colleges is the issue of common space for student activities and performances. Yale College alone has more than 300 registered undergraduate groups, and there are perhaps scores more groups affiliated with the graduate and professional (G&P) schools, the Chaplain's Office, and the International Center. Yale has no campus activities center or student union for use by all student groups. Currently available spaces include some common areas in renovated colleges, classrooms when not in use, some G&P school areas, the cultural houses, Dwight Hall, and the International Center. Control of facilities by an individual school, department, or college can make it challenging for campus-wide or graduate/undergraduate groups to access appropriate space for their activities.

Space for musical, dance, and other performances is available, but often is shared between professional programs like the Schools of Drama and Music and undergraduate and G&P student groups. The renovation of many residential colleges and the $500 million capital investment in the music, performance, and arts areas has created new or improved spaces for certain student activities, including smaller theater, music, and dance venues. Yale College also has expanded theater space and technical supervision with the addition of the Off-Broadway Performance space, Elm Street rehearsal space, college theaters, and technical staff, plus appointment of the new associate dean for the arts to coordinate groups and facilities.

Appraisal. Despite the renovations and new facilities, on-campus space for student-led extracurricular and co-curricular activities and student groups is still quite limited, especially for larger-scale events (500+ people), conferences and meetings, and activities at night, like campus-wide student socials and parties. Many musical groups, like undergraduate and graduate singing groups and smaller instrumental groups, must find rehearsal space in classrooms or off campus. There are still few dance rehearsal and performance spaces with appropriate safe flooring and limited venues for social dancing groups like swing, tango, and jazz. Existing theaters for larger productions are in constant use. Finally, very few of the existing student activities spaces have well-equipped multimedia audio-video projection, mixing, and recording systems for those students who want to use multiple artistic forms or to document and share their work digitally.

Future agenda. In 1993 a committee recommended that there be a centralized building from which campus-wide organizations could conduct and coordinate their activities, with a variety of spaces and amenities. The 1999 NEASC report also recommended identification of more student activities space. Some continue to advocate for the consideration of a student activities center with dedicated space and operational policies tailored to the needs of a wide range of student events for both undergraduate and graduate students. Plans call for such space in the area near the two (currently deferred) new residential colleges.

Graduate/Professional Residential Community

Description. To help build residential community for the graduate/professional (G&P) student population, Yale offers some on-campus graduate housing, owns rental housing near campus, and assists with off-campus housing searches. Yale has about 800 units of on-campus Graduate Housing dormitories and apartments, which accommodate less than 20% of the 5,500 G&P students. The graduate dorms and apartments have modest common spaces and amenities, and offer some residential life and social programs led by on-site student coordinators. University Properties offers another 500 units of rental housing for Yale-affiliated students, faculty, and staff in renovated buildings near campus. These taxable Yale properties are administered by a private management company and rent at market rates. Given the small supply of Yale-affiliated graduate housing, the majority of Yale's G&P students live in private rental units in surrounding city neighborhoods, with a very small number in nearby towns. In general, off campus housing options are more abundant, more attractive, and less expensive than at Yale's major peer institutions. Yale provides a self-service Web-based off-campus listing service of available private rentals and roomshares.

Appraisal. On-campus graduate/professional housing is popular and fully filled because of such advantages as location, amenities, programming, security, price, and ease of renting from Yale. Residential life programming, common areas, informational resources, and mingling of residents from different cultures help build supportive G&P communities. New and returning G&P student demand for on-campus residential housing greatly outstrips the current supply. Yet the number of available on-campus graduate housing units has actually decreased in the past decade. Yale's limited graduate housing negatively affects the internationalizing mission of the University, student recruitment, and the overall quality of graduate student life. Graduate dorm rooms have been converted to offices, and apartment buildings have been demolished to make way for other academic buildings. On-campus graduate housing buildings were built in the 1930s–1960s and most are in need of total renovation or replacement. The Hall of Graduate Studies (HGS), an architecturally significant 200-bed dormitory built in 1931, is not yet on the residential renovation schedule. Yale has announced plans to demolish Helen Hadley Hall, a 1950s-era dorm housing 175 students, but has not publicly identified replacement graduate housing. Maintenance and repairs in these aging buildings also are ongoing issues for graduate student residents and housing managers.

The high and growing proportion of international students in the G&P schools, ranging from 10% to 40%, also creates increasing demand for on-campus graduate housing. In particular, incoming international G&P students not familiar with the area prefer the ease and security of finding a room in Graduate Housing or Properties. Also, few international students own a car, so on-campus housing is even more appealing. The Office of International

Students and Scholars (OISS) provides housing search advice and a detailed handbook, but also cautions international students not to sign an off-campus lease without seeing the place. While OISS staff members offer assistance to incoming students who arrive in August without housing, they note the limited choices at that time in the tight student rental market. On the positive side, in 2008 the Graduate Housing Office hired a new manager whose responsibilities include off-campus housing issues and services, common leases, and landlord relations.

Yale-affiliated University Properties (UP) apartments are popular with G&P students because of their location and the ease of leasing from Yale property managers, especially for first-year students. However, UP rents are higher than for Graduate Housing, the units are privately managed, and they provide no residential life programs. In recent years Yale also has had to provide additional campus parking, expanded day and night shuttles, and enhanced security services to off-campus neighborhoods where most G&P students now reside.

In the past year, consultants have been engaged to study G&P housing. Meanwhile, the graduate student government has become increasingly concerned about the state and amount of housing, and the related issues of affordability, security, transit, and parking. They have expressed concern that they have not been adequately consulted in graduate housing decisions, studies, or planning to date.

Future agenda. Once renovation is complete, the splendid state of the refurbished undergraduate colleges will stand in stark contrast to the aging and unrenovated graduate housing facilities on campus. In addition, Ivy-plus peer institutions have begun or completed building new graduate housing, so Yale's less attractive on-campus G&P housing may affect recruitment. Yale has just begun a G&P Housing planning process similar to that undertaken for the expansion of the residential colleges. We recommend that any wide-ranging study of graduate/professional housing needs should engage graduate/professional student leaders, faculty, staff, alumni, and community members in the process. Finally, the addition of West Campus with the likelihood of numbers of graduate student researchers in laboratories on that separate campus, raises as-yet-unaddressed issues of the area's housing supply, services, and transit to and from West Campus.

Centers to Enhance Nonresidential Graduate Community

Description. With the vast majority of G&P students living in off-campus housing, the University in recent years has concentrated on building graduate student community and providing services through centers and social spaces, as described below.

Established in 1997, the McDougal Graduate Student Center is housed in historic renovated space in the Hall of Graduate Studies and administered by the Graduate School. The multi-purpose graduate center provides services, facilities, programs, and community-building events. The McDougal Center offers free meeting and social space for graduate students weekdays, nights until 11 p.m., and weekends. The center houses offices and staff for graduate careers, diversity, student life, teaching, and writing, mainly serving doctoral student needs, although many events are open to all G&P students, postdoctoral fellows, and their families.

The International Center for Yale Students and Scholars, which opened in 2005, houses the OISS (Office of International Students and Scholars) and provides expanded programming, events, and social space for the international community, made up primarily of G&P students and postdocs.

The Graduate & Professional Student Center at Yale (GPSCY) and Gryphon's Pub, a student-run bar, play a vital role in cross-school social events for students aged 21 and over. GPSCY, a private membership club housed in a converted fraternity house, is open nightly until 1 or 2 a.m., organizes popular large-scale G&P student parties, and is available for rental for G&P student events for 25 to 500 people. Graduate and professional students manage the GPSCY, with limited administrative oversight.

Finally, the Cultural Centers, while administered by and primarily for Yale College, increasingly engage in outreach and programming for G&P students. They often work in close collaboration with the McDougal Center, particularly the Diversity Office, and the International Center, which is a positive development in community building between undergraduates and graduate students. The new Office of LGBTQ Resources will also add support for lesbian, gay, bisexual, transgender and queer students.

Appraisal. The model of building graduate community and providing services through various centers has proved to be popular with students, administrators, faculty, and alumni. These centers provide a home base for the majority of G&Ps who do not reside on campus, and a third place to be, neither apartment nor library/lab. The twelve-year-old McDougal Center has been recognized, imitated, and envied as the national model of a comprehensive center for graduate student life and professional development. The center currently involves more than fifty graduate student "fellows" as program leaders, providing leadership development and engagement. It hosts many graduate student group events and its offices organize hundreds of activities and services each year. Funded mainly through an endowment, in the past decade the center has expanded and changed in response to student interests and administrative needs.

The relatively new International Center is proving popular with the international community for its one-stop service, warm hospitality, flexible spaces, and engaging events. Through the International Center, OISS offers increased student support in a more complicated regulatory and cultural environment.

The GPSCY functions well as a grad student bar and nighttime social center, but since it is entirely student run, its services, financial management, and student participation can vary from year to year. Maintenance of its aging and non-ADA-compliant facility is an ongoing issue.

Future agenda. With continued administrative support and student involvement, we would expect the McDougal Center, International Center/OISS, and GPSCY to continue to innovate to meet student needs. Providing additional resources and, where needed, additional space to meet future demands may be necessary to improve supportive services and further build community for G&P students, especially on the new West Campus.

Student Support and Wellness in Residential and Nonresidential Communities

Description. Advising of undergraduate students is a shared responsibility of the residential colleges, academic departments, and career services, with support as needed from the Writing Center, Center for Language Study, Science and QR Center, Center for International Experience, and tutoring services. Freshman counselors and orientation programs provide exposure to the wide range of education and support services offered by the College and from University Health Services (UHS), including confidential mental health counseling, sexual health, health education, and alcohol education. G&P students get information and exposure to these services through orientation programs, graduate housing, and through ongoing outreach and collaborative programs by the McDougal Center, the chaplaincy, the International Center, and UHS student health education. The new Sexual Harassment and Assault Resources & Education Center (SHARE), directed by a clinical psychologist, provides education and response to issues of sexual harassment and assault, for undergraduate, graduate, and professional students. The University also has clarified and publicized its policies prohibiting sexual harassment and teacher-student consensual relationships to educate the community and attempt to reduce incidents.

Appraisal. The 2003 Report on Yale College Education (CYCE) recommends a number of changes to enhance undergraduate advising, which are addressed in more detail in Standard 4. The freshman experience, including orientation, seminars, and counseling, is undergoing continual improvement and assessment through the Office of Freshman Affairs. Certain initiatives recommended by the Yale College Alcohol Report, such as changes to tailgating rules, have been implemented with positive results. The recent establishment of a Yale College Alcohol Advisory Committee is helpful. Health education programs and outreach to University-affiliated G&P housing, especially for graduate families on or near campus, could be expanded.

Future agenda. With completion of the new University Health Center, we expect expanded commitment to and programming for student health education, both at the health center and throughout the campus and nearby neighborhoods where students live. New initiatives in health education and through the SHARE Center should be evaluated and improved, with student input where possible. The planned appointment of an alcohol and drug education specialist within the Yale College Dean's Office should move forward when possible. Implementation of academic advising changes resulting from the 2003 CYCE report will continue in a variety of ways, augmented by recent study and recommendations of the Teaching, Learning and Advising Committee of Yale College.

Transition into and out of Yale and New Haven

In examining student services, this committee felt that certain time points and processes were critical to student success, so one of our focuses is transitions into and out of the University community. We examine pre-arrival services and orientation programs, preparations to study or do research away from campus, and career and pre-professional guidance.

Transition into Yale: Pre–Arrival and Orientation Services

Description. In recent years, the Internet and e-mail have allowed Yale to increase greatly its recruitment efforts, pre-arrival information, and contact with admitted students, especially international and graduate students. Yale College has a popular and widely used portal as well as Facebook groups for the newly admitted class. The Office of International Students and Scholars (OISS) provides detailed transition information and ongoing contacts to newly arriving international students. Graduate students receive comprehensive information ranging from housing options to child care and shopping from the Living in New Haven Web site, and online checklists for pre-arrival planning and forms.

Yale College has a variety of orientation programs, including pre-orientation interest groups, and a four-day period of required practical and educational orientation programs for all freshmen. Freshman counselors, a group of 103 seniors who as a cohort increasingly represent the diversity of Yale College students, provide much of the initial and ongoing educational programming and advising to new students. Incoming Graduate School students participate in a week-long orientation to the Graduate School, to Yale, and especially to services in greater New Haven, where most students live.

The OISS arranges for group bus pickups at JFK airport on the main days students arrive from overseas. The office provides practical and social-cultural orientation programs each August and September for G&P students, organizes a four-day pre-orientation for international freshmen, and collaborates closely with various school orientations to deliver vital information and resources. The English Language Institute (ELI) provides testing for new Graduate School students from non-English speaking backgrounds, who must pass oral proficiency exams prior to teaching, and offers ongoing instruction during the academic year and summer for all interested ESL students.

Appraisal and Future Agenda. Incoming students get most of their information from the Yale Web site. In many cases, Yale has developed online forms and student service functions to speed delivery and processing of items like housing applications and health insurance. We recommend transition to fully online services for pre-arrival functions, especially for ID cards, which currently require sending a printed passport picture and signed card back by hard copy mail.

The current variety of Yale College pre-orientation programs and orientation sessions appear to do a good job of supporting individuals in their transition to Yale and in building community. Recent useful initiatives have included appointing a dean of freshman student affairs to examine, coordinate, and enhance the first-year programs, revamping the Freshman Counselor Program, and appointing live-in University staff as Old Campus fellows to offer an additional adult presence. Other academic initiatives include the creation of a Freshman Seminar program and smaller classes for first- and second-year students.

In recent years, new student orientations at most G&P schools have broadened and expanded beyond academic topics, but they vary in length from a half-day to three weeks and in breadth of topics addressed. There is no standing administrative mechanism to share information and calendars or to plan campus-wide orientation events for all G&P schools. Greater orientation collaboration could save time and resources and promote

interdisciplinarity and community building among G&P students, and even with undergraduates.

Transitions to International Study, Research, and Internships Outside of Yale

Description. As part of its internationalizing mission, the University is making greater efforts to encourage study and research abroad experiences for undergraduate and graduate and professional students. In years past, only a small percentage of Yale College students chose to study abroad for a term or year, in contrast to much higher proportions of students going abroad at several peer institutions. Recently Yale College has enhanced its opportunities and services for experience abroad, with expanded summer funding and financial aid, and a restructuring of fellowship and programmatic advising in the Center for International Experience. The greatly expanded opportunities for undergraduates to study, work, volunteer or conduct research abroad are described in Standard 4. A large number of Graduate School students and many professional school students regularly conduct fieldwork abroad, travel to improve language skills, or do international internships, often with support from University or external fellowships. For doctoral students, short-term international collaboration, whether virtual or in person, appears to be growing as the global research community increasingly connects.

Until recently, however, there was limited University policy and little support or guidance for students preparing to do independent academic-related work abroad. The relatively new Office of International Affairs (OIA) has implemented comprehensive travel policies, set up registration and alert systems, provided MEDEX international emergency coverage for students and faculty, and conducted global university outreach for admissions, research, and study. New online fellowship and program databases from the Center for International Experience (CIE) and the Graduate School provide increased access to funding resources and academic programs for students.

Appraisal. The increased fellowships and one-time guaranteed summer funding for those receiving financial aid now make it much more likely that Yale undergraduates will have at least one international experience. (See Standard 4, which shows that the number of undergraduate international experiences has more than doubled in four years—from 550 in 2003–04 to 1,229 in 2007–08.) The standardization of policies and information through the efforts of OIA, OIE, and the fellowship offices allows the University to know when and where all students are studying abroad. This knowledge helps administrators to assist students in times of emergency or political unrest. For many students, increased ability to share complex data interactively, to use Yale research resources while physically away from campus, and even to video-conference and Web-interview appear as promising and potentially necessary services to provide for their research, and for their career search process. Ways of making these new globe-spanning technologies available to students at low or no cost should be evaluated and implemented if appropriate.

Future agenda. We expect interest and participation in international experiences, especially among undergraduates, to continue to increase, although such growth may be limited by economic conditions and future funding.

Transitions out of Yale: Pre–Professional and Career Services

Description. Yale has no central University career center, but varied services by college and G&P school. Since the 1999 NEASC visit, the establishment of a revamped Undergraduate Career Services (UCS) office has provided enhanced programs, facilities, and staffing, including pre-professional guidance for those seeking advanced degrees in medicine, law, health professions, or academic graduate studies. Appendix 6B is a comprehensive report on UCS Services and Planning for the Future. The new Office of Fellowship Programs advises Yale College students on competitive international and domestic programs like the Rhodes, Fulbright, or Truman fellowships. In the Graduate School the Graduate Career Services office in the McDougal Center has been providing academic and nonacademic career guidance since 1999. The larger professional schools (law, medicine, management) have always had specialized career centers for their students and alumni. In the past decade, schools including Forestry & Environmental Studies, Public Health, Divinity, and Music have appointed new career services officers to serve their advanced degree students. Despite decentralization, the various offices now often collaborate on campus-wide career fairs and joint programs.

Appraisal. In general, the level of career services for most undergraduate, graduate, and professional school students seems appropriate. The career offices and the educational mission of the college and graduate school especially concentrate on developing self-knowledge and lifelong career search skills among their students rather than strictly on job placement. However, responses to Yale College surveys suggest some perceived dissatisfaction among senior students with career services especially. The staff of Undergraduate Career Services (UCS) has been working to address this issue, while developing counseling strategies for the new challenges of career planning in the changing global environment. In the Graduate School, a series of five-year-out surveys of Ph.D. graduates provides valuable information on their career patterns. Finally, assisting graduate students, whether international or U.S. citizens, in global career searches while at Yale continues to be challenging, with no easy answers or programmatic solutions.

Future agenda. The current economic crisis may unsettle career services expectations, traditional employment pathways, employer relationships, and student choices. A renewed general focus on identifying transferable skills and enhancing career and interviewing abilities would be useful in the uncertain times ahead and help graduates of all schools to make a successful transition out of Yale. New technology may provide more services and information while reducing costs.

Supporting and Enhancing Diversity

Description. Yale is committed to diversity among its students. In recent years, increased financial aid has allowed greater access by more diverse student populations. In Yale College, generous new aid policies supplement the existing need-blind policy, which since 2001 has included international students, to allow for a more economically diverse student body. Full tuition and stipend support for all Ph.D. students along with free student and family health care allows the Graduate School to recruit the most qualified doctoral students from all backgrounds, including underrepresented minority and international students. In some

professional schools, especially Music, increased aid has greatly expanded diversity, notably international diversity.

In addition to increasing student diversity through admissions, recruitment, and aid policies, Yale has increased its commitment to retaining diverse student populations by providing supportive communities and services. In recent years there has been growing support for student identity and affinity groups. In Yale College the existing cultural centers, a wide range of student groups, a new Intercultural Affairs Council, and a new assistant to the dean for intercultural and intergroup relations provide programming, advocacy, and support. Since 2001 the Graduate School Office for Diversity and Equal Opportunity has led recruitment and retention programs.

Campus-wide offices and initiatives include the aforementioned OISS, a newly reinvigorated chaplaincy and multi-faith program, a newly created Office of LGBTQ Resources, and the President's Minority Advisory Council. The new Diversity and Inclusion Office, a part of the staff/faculty human resources division, provides training, leadership, and campus-wide events and supports diversity efforts in student services.

Recent Graduate School academic and financial initiatives support family life and make doctoral study more welcoming to student parents. In 2007 the Graduate School began providing up to a semester of paid relief from academic duties, research, or teaching for male and female Ph.D. students following the birth or adoption of a child. In addition, family health care coverage is provided at no charge to Graduate School doctoral students with children. The Graduate Student Life office at the McDougal Center and the WorkLife Program collaborate closely to create and enhance family resources and provide activities for graduate students with children.

Appraisal. Increased attention to recruitment and retention of a diverse group of students seems to be succeeding. Student satisfaction and community-building efforts appear to be growing. Free family health care coverage and the new parental policies have been widely used by eligible doctoral students. The Graduate School views these policies as important in helping to make all fields, even laboratory sciences, more supportive, especially to women and to men who wish to be active parents while graduate students. These first-in-class family support programs place the Graduate School ahead of its peers. Announced initially in 2006, University initiatives to enhance child care services have been implemented rather slowly, especially in making child care more accessible and affordable to student and staff parents.

Future agenda. Yale has announced its continued commitment to financial aid in the College and Graduate School, supporting diversification efforts in challenging economic times.

Web–Based Support and Integration of Student Services Technology

Description. Yale has progressed in the past few years in making many student services Web-based. Most admissions, registrarial, and financial services are provided online for Yale College and many G&P schools. Graduate housing applications also are now online.

Financial and course-related student services areas receive the most information technology (IT) support in becoming Web-based and student user-friendly. The Office of Student Financial and Administrative Services (SFAS) now has most student billing and transactions online, with e-bill pay systems and Web-based student accounts. Its on-campus

student employment services are online for employers and student workers. Along with these high-tech developments, SFAS also keeps its face-to-face student touch, enhancing service by tracking visits and wait times. As discussed earlier, various online databases for fellowships, career services, and international experiences provide timely, accessible information and administration.

Appraisal. In student activities and student life areas, however, the University does not provide centralized IT systems or services for creating or improving Web-based functions. Yale has no central campus room booking system, no university-wide events Web calendar usable by all departments and programs, no campus-wide online ticket sales system, and no central online registration and management tool for all student organizations. Various schools, programs and service groups may have their own proprietary online systems, or have continued with paper-based or functionally limited systems.

The underdeveloped student activities technology and Web services waste resources and time, and provide limited service to students and the public, who increasingly expect 24/7 access. For student groups, finding space on campus is compounded by the lack of a university-wide online central reservation system. Having such information in a simple, comprehensive online room system would be helpful to space planners as well as convenient for campus users and event organizers.

The University also could provide better service with a central, easy-to-administer Web calendar system listing campus events, particularly student-sponsored events. The Web calendar could link to a ticketing system for registration or online payment using a credit, debit, or campus ID card or "one card" payment system. Without a universal online payment system, student services offices and student groups still must handle large amounts of cash for campus events, with financial management and security concerns. Finally, such online systems for events, rooms, and payments also are highly sustainable, in that they may eliminate or reduce the use of paper advertisements, flyers and tickets, especially for student-led activities.

Future agenda. Yale should consider more guidance, investment, and central resources for student activities IT services. Other major universities have implemented integrated online room/events/ticketing systems. The student-developed and student-managed YaleStation Web site may serve as a model for developing an integrated student activities system online.

Final Thoughts

This committee was impressed with the wide range of services provided to students and the growth of these services since the 1999 report. Yale has reviewed, revised and developed new ways of meeting student needs in the past ten years. The Standard 6 committee process itself was most interesting as it brought together staff and faculty who do not regularly meet or collaborate. The frank sharing of information, ideas and best practices across the usual campus divides was helpful in itself and was crucial in bringing out common challenges and items for the future agenda. Where possible, it would be valuable for Yale to create standing groups or committees to continue the creative process of improving services for all Yale students.

STANDARD SEVEN: LIBRARY AND INFORMATION RESOURCES

The Library is the heart of the University.

—Sir William Osler, inscribed on the front of Sterling Memorial Library

The students and faculty of Yale University benefit from unequaled collections and information resources, housed and managed by the preeminent Yale University Library, Art Gallery, Center for British Art, Collection of Musical Instruments, and Peabody Museum of Natural History.

Yale University Library System

Description

Enhanced facilities. Library renovations in the past decade surpassed those of the 1990s in both extent and impact. Since the 1999 accreditation report, renovations included restorations and climatic controls of the Sterling Memorial Library stacks and two reading room spaces; the move of the Gilmore Music Library into a spectacular new and well-equipped space in a former Sterling Memorial Library courtyard; and a new off-campus Library Shelving Facility (with two expansions) that now houses more than three million lower-use library materials in space-efficient, climate-controlled conditions, as well as temporary space for the Art Gallery. Divinity School renovations included a re-designed library with a seminar room that is heavily used for teaching research techniques. In 2007 the East Asia Library on the second floor of Sterling Memorial Library was redesigned to provide beautiful reading, seminar, and meeting space for one of Yale's expanding subject areas. The Lewis Walpole Library in Farmington underwent a complete renovation in 2000 and then in 2007, with accommodation for visiting fellows and a new reading room and conservation studio. The underground Cross Campus Library, originally designed in the late 1960s by Edward Larrabee Barnes as an intensive-use library, closed in 2006 for total rebuilding and reopened in October 2007 as the new Bass Library. Designed by architects Hammond Beeby Rupert Ainge, Inc., it provides group study rooms, wireless technology, a study/café, and well-equipped classrooms alongside traditional single study rooms and comfortable open spaces. Opened in fall of 2008, the new Robert B. Haas Family Arts Library spans the renovated Paul Rudolph Building and the Loria Center for the History of Art designed by Gwathmey Siegel & Associates Architects. The Beinecke Rare Book and Manuscript Library has pursued a vigorous program of renovation of its exterior plaza and roof.

Access to collections in traditional and new formats. Yale University Library collections have grown and become more accessible in the past decade. Several of the library sites, including Sterling Memorial Library and the Arts, Beinecke, and Medical Historical libraries, mount exhibitions continuously, which are open to the public free of charge. Many sites also provide active programs of outreach to schools and the local community.

The normal rate of annual increase in the general collections has been about 250,000 volumes, with added linear feet of archival boxes and access to electronic publications; the Library's general holdings approach thirteen million in 2009. By 2006–07, reported spending

on library materials at Yale, including the Beinecke and Lewis Walpole libraries, exceeded all other research libraries in North America according to the statistics of the Association of Research Libraries. Approximately 70% of these acquisitions are from outside the United States. Between the mid-1990s and 2009, expenditure on electronic collections including serials, databases, and now also electronic books has increased nearly twenty-five-fold.

Two projects particularly increased the collections' accessibility: the completion of retrospective conversion of all card catalog records to electronic form on the Library's system-wide online catalog (Orbis) by March 2003; and a systematic reduction in the congestion in general stacks for all twenty-two libraries, from overflowing shelves to about 80% shelf occupancy. The Library also embarked on ambitious plans for digitization, completing conversion of over a million pages of text and images by December 2008. Its "Integrated Access" program includes some innovative work by a team of expert staff.

Collaborative services. Enhanced spaces enable the Library to improve its services to readers and the general public. A systematic program of public exhibits and events in Sterling Memorial Library, the Medical Library, and some other sites supplement the long-standing offerings of the Beinecke Library. The number of classes coming to the library to work with collections or learn research techniques grew by 56% during the period 2000 to 2008. The Bass Library houses a Collaborative Learning Center which provides faculty and students with expert assistance from around the campus in using collections in all formats, incorporating instructional technologies, and exploring pedagogical techniques to develop course presentations, materials, and assignments.

A "personal librarian" program for all first-year undergraduate students began in fall 2008. Modeled on the successful version at the Medical Library, this is a way to give students personal contact within the Library, reduce the intimidation factor, and provide practical research help when they need it. Electronic course reserves, instant messaging, and online tutorials in using library and information resources are all part of a wide array of new services that have taken root in the Library. In addition, the Beinecke Library, unlike many rare book libraries in other universities, is fully open to undergraduate teaching and research, thus opening to Yale College students the largest such collection of rare materials in the country.

Appraisal and Future Agenda

Yale has one of the greatest research libraries in the world. Exposure to its treasures can be a transformative experience for undergraduate and graduate students alike. The Library, nonetheless, has some outstanding issues including inadequate staff working areas in some parts of the system, some dingy reading rooms that contrast sharply with the renovated spaces, and a pressing need to support extended digital access to the collections. Within the next few years, however, subject to economic circumstances, the Library plans to open a new center for international reference and study in Sterling Memorial Library, to migrate processing operations to the new West Campus with provision for browsing and research study of not yet fully catalogued collections, to construct a landmark building for the Science and Social Science Libraries adjacent to the site of the proposed new residential colleges, and to complete further renovations in Sterling Memorial Library including better public exhibition spaces and a special collections reading room.

Information Technology Services

Description

Yale's Information Technology Services (ITS) is responsible for providing institutional IT services and support. Those services span the gamut from core physical IT infrastructure such as managing the voice and data networks and the University's data centers, to core IT software and applications such as the learning management system (ClassesV2), to standard machines and support for faculty, to support for student computing, to a plethora of specialized services like a Film Study Center and the Statistics Laboratory. ITS supports teaching, learning, and research directly and indirectly in an ever-expanding suite of services as faculty and students increasingly leverage technology both in and out of the classroom. ITS is guided and reviewed by a set of faculty committees anchored by the standing ITS Advisory Committee reporting to the provost. This committee reviews all significant policy issues (e.g., the IT Appropriate Use Policy) and periodically reviews issues of service, priorities, and fees for services.

Growth in academic computing at Yale has been remarkable across a broad set of measures, including, for example, commodity services such as e-mail, network connections, and file storage. Specialized services delivered by ITS or collaboratively with other campus units have also increased. As one example, 35mm film screenings have increased by more than 300% in the last two years.

The University has made steady and ongoing improvements in its network infrastructure. Yale has been a member since their inception of high-speed networking consortiums such as Internet2 and the Connecticut Education Network. These relationships provide capacity above and beyond the two separate commercial Internet connections provided by Yale to foster research and teaching collaborations globally. This attention to connectivity and bandwidth must continue and in several cases accelerate; IT has become an essential component of research and teaching since the last reaccreditation self-study. Wired and wireless connectivity across Yale College residences is greatly improved and the subject of a continuous investment and renewal process that maps into physical college renovations as well as periodic equipment replacement.

High-performance computing (HPC), data intensive computing, and file storage requirements have been growing exponentially in support of both teaching and research. The University has, for several years, been investing in these areas to meet growing research needs. For example, in fiscal year 2007–08 the University committed $1 million for HPC hardware for the physical sciences, received a $950,000 National Science Foundation award for HPC, and funded three incremental support positions. Similar support and an earlier NIH award developed HPC for the life sciences. The University continues to invest heavily in file storage for research and teaching and has begun efforts through the Office of Digital Assets and Infrastructure (discussed in detail below) to address life cycle issues for data management including preservation, search, and access.

Yale supports undergraduate student computing through a substantial number of public computing labs, including twenty-four-hour access in one central location and in each residential college.

According to 2007 data, more than 95% of Yale undergraduates own at least one computer (more than 88% of these computers are laptops). All residential colleges are wired to the desk and all have wireless coverage. The campus cable network provides additional access to educational materials to students in the residences. Yale does not require students to own a computer but does provide recommendations and standard packages from Dell and Apple. The number of students engaged in supporting IT has grown substantially since the last report, with more than 100 students employed part time and two locations on central campus for walk-in service to students including manufacturer-trained-and-certified hardware work. In the 2007 survey fewer than 6% of the students responding indicated any dissatisfaction with the IT support they receive.

Yale College faculty make increasingly diverse and powerful use of technology in teaching and learning. Leading adopters are exploring rich, multimedia resources, social networking tools, mash-up tools, and simulations. Use of computer-based video projection in class has grown to the point where it is the de facto standard (details of Yale's instructional spaces are covered in Standard 8). The University has several programs focused on fostering innovation in teaching and learning through creative application of technology and information resources, including competitive internal grant and internship programs administered through ITS. ITS partners closely with other IT providers on campus such as the Library, the Digital Media Center for the Arts, the Center for Language Studies, the Graduate Teaching Center, and the Office of Digital Assets and Infrastructure.

Appraisal and Future Agenda

Looking to the future, ITS goals include two particular areas for improvement: network wiring and HPC research support. Remediating existing wiring in older buildings and tracking new network technologies are particular challenges at Yale. The sheer number of buildings that make up Yale's campus almost guarantees that some older buildings will have significant wiring challenges that cause subpar network performance. Although building wiring lasts between ten and twenty years, the network technology on those wires is advancing much more rapidly.

The second particular challenge is to provide data center capacity, investment in HPC, and file storage capacity to support expanding research needs. We have initial plans to construct two large-scale consolidated data centers to serve Yale's academic and administrative needs and are actively seeking grant and institutional funds to support these activities. Analysis suggests that Yale will spend more on data center hosting and utilities for HPC than the value of the grants providing the equipment.

Office of Digital Assets and Infrastructure

The Office of Digital Assets and Infrastructure (ODAI) was launched in fall 2008 as a provost's office program with formal links to the Office of the Secretary. The goal is to accelerate the development of Yale's digital content into a world-class resource ensuring that Yale's digital assets, including its rich and varied collections as well as the scholarly output of its faculty, will be accessible for teaching and research both now and in the future. The development of a virtual content repository and research environment is the twenty-first-century equivalent of Yale's investment in its great physical collections of books,

manuscripts, art, and artifacts, and in the support of those collections as public resources. The ODAI has a key leadership and coordination function that guides and facilitates collaboration among the Library, museums, and other campus content repositories to develop a university-wide digital information management strategy.

Digital technologies have the potential to support unprecedented discovery for students and teachers of research collections though electronic catalogs, access to digital surrogates, and the use of tools to mine aggregations of digital information. Digital access to these collections extends learning in ways that align with changing study habits influenced by online collaboration and social networking. IT staff, librarians, archivists, and curators have developed technological tools and new service models to support faculty use of digital collections in teaching and research and to engage students in exploring the richness of Yale's digital collections.

Museums as Resources at Yale

Yale's museums and collections—the Yale University Art Gallery, the Yale Center for British Art (YCBA), the Peabody Museum of Natural History, the Yale Collection of Musical Instruments, and the special collections held in the University Library—are primary resources for teaching and research. The Art Gallery and YCBA also are open to all without cost, and the Peabody Museum is free one afternoon a week, with reduced rates for the many groups of visitors. The art collections have grown significantly since 1999. The Art Gallery has added more than 15,000 works of art via gift and purchase, established new curatorial departments in African art and coins and medals, and created new curatorial positions in photography, ancient art, Early European art, modern and contemporary art, and Japanese art. The curators grow, care for, research, publish, and teach from the collections in these areas. All but two of the Gallery's curatorial positions have been endowed, most since 1999. The YCBA has added curatorial positions in the departments of paintings and sculpture, prints and drawings, and rare books and manuscripts, as well as five postdoctoral research associateships to help with research on the collections and with the development of academic programs. The YCBA has markedly increased its acquisitions, exhibitions, and programs across the full range of the history of British art, including art of the empire and of the twentieth and twenty-first centuries. The YCBA's growing art reference library supports research and teaching from the collections, and staff has been added to help with this initiative.

Making the collections more readily accessible to faculty and students has been a central focus of the museums' and collections' staff. All Yale's museums make their storage collections available to faculty and students on request, and the YCBA and the Art Gallery maintain open study rooms. Over the past decade the Art Gallery has created three new positions in support of classes, working with faculty to integrate the collections into course planning and making the works of art available to classes in our galleries and object study classrooms. The Art Gallery has quadrupled the number of such classrooms within its premises since 1999. The number of classes served has grown tenfold, and is limited only by the space and museum staff available. The Art Gallery has also provided electronic access to its entire collection on the Gallery's Web site. The YCBA has formed a department of art collections documentation and research to lead the initiative to catalogue its art collections

online. (The holdings of the rare books and manuscripts department and art reference library are catalogued through the Yale University Library's online system, Orbis.)

The YCBA has created a department of research encompassing its education, public, and international fellowship programs with leadership for research along with commensurate support staff. The education department staff has also been augmented with an associate curator of education and an assistant museum educator. The YCBA supports a full range of class, student, and faculty use of its collections, which has grown in tandem with that of the Gallery.

The YCBA, the Gallery, and the Peabody Museum provide numerous opportunities for scholarship in the United States and abroad, including residential graduate and postdoctoral fellowships. Internships for Yale undergraduates at all three museums provide the opportunity for students to gain significant research experience in every collection area. Yale undergraduate student gallery guides and graduate students are trained to teach from the collections.

The YCBA works with its sister institution, The Paul Mellon Centre for Studies in British Art in London, to run Yale-in-London, the University's oldest for-credit study abroad program for undergraduates. Three full semesters of four courses each are taught across the spring and summer terms, including the study of British art and architecture. The Paul Mellon Centre serves as a base for Yale students in all disciplines traveling abroad. A major research institute in the study of British art and architecture, it runs a full scholarly program of symposia and workshops in the field, with the participation of Yale faculty and graduate students and scholars from across the globe.

Renovation and expansion of the museum facilities has been a major focus of the past decade. The Art Gallery completely renovated its landmark Louis Kahn building, which reopened in December 2006, providing new climate, electric, security, and IT infrastructure while restoring the building to its original appearance and function as a flexible teaching and exhibition space. The Kahn renovation is part of a three-part expansion plan that will ultimately encompass two adjacent historic buildings devoted to exhibition and teaching galleries and object study classrooms, and add a new facility for teaching, conservation, and ready access storage that will be shared with the YCBA. The YCBA established a conservation committee to serve as a steward for its own important building by Louis Kahn. With the help of Yale undergraduates and graduate students, it is completing a conservation management plan for its building that, when published this year, will serve as a model for how to assess the aesthetic and historic importance of modern structures of landmark status and to ensure their health and integrity into the future.

Conservation staff and facilities and collection storage have grown significantly in all three museums since 1999, including a state-of-the-art storage and conservation facility alongside the Library shelving facility. The YCBA has added a paintings conservation department, housed in a new studio. The YCBA has hired a paintings conservator and an associate paper conservator, and both conservation departments have created positions for postgraduate research associates. The Gallery has added a full-time chief conservator and its first objects conservator.

Yale Collection of Musical Instruments

With nearly 1,000 objects ranging from antiquity to the present, the Yale Collection of Musical Instruments is one of the world's finest assemblages of rare and historical instruments. The Collection of Musical Instruments began in 1900 with the gift by New Haven piano manufacturer Morris Steinert of his collection of historical instruments, primarily piano forerunners. Holdings encompass an unsurpassed group of nearly 100 keyboard instruments, as well as a wide selection of European stringed instruments including a violin by renowned seventeenth-century Tyrolese master craftsman Jakob Stainer, a precursor of Stradivarius. Also included are an important group of eighteenth-century French guitars, as well as wind instruments that feature major examples by nearly all of the leading nineteenth-century European and American makers.

Selections from the Collection's holdings are on display in a two-story museum, open to the public throughout the academic year. Many of the instruments have been restored to playing condition, and are heard in concerts, open to the public, played by artists from around the world. The Collection has expanded its hours and has put selected works from its holdings online. The Collection Web site includes numerous images of instruments in the Collection as well as recorded sound highlights of concerts performed on its premises.

Following a University review in 2006, the Collection was placed under the administrative aegis of the School of Music in order to incorporate it more actively into the academic curriculum. The School's dean is chairing a search for a new director for the Collection.

Peabody Museum of Natural History

Description

The exceptional collections of the Peabody Museum of Natural History provide a focal point for University teaching, the interdisciplinary studies of researchers from around the world, and exhibitions that communicate the importance and excitement of studying the earth's history and diversity. More than 12 million specimens and objects are held by the Peabody's eleven faculty-directed curatorial divisions, comprising anthropology, meteorites and planetary science, botany, mineralogy, entomology, paleobotany, historical scientific instruments, vertebrate paleontology, invertebrate paleontology, vertebrate zoology, and invertebrate zoology. The collections offer crucial keys to the history of the earth and in some cases are the only surviving traces of animals, plants, and cultures that have become extinct. Thousands of specimens are added to the collection each year. Less than 1% of the collections can be displayed to the public at any given time, but all are available for teaching and research by appointment with the museum's staff.

The Peabody, which has the largest public school class attendance of any of the University's museums, was the first museum at Yale to post its collection catalog online. It has also posted a dozen online exhibitions focused on its collections, and Web sites presenting field research conducted by the faculty curators of nine of its eleven curatorial divisions and their students. Peabody staff, curators, and researchers work on every continent, in fifty-four countries, and in forty-nine of the United States. The Peabody has recently reinstalled several

of its major permanent galleries, including the acclaimed Hall of Minerals, Earth, and Space, making increasing amounts of the collection available and reflecting current research in its interpretation of them. The Peabody and the Art Gallery are in the midst of a project to share parts of their collections via ARTstor. Since 1999 the Peabody Museum has more than quadrupled its grant income to support collection care, cataloguing, informatics research, exhibitions, and public education activities.

In 2001 Yale opened the [Class of 1954 Environmental Science Center](#) (ESC), which has put more than six million specimens in state-of-the-art storage and at the fingertips of Yale faculty and students for use in teaching and research. With the recent addition of nine new curators, the Peabody provides superb graduate-level training on the past and present biodiversity of our planet. A new conservation laboratory is also located in the ESC.

Future Agenda

In 2008 the Peabody Museum began to move large parts of its collections to Yale's West Campus, where there are exciting plans to provide access for research and classes in ways not previously possible.

Insights Gained

Much of this report highlights the progress Yale has made toward positioning the institution's collections and information services to support education at Yale. Though dispersed across numerous independent organizations (Library, Museums, ODAI, ITS, etc.) these units collectively offer the University community an extraordinary array of rich content in many formats. The report highlights specific efforts such as the establishment of the Collaborative Learning Center, renovation of classroom, museum, and library spaces, the formation of ODAI, and other innovative programs created by museum and library educators and subject specialists and instructional technologists.

These are impressive accomplishments. However they bring our attention to areas that need even more improvement. As Yale continues to assemble, preserve and extend access to collections, there is a concomitant responsibility both to protect the assets with greater security and to provide enhanced access strategies, bringing these resources even more fully into the heart of the research and learning processes. Opportunities to address this challenge are emerging—with planning for shared facilities and programs in conservation and digital preservation, with collaborative uses of space at the West Campus, and with the extension of best practices in teaching and learning. A number of digitization projects that have been undertaken across campus provide a basis for further innovations and help the University to share its assets across boundaries of discipline and geography. Without coordinated systems of storage and access, however, and further development of standards and best practice, the University will not reap the maximum benefit. The exploratory and integrated approach exemplified by the innovations we have described will provide a good start. Finally, continued strategic planning at the University level will provide the insights and priorities needed to realize the power of information in Yale's academic life.

STANDARD EIGHT: PHYSICAL AND TECHNOLOGICAL RESOURCES

> Long after [our] bones are dust, long after [we] have left this planet, these gracious and lovely buildings will continue to cast their charm.

—William Lyon Phelps, Lampson Professor of English Literature 1901–1933

Description and Appraisal

The Yale University campus occupies 337 acres in New Haven, Connecticut. It consists of 275 buildings with a total of 14 million gross square feet (GSF) of space. Approximately 47% of that space is used for instruction and research; 22% is housing; and 31% is devoted to libraries, museums, athletics, clinical space, utilities, and other support functions. The University also leases approximately 1 million GSF and it rents out approximately 1 million GSF of residential, commercial, and mixed use space in approximately 100 buildings. Located approximately three miles to the west are the principal outdoor athletic facilities (100 acres) and a golf course and natural preserve (515 acres). In September 2007 Yale acquired the former Bayer HealthCare complex now called West Campus. This complex of 136 acres and 20 buildings includes research space (500,000 GSF), office space (350,000 GSF), and warehouse and support facilities (750,000 GSF). Opportunistic acquisitions such as that of West Campus will greatly benefit Yale's future generations. A list of buildings and related explanations are in Appendices 8A and 8B. Other properties owned outside New Haven and West Haven are listed in Appendix 8C.

Amount and Suitability of Space

The University has undertaken an extensive capital program to expand the campus. During the last decade, Yale has built approximately 2 million GSF and an additional 2 million GSF have been acquired. Renovations of existing space include approximately 4.8 million GSF on the central and athletic campuses and an additional 0.3 million GSF at the School of Medicine. Yale has plans to build 1.8 million GSF of additional space on the central and athletic campuses and to renovate at least another 1 million GSF on the central campus. It has also committed to renovate the entire remaining owned space at the School of Medicine. Many more projects of undetermined square footage are planned.

An overview of new buildings, capital additions, and renovations by campus area is given in Appendix 8D. Spreadsheets of projects by campus area and type are in Appendices 8E–8K. Maps of capital investment recently completed (1993–2008) and planned (2009–13) are given in Appendices 8L and 8M. West Campus maps are in Appendices 8N and 8O.

Campus Planning

Campus planning is led by the Office of University Planning for the central and athletic campuses and the School of Nursing, and by capital programs for the School of Medicine. Both are divisions of the construction and renovation section of the Office of Facilities. Overall responsibilities include campus-wide and area planning studies; planning and design of new facilities and some major renovations; project coordination, agreements, officer and Corporation approvals, and presentations through design; and space information systems. The

Office of Facilities maintains a space inventory system that includes detailed records for University buildings. The system links to the CAD building assignment plans to provide accurate square footage for data and room-use labels to the plans. Schools and departments can use the Web interface to update their information.

In 1997 Cooper, Robertson & Partners was engaged to develop a [framework plan](#) that provided a long-range planning perspective for physical development of a unified campus, well integrated with the City of New Haven. It also articulated a set of principles and planning guidelines to provide context for development of individual projects over the next twenty to twenty-five years. Since that time, several additional areas of campus or specific units have been the topic of focused study. They are listed in Table 8.1 below. These have been invaluable in exploring space allocations and renovation and new construction scenarios. In 2008 Cooper, Robertson & Partners was re-engaged to provide an updated supplement to the framework plan to ensure that continued planning is conducted in the context of the principles that guided the changes and additions to the campus completed in the past decade. A final draft is under review by the University Planning Office and the University officers. Periodic updating of the campus framework will continue to be an important activity.

Table 8.1: Areas of Focused Campus Studies

- Hillhouse Avenue area including Social Sciences and Engineering
- Finance and administration groups
- Classrooms in the Hillhouse Avenue area and classrooms and teaching laboratories on Science Hill
- Arts Area, including the School of Music
- Each residential college prior to comprehensive renovation
- Area north of the Grove Street Cemetery (sites for the Police Station, Health Services building, and garage)
- School of Management and its Whitney Avenue site
- Two new residential colleges and the Prospect Street site
- Graduate student housing
- New parking garages
- School of Forestry & Environmental Studies
- Marsh Botanical Garden
- Temple/Hillhouse area that will be vacated by University Health Services
- Science Hill and the Yale Biology Building site, the Sterling Chemistry/Kline Chemistry additions and renovations
- Various major building reuse studies

Staffing in the Office of University Planning has increased during the past decade, but not at the pace of the expanded capital program. Plans to increase staff are under review because of the economic conditions.

Construction

Facilities Construction and Renovation (FC&R) is a section of the Office of Facilities under the leadership of the associate vice president of facilities. FC&R is responsible for management of all construction projects. Main Campus and Science Hill projects are managed by the central campus group. The School of Medicine has its own dedicated staff. West Campus projects are currently implemented by either group, depending on affiliation of the department or program requiring the facility. The University has developed a comprehensive system for reviewing and approving construction projects, described in Appendix 8P.

Funding

In the past decade the University has funded and implemented more than $2.9 billion of capital projects. Yale's funding for new facilities and for renovations and maintenance of existing facilities has several sources. Philanthropy supports both new facilities and major renovations, such as residential colleges and art galleries. New buildings and major and minor renovations also are funded with debt and occasionally from annual operating budget. Ongoing maintenance is typically funded from the annual operating budget. Yale was the first of its peers to initiate a capital replacement charge (CRC) to create a pool of resources for renovations and building system components needed between major renovations. The CRC was introduced more than ten years ago, and gradually built up to a level that covers the fully inflated replacement cost depreciation of all facilities. This has proven to be an important source of funds to maintain buildings.

In response to the current financial situation, Yale has changed its capital investment plans. All new building and renovation projects underway as of December 2008 will continue until completion. Essential utilities projects and the renovation of Morse and Stiles colleges will continue, thus completing the decade-long plan to refurbish all undergraduate residences. Construction and design work on all other approved projects will be postponed until conditions in credit markets improve or until gift funding is received. In total, the University will be deferring capital expenditures of about $2 billion over the next five years.

Legal and Regulatory Compliance

The processes for new construction and renovations, as well as the maintenance of existing facilities, seek to produce facilities that comply with applicable legal and regulatory statutes and standards. A description of these processes is given in Appendix 8Q.

Historic Preservation

The University has continued its commitment to restoration and preservation of its unique architectural heritage as it seeks to make efficient use of existing buildings. It works with the New Haven Preservation Trust on the restoration of buildings with architectural and historic significance. Over the last decade, despite increased capital investment and construction of several significant new buildings, the majority of investment was allocated to the renovation of existing buildings, preserving the historical heritage of the campus. A list of those buildings is given in Appendix 8R and in Table 8.2 (next page).

Table 8.2: Premier Examples of Renovations of Historic Yale Properties

- 1767 John Pierpont House, now the Yale Visitor Center, at 149 Elm St.
- 1836 John North House, now the Department of Anthropology, at 10 Sachem St.
- 1868 Davies Mansion, renamed the Betts House, at 393 Prospect St.
- Numerous historic mansions on Hillhouse Avenue
- Relocation of the building from 285 Prospect St. to 380 Edwards St.
- Yale Bowl, a National Historic Landmark
- 1932 Sterling Divinity Quadrangle
- Ten residential colleges from the 1930s
- Louis Kahn's Yale University Art Gallery building
- Eero Saarinen's Ingalls Rink
- Paul Rudolph's School of Architecture building

Facilities Maintenance and Management

Custodial Services. Yale Facilities Operations is responsible for custodial services for all University buildings, utilizing professional custodial maintenance staff that is divided into three primary work areas: central campus (including athletics), medical campus, and West Campus. Each location has dedicated supervision and custodial personnel. Yale also contracts with property management companies to provide custodial services to selected buildings. In order to improve efficiency and productivity, Custodial Services has been developing cleaning schedules based on occupant needs and utilizing industry standards to determine the appropriate level of staffing.

Physical Plant. Yale Facilities Operations is responsible for the management and maintenance of all University buildings utilizing professional building maintenance staff that is divided into three primary work areas: central campus (including athletics), medical campus, and West Campus. Each location has dedicated supervision and a combination of licensed and nonlicensed trade personnel in the various disciplines. The University also contracts with property management companies to provide building maintenance services to selected buildings. In order to share institutional knowledge, best practices, and talent, the two primary physical plant departments (central and Medical School) have recently merged to support activities such as the Famis® maintenance management software.

Grounds Maintenance. Yale Facilities Operations is responsible for the management and maintenance of all University property with a professional grounds maintenance staff that is divided into four primary work areas: central campus, medical campus, athletics fields and golf course, and West Campus. Each location has dedicated supervision and grounds personnel to meet specific landscaping and maintenance requirements for its area. Recent changes in the senior staff are expected to yield improvements in work flow and training, as well as the development of standards to ensure that construction projects give full consideration to landscaping needs.

Utilities. Yale Utilities is responsible for providing normal and emergency electric power (public utility and Yale generated), heating, and cooling for buildings at the central campus,

medical campus, and West Campus. Each location has a central plant that is staffed continuously and a distribution network for the provision of utilities to individual buildings.

The mission of Yale Utilities is to provide utilities to each campus in a reliable and cost-effective manner. Reliability is accomplished through robust central plant design and operations by experienced staff. Cost effectiveness is achieved by aggressive procurement of outside utilities (primarily natural gas and electricity) and utilization of cogeneration, distributed generation, and renewable energy technology. There have been substantial investments in renewing, extending, and expanding Yale's utility infrastructure.

Housing

Yale provides extensive housing for undergraduates and for graduate and professional (G&P) school students. Upperclassmen live in twelve residential colleges, and freshmen live either in dormitories on the Old Campus or in two of the twelve residential colleges. G&P students are housed in a limited number of dormitories and a large number of apartments in neighborhoods adjacent to campus. Housing capacities are shown in Appendix 8S.

The residential colleges are the heart of the undergraduate housing system. About 45% of the space in each residential college is devoted to activities other than housing—dining halls, libraries, computer rooms, common rooms, student-run eateries, exercise rooms, student kitchens, laundry rooms, activity areas (such as pottery rooms, dark rooms, printing presses, art galleries, theaters, music practice rooms), administrative offices, seminar rooms, and residences for adults (masters, deans, and residential fellows). Almost all student housing is in the form of suites, with single and double bedrooms grouped around common rooms.

In 1999 Yale embarked on an ambitious program to renovate the residential colleges. In order to accomplish these renovations at the rate of one per year, it built a special "swing space" building to house students from one residential college while their college is under renovation. The cost of constructing such a building proved to be much lower than the alternative—spreading the work out over multiple summers and setting up and taking down the construction equipment on multiple occasions. Each renovation begins immediately after Commencement and continues until the end of the following summer. In that fifteen-month period the college is comprehensively renovated—mechanical systems are totally replaced, roofs are replaced or repaired, windows are replaced, and residential spaces are reconfigured to maximize private space and comfort. New furniture is provided in all public and private spaces, and all wall, floor, and ceiling surfaces are repainted and refinished. To date, nine comprehensive renovations have been completed, one is in progress, and two are planned (for 2009–10 and 2010–11). Each of these renovations has been completed in an architecturally sensitive fashion, at a cost of $35 to $100 million per project.

Several other housing renovation and construction projects have been undertaken. Small additions were made to two of the colleges (Davenport and Pierson) and a new building, Arnold Hall, housing 43 students, was constructed adjacent to one college. Vanderbilt Hall, the largest freshman dormitory on the Old Campus (housing over 300 students) and Rosenfeld Hall (part of Timothy Dwight College) received comprehensive renovations. In addition, student activity spaces have been constructed in the residential colleges, a new student theater was constructed, and theater/dance rehearsal lofts were created.

Classrooms

There are 724 classrooms, seminar rooms, lecture halls, teaching laboratories, and studios on central campus occupying more than 470,000 square feet. The School of Medicine has 64 classrooms and learning spaces occupying 57,900 square feet. While the majority of classrooms are controlled by the schools and departments in which they are located, 118 classrooms are controlled fully or jointly by the FAS registrar's office.

In the past ten years Yale has completed significant upgrades of its teaching facilities, particularly in the areas of media and technology. Of the 271 classrooms used for instruction by FAS, 76% have been equipped with digital display technology to support multimedia presentations. ITS Media and Technology Services (M&TS) provides classroom technology and academic computing services in support of teaching and learning for Yale College, the Graduate School of Arts and Sciences, and Yale School of Medicine. The other professional schools have independent support structures for providing these services. Recent advancements in classroom technology resources include digital note capturing, annotation technology, digital audio recording, mobile laptop carts used in support of academic instruction, and a state-of-the-art film screening room to accommodate 16 and 35 mm film projection.

The Classroom Committee, which includes faculty and administrators, reviews plans for new and renovated classrooms, conducts an annual survey to gather faculty opinion about their teaching spaces, and coordinates plans for classroom improvements. The committee has developed design guidelines for learning spaces, shown in Appendix 8T, that focus on those aspects of physical space that most directly impact the effectiveness of presentation, communication, and interaction in a classroom.

Laboratories

The University provides "wet bench" molecular biology, chemistry, engineering, computational labs and "dry" research space that resembles a typical office environment. Additional provisions include specialized laboratories accommodating a wide range of high-technology instrumentation. The schools and academic units with laboratory responsibilities provide funds for maintenance, renovations and new construction.

In the past ten years Yale has constructed five major research buildings and has renovated more than 60% of its existing laboratory spaces. The new buildings and renovations are designed to be flexible in their use to accommodate future changes in occupancy and technology. However, remaining laboratory spaces at or toward the end of their life cycles are not supportive of today's research agenda and pose challenges in recruiting new faculty. Lack of swing space to accommodate displacement during construction has added to the costs and durations of renovations. Construction documents for the Yale Biology Building and schematic design for the total renovation of the chemistry complex for undergraduate science teaching and chemistry research are complete, although financial constraints have deferred construction.

It continues to be a challenge to balance high-technology needs of much modern research with available capital funding. Many of the latest high-technology instruments require highly specialized support infrastructure whose construction tends to be very expensive.

IT Infrastructure

The University currently maintains three enterprise-class data centers that are used for both administrative and academic computing support. Numerous small facilities also house computer equipment in departments or near research laboratories (see Appendix 8U). Currently, 100% of faculty offices and student residences have a wired Ethernet connection to the campus network. The standard connection is at 100 Mb with additional capacity provided where necessary for network-intensive computing. All faculty in Arts and Sciences have at least one supported, standard computer. Public and departmental computing labs (clusters) exist to service the small percentage of undergraduate students who do not have their own computer (less than 10%) and to give access to specialized, and often costly, software applications.

The University has, for several years, been investing in high-performance computing (HPC) hardware and support to meet growing research and teaching needs, and it continues to invest heavily in file storage for research and teaching. It has begun efforts through the Office of Digital Assets and Infrastructure (ODAI) to address life cycle issues for data management, including preservation, search, and access.

Yale has made steady and ongoing improvements in its information technology infrastructure. ITS is working to remediate subpar wiring in older buildings. This must continue and in several cases accelerate, since IT has become a much more critical component of research and teaching in the past ten years. Networking, high-performance computing, file storage, and software licensing are four areas where accelerated progress is essential. Given that building wiring is predicted to last ten to twenty years but technology for networking is advancing much more rapidly, we are concerned that we are under-investing during construction in physical wiring that performs over time.

Athletics Facilities

The University has approximately 1 million GSF of facilities in 21 athletics buildings (excluding open stadiums). These buildings, with the attendant outdoor facilities, provide the physical resources for 35 varsity sport teams, 32 club sport teams, 30 undergraduate intramural sports leagues, 10 graduate student sport leagues, and a wide range of fitness classes, instructional classes, and recreational opportunities not only for the students, faculty, staff, and alumni of Yale but also for the New Haven community. The last decade has seen significant expenditure on athletic facilities, as summarized in Appendix 8V. A complete inventory of athletic facilities is in Appendix 8W.

Transportation

The University's transportation resources include more than 7,000 leased and owned open parking spaces and structured parking garages. Leased and owned buses, vans, and SUVs operate a comprehensive shuttle system with fixed routes as well as door-to-door service in defined areas in the evening and overnight hours. Covered and uncovered bike racks are located throughout campus. A transportation-demand management program has been implemented to promote commuting options.

Proximate parking remains at a premium as more and more surface parking lots are used as building sites. Parking need and resource studies are performed annually. Additional parking areas have been leased to accommodate recent growth. Shuttle routes are monitored frequently for overall effectiveness. New routes have been added and ridership has grown tremendously. Mass transit and commuting options are becoming more popular. Single-occupancy vehicles have been reduced from 41% to 37% in the last year.

Sustainability

Sustainability has become a top University priority, and Yale has earned a reputation as a national and an international leader in campus sustainability. These efforts include upgrades in the physical systems, increased staff, ambitious goals, improvements in utilities, transportation enhancements, green purchasing initiatives, recycling efforts, and sustainable food programs.

In a span of ten years, "sustainability" at Yale has progressed from undergraduate students presenting the case for increased awareness and significant actions to the Provost to establishment of the Provost's Advisory Committee on Environmental Management, hiring the inaugural director of sustainability, and establishing an Office of Sustainability with five FTE staff, nineteen student Research Assistants and four international exchange students .. This has been facilitated with top-level support from Yale's president.

As part of President Levin's goal of making Yale a model of sustainability, the University has committed to reducing its greenhouse gas emissions by 43% below 2005 levels by 2020 despite the challenge of campus growth. To reach this goal, Yale has upgraded heating and cooling systems; installed thermally efficient windows and automated heating and lighting controls; launched on-site renewable energy projects; and encouraged energy-saving practices. Yale's main power plant is a cogeneration facility, producing both electricity and steam for heating and cooling, which boosts efficiency and cuts emissions. The power plant that serves the Medical School is also being converted to cogeneration. In addition to using biodiesel fuel in its campus bus fleet, Yale has decreased the number of cars on campus by introducing Zipcar, a service that makes fuel-efficient vehicles available for short-term rental to faculty, staff, and students around the clock. The new "Y–Bike" program provides free bikes for traveling within the campus. The University also helps match people in commuter car pools.

Procurement has developed a comprehensive set of Environmental Preferable Purchasing standards for many commodities used on a campus on a daily basis, including copy bond paper, office supplies, furniture, paint, and vehicles. Yale primarily is using cleaning products that have reduced impact on the environment and human health. New campus-wide green-cleaning standards account for 90% of cleaning supply expenses. Students on a recycling outreach team visit all new employees to explain campus recycling and help them begin their Yale careers on a sustainable footing. Yale Recycling has also expanded its efforts to work with Yale labs, holding orientation sessions and exploring the potential for recycling various lab materials. A program introduced this year by Yale Recycling brings food waste from campus dining halls to a composting facility, and another encourages departing students to donate unwanted furniture and electronic equipment for redistribution to local non-profit organizations.

Yale staff have led national efforts to standardize criteria for LEED certified laboratory renovations. Two new buildings have earned LEED Platinum rating (Kroon Hall and the sculpture building) and two have earned Gold (Malone Engineering and Amistad Street Building at the Medical School). Yale's campus is comprised of courtyards, gardens, open spaces and streetscapes, many intertwined with the layout of the surrounding city. A committee is developing recommendations to manage biodiversity, land, and water, focusing on urban ecology, operational practices, public health and the natural processes that act in and around campus.

Finally, the Yale Sustainable Food Project collaborates with Yale Dining Services, manages an organic farm on campus, and runs education programs. Today 40% of food options offered by Yale Dining Services are locally and/or organically grown.

Future Agenda

Campus Planning

Several planning studies, shown in Table 8.3, are projected both on the central and West campuses. These studies will progress as time and budgets permit.

Table 8.3: Expected Future Planning Studies

- Additional studies of Science Hill departments
- Specific graduate housing buildings and reuse/replacement options
- Use of Hillhouse Avenue sites for new construction
- Additional academic, administrative, and function space associated with the additional undergraduates in the new residential colleges
- Arts and museum needs for staff, collections, and theater space
- A West Campus master plan
- A Medical district strategic plan
- A Medical School ambulatory space master plan
- Campus infrastructure utilities and telecommunications studies

Construction

The body of collective knowledge and the sets of standards and guidelines derived from executing repeat projects of similar nature have many advantages. However, repetition sometimes inhibits reconsideration and improvement. One way to provide needed change and refinement to the system would be to institute more rigorous and consistent post-occupancy evaluations. This might be accomplished by utilizing existing and new tools to measure performance of both the process and the product, to get input from the end users and feed their recommendations back into the process to refine existing methods and standards.

The Office of Facilities will continue to integrate the construction and renovation processes of the central campus and School of Medicine groups and to improve interface with the operations section. FC&R will continue to participate in the creation of a database, shared

with the Office of Finance and Administration, for the initiation and tracking of capital projects and preparation of the annual capital budget.

Physical Plant

To support increasingly complex building systems, the central campus Physical Plant department currently is reorganizing to a central service model and reducing its dependence on zone maintenance. As part of the reorganization and with the understanding that the science buildings have a critical and urgent service need a reshaped science zone will be developed.

Grounds Maintenance

The robust renovation and campus expansion program of the past ten years brings a number of challenges for the grounds maintenance staff. The large volume of renovations and building projects has stressed the current organizational structure, limiting its ability to provide consistent service and support in all areas. Unlike building construction that ends on completion, landscaping is a continuous effort that begins after planting and requires an investment in resources and talent to maintain the lawns, trees, and flora.

Utilities

To meet growing needs, Utilities is constructing a new chilled water plant to supplement capacity of the existing central plant, adding steam generating capacity, and increasing capacity of the existing emergency power system. It is also undertaking a long-term planning study for replacement of existing cogeneration turbines at the central plant. At the Medical School campus, the existing thermal plant is being upgraded to cogeneration, which is expected to reduce both cost and greenhouse gas emissions at the campus. Yale's West Campus utilities infrastructure is being evaluated relative to long-term development plans and will be upgraded and improved as needed.

Housing

When funding is obtained, Yale plans to construct two new residential colleges housing a total of 850 students. Total undergraduate enrollment will increase from about 5,300 to about 6,000 when the colleges open, and some existing housing will be "decrowded." Like the other residential colleges, these colleges will have extensive space for student activities, and a new building will be constructed adjacent to them that will contain a new student theater. G&P student housing needs and potential solutions are being reviewed in studies that will be completed shortly. Existing G&P housing will also be examined in current and future studies to determine their long term suitability.

Classrooms

New and renovated classrooms should be designed to suit the needs of all departments and schools that will potentially use them, not just the needs of the school or department occupying the building. In order to improve institutional management and scheduling of

classrooms, Yale needs to develop clear policies regarding scheduling control and related levels of support. In addition, Yale should purchase and implement a centralized scheduling system that includes analysis software to assess utilization and assist with institutional planning for new classrooms.

Yale should implement a classroom review process to assess and then correct any problematic conditions. After initial assessment, Yale should prioritize projects, conduct follow-up reviews, and upgrade one-third of the classrooms annually on a three-year rotational cycle. Yale should accommodate a growing need for experimental learning space. It needs to allocate resources for a place and a staff dedicated to partnering with the faculty to (a) explore the use of technology in pedagogy; (b) assess the effectiveness of technology-enhanced learning activities; and (c) disseminate lessons learned and best practices.

Laboratories

The newly acquired West Campus, with approximately 0.5 million square feet of laboratory space, in addition to offering opportunities for new research agendas and organizations, will be able to accommodate significant recruitments, thus allowing for the initiation of interdisciplinary and collaborative research efforts. In addition, it can be used as intermediate swing space to facilitate renovations on the central and medical campuses. Vacant or newly created biomedical facilities in the periphery of the existing campuses will continue to provide both short- and long-term solutions to satisfy swing space needs for recruitment and renovations. In the meantime, the capital program foresees the systematic continuation of renovating laboratories on a yearly basis and anticipates renovating all of its facilities within the next decade. In addition, a multi-decade plan to renovate and expand Science Hill on central campus continues to move forward.

IT Infrastructure

The following areas have been identified for improvement—data center capacity, systematic investment in high-performance computing resources and support, and file storage capacity. A construction project (entering the design phase) has been initiated to build two large-scale consolidated data centers to serve Yale's administrative and academic needs. In the interim, temporary systems were installed on West Campus to meet burgeoning needs. Continued, annual systemic investment by the Office of the Provost in high-performance computing equipment and staff is promised and will supplement grants from NSF, NIH, and DOE. All these investments will benefit both teaching and research.

Athletics Facilities

The pressures for maintaining, improving, and expanding Yale's athletic facilities will continue, and planning and fundraising for several projects are currently under way. Finding the optimal blend of scope, schedule, and budget will remain a challenge.

Transportation

As West Campus is occupied, regular transportation must be extended to the central and medical campuses. Mass transit subsidies and other initiatives should decrease demand for surface and structured parking and reduce the University's carbon footprint.

Sustainability

While we are excited about the opportunities in extending sustainability at Yale and extending Yale's role in the nation and the world, several challenges will need to be faced. These include matching work load with staff size and skills in the Office of Sustainability; creating formal and informal reporting relationships that will enhance progress in key areas, such as transportation and food; maximizing our impact in the context of constrained financial resources; and, finding ways and means to integrate sustainability better into the daily activities of staff who are typically fully engaged with their roles at Yale.

STANDARD NINE: FINANCIAL RESOURCES

> Yale University today is an institution of which we can all be justifiably proud. We will manage through this downturn in a way that will preserve our great strengths and seize the most important opportunities for the future, so that Yale can continue to serve the nation and the world by advancing the frontiers of knowledge and educating the most talented and promising students for leadership and service.

> —Richard C. Levin in a letter to faculty and staff dated December 16, 2008

Description: Current Financial Overview

The Yale Corporation Finance Committee is responsible for planning, budgeting, and monitoring University financial resources. The University prepares operating and capital budgets annually, which are approved by the Corporation. The budget process requires sub-units to be reviewed and approved by the appropriate deputy provost and/or Office of Budget and Planning. The Office of Budget and Planning monitors actual performance against budget on a quarterly basis. Monitoring reports are presented to the University Budget Steering Committee and the Finance Committee of the Corporation.

The University has improved its financial planning and budgeting in the following areas:

- The University has developed a ten-year Financial Equilibrium Model that projects the University's capital plan, square footage additions and renovations, and capital funding, and integrates this information with the University's ten-year operating budget and endowment models. Long-term planning assumptions tend to be conservative throughout the modeling process.
- To address deferred maintenance needs, the Corporation established a Capital Replacement Charge (CRC) to set aside sufficient operating funds for continued capital maintenance throughout the University. This has ensured that there is proper funding to maintain the University's infrastructure through challenging economic times.
- Over the past ten years the University has made numerous improvements in financial aid. In the most recent improvement, initiated in January 2008, the average financial aid grant now covers 75% of tuition, room, and board. As of September 2008, 56% of freshmen receive some form of financial aid compared to 44% for the academic year ended June 30, 2008.

At the time of the last reaccreditation review, Yale was in a very strong financial position with substantial net asset balances, strong student demand, competitive research programs, and a generous alumni base. Although the review identified certain risk areas such as debt, the changing medical care environment, investment market exposures, and uncertainties in grant funding, the University concluded that it was positioned to respond to most foreseeable financial events.

Time has proven this conclusion correct. The financial position of the University has significantly strengthened over the last ten years. Endowment net assets grew from $6.6 billion as of June 30, 1998 to $22.9 billion at June 30, 2008. This growth is directly

attributable to strong investment performance nurtured through prudent and skillful management, coupled with successful fund-raising efforts including the "Yale Tomorrow" capital campaign, which is currently in the fourth year of a seven-year effort.

Capital maintenance and strategic capital investment have been key priorities during the past ten years. Spending on facilities grew from almost $1 billion in the ten years ended June 30, 1998 to $2.8 billion in the ten years ended June 30, 2008. Renovation and construction of new facilities was largely financed by debt. Debt increased from $750 million as of June 30, 1998 to $3.1 billion as of June 30, 2008. This has allowed the University to improve its academic and research facilities while still maintaining the highest ratings (AAA/Aaa) given by the two rating agencies (Moody's and Standard & Poor's).

While the operating budget's reliance on endowment income has increased over the last ten years, we are taking appropriate steps to ensure the ability to operate during these tough economic times. Tuition, endowment income, gifts, grants, and medical services income represent a broad range of sources; therefore the University is not entirely dependent on a narrow range of revenue. Revenues have been steadily growing over the last ten years. All revenues are devoted to academic purposes and programs. Table 9.1 shows the composition of operating revenue for the years ended June 30, 1998 and June 30, 2008.

Table 9.1: Composition of Operating Revenue, FY98 and FY08

Source	FY98		FY08	
	Revenue (in millions)	% of revenue	Revenue (in millions)	% of revenue
Student income, net	$144.0	13%	$245.2	11%
Grant and contract income	$299.8	28%	$561.4	24%
Medical services income	$186.2	17%	$373.3	16%
Contributions	$49.3	5%	$111.4	5%
Endowment income	$217.6	20%	$850.0	36%
Other investment income	$19.7	2%	$53.6	2%
Publication income	$81.8	1%	$33.8	1%
Other (royalties, ticket sales, etc.)	$85.0	14%	$118.8	5%
Total	**$1,083.4**	**100%**	**$2,347.5**	**100%**

Sources: Yale University Financial Report 1997–1998, p. 21 and
Yale University Financial Report 2007–2008, p. 31

Accounting and Fiscal Control

The Audit Committee, one of twelve committees of the Corporation, is responsible for assuring that Yale's organization, culture, capabilities, systems, and processes are appropriate

to protect the financial health and reputation of the University in audit-related areas. The committee ensures the independence and performance of the University's internal and external auditors and also reviews whether appropriate corrective action is taken when deficiencies are identified. The external auditors are retained by the Corporation Audit Committee.

During fiscal year 2007 the University performed an enterprise-wide risk assessment that entailed identifying areas of potential risk that could impede Yale's ability to meet its objectives. One of the outcomes of the assessment was the creation of a unit within the University to monitor the Enterprise Risk Management (ERM) program. The ERM office reports to the vice president and general counsel.

To address the growing complexity of the organization, the University has restructured its finance and administrative units. The position of vice president of finance and administration has been split into two positions, both of which report to the president: the vice president of finance and business operations, and the vice president of human resources and administration.

The University's financial statements are audited annually by an external public accounting firm (currently PricewaterhouseCoopers, LLP). The auditors test internal controls of the University, track University compliance with generally accepted accounting principles, and report on internal controls over financial reporting and compliance with federal and state regulations.

Current Enterprise Architecture

Yale's year 2000 modernization project, "Project X," replaced virtually all core administrative systems. The large-scale initiative was the foundation for further process integration and service-level improvements across all areas of administration including general accounting, purchasing, accounts payable, and payroll.

Since 2000, additional improvements in business processes have occurred in procurement with the implementation of electronic invoicing, online requisitioning, and Web-based travel and entertainment solutions. The recent implementation of a new Web-based job posting and applicant tracking solution brought needed process improvements to human resources. Despite the significant systems improvement initiatives since 2000, opportunities to reach Yale's "Best in Class" aspirations across key areas of administration continue. Specifically, there are opportunities for improvement in the administration of research-related functions, integration of finance processes, and simplification of human resource-related business activities.

In fall 2008 the YaleNext administrative improvement program was formally approved by the Corporation and launched. The program began with a comprehensive assessment of business practices and will move quickly ahead with value-based improvements to Yale's key administrative business systems. The intent is to make overall administration much more efficient. Specific areas of focus for YaleNext include research enterprise, finance, human resources, payroll, and information technology.

Investments

The University's overall investment management strategy has not changed since the last reaccreditation. The University's portfolio is structured using a combination of academic theory and informed market judgment. Using statistical techniques to combine expected returns, variances, and covariances of investment assets, the analysis estimates expected risk and return profiles of various allocation alternatives and tests the sensitivity of these estimates to changes in input assumptions. Yale does not attempt to time markets tactically. The portfolio is rebalanced toward policy targets while taking into consideration commitments to illiquid classes such as private equity and real estate.

As of June 30, 2008, the University's endowment had a net asset value of $22.9 billion. Market value has grown significantly in recent years, as a result of both general market increases and successful investment strategies. The ten-year annualized return for the endowment as of June 30, 2008 is 16.3%, ranking at the top of the SEI Large Plan Universe. Yale's ten-year annualized return outperformed the median return of a broad group of colleges and universities.

Over the ten-year period, endowment excess performance earned $10.5 billion relative to the composite benchmark used by the Investments Office, and an estimated $12.9 billion relative to the mean return of a broad universe of colleges and universities. Endowment spending has also grown significantly over the ten-year period. Allocations for operating expenditures totaled approximately $850 million in the year ended June 30, 2008, providing approximately 36% of the University's total revenues of $2.35 billion. Ten years earlier, spending from endowment provided approximately $219 million or 20% of the 1998 operating budget of $1.08 billion. Over the ten-year period, support for operations from endowment spending grew at a 15% per annum rate.

The University bases its spending from endowment on a smoothing rule designed to balance the competing objectives of maintaining a stable stream of income to the operating budget and protecting the value of the endowment against inflation. The spending rule relates spending in the current year to both the present endowment value and the previous level of spending, effectively dampening the transmission of market volatility to the operating budget and allowing acceptance of greater investment risk. The current long-term spending target is 5.25%.

Since June 30, 2008 the University's investment portfolio has been affected by the global credit crisis and economic downturn, experiencing an estimated mark-to-market decline of approximately 25% as of December 31, 2008. Despite the challenging investment climate, the University remains committed to maintaining its investment strategy and has taken measures to improve both the quality and the liquidity of its investment assets. Like many of its peers, the University is navigating through the uncertainties of this economic downturn.

Fundraising Environment

The University's Office of Development is headed by the vice president for development and includes over 200 professionals across the University (including front-line fund-raising staff as well as support staff). Development officers cultivate and solicit alumni, parents, friends, corporations, and foundations in order to raise expendable and endowed gifts, both outright

and deferred, that support established University priorities. Throughout the University's history it has benefited from the generosity of its alumni and friends. Over the last ten years the Office of Development has raised $878.3 million for operations and $1,971 million for non-operating purposes.

During this ten-year period the University started the nucleus fund of the "Yale Tomorrow" development campaign in July 2004 and publicly launched it in October 2006 with a goal of $3 billion. It is a comprehensive campaign including Yale College, the graduate and professional schools, and major units of the University. In preparation, a detailed review of priorities was undertaken by the president, provost, deans, and directors. Yale College, the arts, the sciences, and internationalization were identified as the overall priorities within which funds will be sought for faculty endowments, financial aid, facilities, and new programs. Because of the strong results of the campaign, the goal was increased in June 2008 to $3.5 billion. The increased goal adds the expansion of Yale College through the addition of two new residential colleges as a new campaign priority. The campaign continues to run ahead of schedule. As of December 2008, $2.5 billion had been raised or 72% of the $3.5 billion goal in 64% of the time.

The University requires minimum funding levels to establish endowed funds. The Yale Corporation sets these funding minimums upon recommendation of the vice president for development. Development officers work with donors to ensure that a gift's purpose meets the donor's wishes as well as the University's established priorities while also providing the necessary flexibility to allow successful fund management. For endowment gifts, standard gift agreements are signed by donors and the relevant dean, director, or provost as well as the vice president for development. These agreements outline the purpose of the fund and discuss how the fund will be spent if excess income is generated in the future, with a goal of providing the greatest flexibility for the University.

Patient Care Environment

Through its School of Medicine, the University is a world leader in advanced clinical care and the region's largest specialty health care provider with medical services income of $354 million in fiscal 2008. The largest portion of this income is derived from patient care services provided by the School of Medicine's Yale Medical Group (YMG). YMG is one of the largest academic multi-specialty group practices in the United States, drawing on the expertise of more than 800 faculty members of the School of Medicine in more than 100 specialties and subspecialties. Committed to excellence of care and service, YMG seeks to be the premier medical group practice in the region, with special emphasis on translating advances in research into clinical care.

Over the past decade YMG has grown in scope to provide centralized services, guidance, and support to the School of Medicine's clinical departments. Skillful managed care contract negotiations—leveraging the expertise, size, reputation, and wide array of services available within the faculty practice—have produced favorable reimbursement rates and lessened the pressures of managed care that were a major challenge ten years ago. The recruitment of world-class clinical leadership and practitioners has coincided with significant growth over the past decade, with annual patient visits doubling from approximately 522,000 to 1,154,000

and professional fee-for-service collections rising from $132 million to $248 million between fiscal year 1998 and fiscal year 2008.

Other components include income from staffing contracts with affiliated medical centers, in particular the University's strategic partner, the 944-bed Yale-New Haven Hospital (YNHH). The 14-story Smilow Cancer Hospital—a major expansion of the clinical programs and facilities of Yale School of Medicine, Yale Cancer Center, and YNHH—opens in the fall of 2009, adding 112 beds and nearly 500,000 square feet of additional space for patient care.

Research

Research is an integral part of the University's mission and operations. At the time of the last accreditation, grant and contract income was the largest source of operating revenue. Approximately 85% of grant and contract income relates to research activities. Research at Yale is focused especially in the biomedical field, although the physical sciences, forestry and environmental studies, law, and engineering are growing areas of research activity.

Over the last ten years the average annual increase in sponsored-agreement income was 8.7%, the number of research faculty has grown 22%, and the University has made significant investments in research facilities. A research facility built during that period was the Anlyan Center, which can support approximately 700 researchers. A key component of the Anlyan Center is the Magnetic Resonance Center, which is a crucial tool in the study of tissues and organs. Other new research facilities include the Environmental Science Center, the Malone Engineering Building, the Class of 1954 Chemistry Research Building, and the Amistad Building at the School of Medicine. The recent acquisition of West Campus from Bayer Pharmaceuticals has added an additional 520,000 square feet of laboratory space that will increase the research space by 50% once these labs are occupied.

Yale University holds the distinction of being one of the first institutions to receive a Clinical and Translational Research Award for the purpose of moving basic science from the bench to the bedside. Yale is also conducting research in other promising areas such as stem cell research. The University's significant investment in research demonstrates the importance it places on fulfilling its mission of creating and disseminating new information and improving the human condition.

Appraisal and Future Agenda

As with all academic institutions, we are facing the challenges of the current economic downturn. To date, we estimate that the endowment has had approximately a 30% decline, comprised of a negative 25% investment return in fiscal year 2009, plus 5% spending during the course of the year. Recognizing our increased reliance on endowment for operating expenses, we have begun the process of implementing proactive steps with extremely conservative estimates to reduce our operations budget. As a University we recognize the need to ensure that we not only make it through these tough economic times, but also continue to preserve our future educational opportunities. Total operating expenses (excluding faculty salaries) have been reduced by 7.5% for fiscal year 2010. Operating expenses excluding salaries will be reduced by an additional 5.0% in fiscal year 2011. Spending on certain capital projects will be delayed until conditions in debt markets permit continuation, or gift funding

can be secured. The University will continue to monitor financial markets and investment performance and modify these plans as the situation requires.

Given the current economic stimulus program, the University sees many opportunities to enhance its research and clinical capabilities. We have been at the forefront in our research activities and have been making aggressive strides in enhancing our position relative to our peers. With additional research space and our continued interest in seeking out the best and brightest researchers, we are in a solid position to take advantage of the stimulus program as well as to enhance the University's overall research capabilities.

Despite the downturn in the economy, the University is in a better position than it was a decade ago. University net assets have grown by more than 140% in the last ten years. Over the last decade, significant improvements have been made to campus facilities including classrooms and research facilities. The University has expanded access by offering more generous financial aid to all qualified applicants. The University also has been able to balance its operating budget while making significant improvements to programs offered. In all these efforts, the University has been supported and enabled by the thousands of alumni and friends who have contributed to the "Yale Tomorrow" development campaign. We will continue on this journey, and we are well positioned to handle the challenges that may come. We remain ever mindful and careful to guard one of our most significant key missions—education of future generations.

STANDARD TEN: PUBLIC DISCLOSURE

"Accountability to institutional mission" means that colleges and universities should make data available by which external constituencies—including prospective students, parents, the government, and other funding agencies—can judge whether those institutions are performing their missions successfully. The schools endorsing this statement collect, analyze, and provide information by which their various stakeholders may make informed decisions. However, committing to greater transparency in accountability should not divert institutions from conducting assessment in ways that will contribute the most to continuing improvement of teaching and the curriculum.

—Consortium on Financing of Higher Education, November 20, 2008
Statement on Assessment

Description

The University communicates its educational goals, academic rules and regulations, expected educational outcomes, and institutional strengths to prospective and current students through three principal venues: printed admissions materials, Web sites, and the annual Bulletin series administered by the Office of the Secretary. These vehicles form a spectrum ranging from more objective and quantifiable information typically found in the bulletins regarding institutional resources, faculty, descriptions of the disciplines, degree requirements, and course offerings, to the predominantly marketing-oriented (and thus more subjective and narrative-based) admissions brochures.

The course catalogues describe Yale's programs fully and serve as the definitive manuals of academic policies, course offerings, and degree requirements. They include the *Yale College Programs of Study* and the *Graduate School's Programs and Policies*. In the past, printed copies were distributed annually to all students, but increasingly the University is turning to the Web as the dominant means for making these publications available. The bulletins in print and Web form serve as annual documents of record, and are not changed on the Web more frequently than annually except in extraordinary circumstances. The University makes an effort to ensure the consistency of information between print and online versions.

The *Yale College Programs of Study* advances a clear statement of desired educational outcomes—specifically that the undergraduate curriculum "aims to cultivate a broadly informed, highly disciplined intellect without specifying in advance how that intellect will be used" and "instill knowledge and skills that students can bring to bear in whatever work they eventually choose." Curricular aims are elaborated in narrative form in the bulletin, as well as schematically in a chart published on the Yale College Web site. Yale College's primary admissions brochure portrays the diverse educational possibilities available to students in the form of documentary narratives and case studies of undergraduate careers.

The introduction to the Graduate School's bulletin articulates the goals of graduate study.[1] Additional perspectives are provided through the Graduate School's admissions recruiting

---

[1] *Graduate School Programs and Policies* 2008-2009, p. 15.

brochure and its newsletter (available in print and online), which feature current research by faculty, students, and alumni, highlighting awards, publications, and other professional recognition.[2] Also available on the Graduate School's Web site are the results of its recent "2–4 Project," as described in Standard 4. These candid reports have fostered a productive exchange of best practices among departments and provided prospective students with an unprecedented window into the often opaque mechanics of graduate study.

Yale is actively expanding its international presence, drawing students and scholars from around the world and strongly encouraging students to pursue study abroad. Academic exchanges and research collaborations in other countries are increasing, and many of these are detailed in the bulletins of participating schools, publications of the Whitney and Betty MacMillan Center for International and Area Studies at Yale, and the University's *Yale and the World* Web site. Yale has also launched a Student Grants and Fellowships database, a Web-searchable source of information for all students—undergraduate, graduate, and professional—about funding for research and travel administered by the University.

The departments of the Faculty of Arts and Sciences provide information about matters specific to their programs of study and research, including degree requirements. Most importantly, the departmental Web pages portray the current work of the faculty and serve to introduce students to the faculty and staff who provide academic mentoring and practical advice. These are the clearest indication to any prospective student, undergraduate or graduate, of the educational opportunities available at Yale.

Yale is aware of the recent national debate about the public availability of statistical information that could be useful to prospective students and others. The University has long participated in reporting to the Department of Education, published an institutional fact sheet through the Office of Institutional Research (OIR), and, more recently, participated in the U-CAN initiative of the National Association of Independent Colleges and Universities (NAICU). Yale recently installed a financial aid calculator on its Web site to help prospective undergraduates and their families predict what they would pay for a Yale College education. The Graduate School provides statistics on its Web site about each of its doctoral programs, including median time to degree, completion rate, and placement information—among the most detailed and extensive figures published by any graduate school in the United States. Such information enables prospective students to make informed decisions about the vast opportunities and personal and financial commitments involved in obtaining an advanced degree.

Yale's Web sites are increasingly its principal means of describing the University to prospective students; disclosing degree requirements, course offerings, and other matters relevant to enrolled students; and presenting the University's achievements. In order to maintain an inclusive and welcoming presence, Yale has attempted to make its Web sites and Web-based documents easily accessible to persons of all abilities and disabilities, as well as to audiences with varying degrees of familiarity with the jargon of academic institutions.

---

[2] Each of these printed documents is available on the Graduate School's Web site, linked directly from the home page itself or in sections titled "Admissions," "Policies and Regulations," and "Publications," as well as a gateway specifically addressing "Prospective Students."

The University has given particular attention to the roughly eighty Web pages that are linked directly or within a few clicks of the "www.yale.edu" home page and which are often referred to collectively as the "Blue Site." It has sought to ensure that information of greatest public interest is available intuitively with a minimum number of links. The pages are designed to enable users to find information through multiple paths, including browsing by topic and by the users' role (e.g., prospective student, faculty member, or visitor), to accommodate differences in browsing habits among users. The Office of Undergraduate Admissions conducted its own careful study of how prospective students use the Web, which guided the redesign of its print and online publications, one of the primary portals between Yale and the general public.

The University strives to communicate with the Yale community and other interested parties about important issues affecting the status of the institution and its future direction. When Yale made the decision in 2008 to expand enrollment in Yale College, the report of the Study Group to Consider New Residential Colleges was posted on the Web. It similarly posted its reply to the January 2008 questionnaire from the United States Senate Finance Committee, which provides a close look at Yale's policies for managing its endowment and a comprehensive view of financial aid at Yale. Also available for public review online have been President Levin's three candid letters[3] to the Yale community in recent months concerning the economy's effect on planned investments in academic programs, the availability of financial aid, and other matters on the minds of faculty, staff, and students.

Appraisal

Yale has made significant progress in managing the development of Web-based media as the principal means of disseminating information about the University. Its report of 1999 conceded that "Yale's Web site is somewhat out of control." Since then, Yale has achieved a high level of organization and clarity across the 750 Web sites referenced in its main directory. The sites that serve as the main portal for the Yale community and the broader public, such as those that make up the Blue Site, are managed to ensure that essential information is readily available in an intuitive presentation. The Web sites provide clear navigation with concise text, ample white space, and sufficient color contrast quotients, all of which enhance the experience of the general user while also ensuring that the sites are legible for page reading software and the colorblind. The recent upgrade of the search engine has also significantly improved a user's ability to find specific information, but further improvements are still needed.

Many departments in the Faculty of Arts and Sciences have made use of templates developed by the University that encourage the inclusion of standard information regarding undergraduate and graduate degree programs, as well as the faculty and their research interests. Beyond this, however, the University deliberately allows individual schools and administrative units to design Web sites that reflect their local needs and unique character.

Nevertheless, the proliferation of Web-based materials that can be updated more easily than print versions has created greater potential for disparities to arise between information

---

[3] Letter of October 22, 2008; Letter of December 16, 2008; Letter of February 24, 2009.

online and in print, as well as confusion regarding the definitive statement of University policy. The Graduate School has addressed this by updating the Web-based version of its Bulletin annually in parallel with the print version; in 2009–10, only the Web-based Graduate School Bulletin will be produced. As the University substitutes Web-based for printed editions, the possibility of discrepancies should diminish. The University is considering measures to ensure that students, faculty, and staff receive and are familiar with the most recent Web-based versions of Yale policies, but for the present time this remains a challenge.

There is a lack of centralized and consistent information about the faculty, which is distributed across individual departmental Web sites and not located on a consistent level of the sites' hierarchies. No single clearing house exists in print or online that would enable an interested party to review or report on this information.

The Committee on Standard 10 invested significant time during this accreditation process to mapping the location of every item of information prioritized by NEASC under Standard 10. It found that the disclosures required under Standard 10, with rare exception (such as expected amount of student debt upon graduation), are available within Yale's Web sites and print publications. The Web-based materials are accessible to anyone, including visitors outside the University. The degree to which information is layered within these sites does vary. Contact information for each school within the University can be found within just one click of the mouse; statements of educational outcomes are typically accessible within two to five clicks. We are working with Web masters of selected schools to ensure that all required disclosures are made. In addition, the University is sharing the results of the analysis with the Web masters of each school to assist their continuing review of the design of Yale Web sites and their effectiveness in presenting the University to the public.

The Graduate School sets a high standard in providing informative and easily accessible statistical profiles for each department, including data on career activities of graduates. Prospective undergraduates appear to have ample resources to make a thoughtful decision about whether to attend the College, with considerable information provided by the offices of Admissions and Financial Aid, Yale's Web site, and commercial third-party publications. However, Yale College does not make available in one recognizable place a simple statistical portrait of itself.

Professional schools also tend to do a good job tracking the careers of their graduates. Starting in 2001, the Law School's Career Development Office began soliciting career feedback from alumni five years after graduation. The Law School's Admissions page has a link to these Employment Statistics, from which one can navigate to additional data from the survey, including debt burden, salaries, work schedules, and more. The School of Management has a link to employment statistics easily found on its Careers page. The School of Forestry & Environmental Studies surveys graduates six months after graduation; results can be reached from the Prospective Students page or the Current Students page.

The Office of Institutional Research posts some information, such as the immediate post-graduation activities of Yale College graduates, but in a location few prospective students would reference. Yale does not currently publish information about retention and graduation rates for Yale College, nor does it publish the findings of various assessment activities that substantiate claims about outcomes for undergraduates.

The financial aid calculator now available on the financial aid Web site has greatly improved Yale's outreach efforts, presenting Yale's generous financial aid policy in a way that is individualized and easy to understand. It clarifies the difference between "sticker price" and what students actually pay, a confusion that could formerly discourage prospective students from attending Yale.

Future Agenda

The University recognizes that the interest in public disclosure has changed since its last accreditation, especially in the past few years. Yale is doing a good job in many ways but could do better still.

The University will continue to strive for a Web site architecture that provides ready access to essential information while allowing latitude for creative design that reflects the diversity of institutional cultures and communications goals among the individual schools and administrative units of the University.

Yale is planning to publish on its Web site a straightforward, graphics-rich presentation of statistics that describe Yale to the public and prospective students. One model is a "Yale by the Numbers" page that provides frequently requested information about undergraduate education, including the composition of the student body, retention and graduation rates, career outcomes of graduates, and highlights of financial aid policies. See Appendix 10A for a draft of what might be included. The Committee on Standard 10 considered the NAICU template, as well as the Association of Public and Land-Grant Universities' (APLU, formerly NASULGC) College Portrait, COFHE's charts on financial aid, and even one table from Stanford's admissions brochure. We borrowed from a number of sources, including the current OIR fact sheets, in making a working draft of a consumer-friendly presentation of key information about Yale with an emphasis on Yale College.

Yale will continue to ensure that print and Web-based publications are accurate and consistent and clarify which documents represent official statements of policy. The University also should ensure that the content of departmental and faculty Web sites meet disclosure standards, including NEASC Standard 10.6. One approach might be developing a university-wide database to maintain current and easily reportable information regarding the faculty, including their status each term and accomplishments. The University would benefit from collecting information on how the Blue Site is used. Selective polling of users may be a good way to obtain this information. These efforts should be led by the Office of the Secretary.

As the University reviews statements of educational goals and accomplishments for individual programs, revisions or additions should be reflected in the printed and Web-based materials describing Yale's educational programs to prospective and enrolled students.

STANDARD ELEVEN: INTEGRITY

> The University's mission of advancing knowledge and educating citizens requires all members of the Yale community to share a commitment to excellence. The excellence we prize in our work can be sustained, however, only if our actions as members of the Yale community are beyond ethical reproach. The success and reputation of the University in fulfilling its core mission depend on the integrity with which each community member—whether dean or faculty member, business manager or other staff—participates in our joint endeavor. . . . Yale faculty and staff should conduct themselves ethically, honestly, and with integrity in all dealings.

> — President Levin's Introduction, *Yale Standards of Business Conduct*, October 24, 2003

Introduction

In the past decade the University has responded actively to fundamental changes occurring in our country and world. These include globalization, technological advances, broadening regulatory stringency, and, most recently, difficult economic conditions. Each of these developments has presented new issues in integrity, and each will continue to do so. Our self-study on this topic is organized into six short essays: Governance and Tone at Yale; Ethics in the Undergraduate Community; Ethical Challenges Facing the Global University; Digital Technology and Integrity; Integrity in the Undergraduate Admissions; and Research Integrity and Compliance.

Governance and Tone at Yale

Description and Appraisal

President Levin set a tone of energetic commitment for the entire NEASC self-study and reaccreditation process when he convened chairs and co-chairs for a launch meeting in the Yale Corporation Room in September 2008. In that gathering he strongly encouraged participants to use their assignments as an opportunity to learn about, reflect upon, and strengthen Yale.

The University's 2003 promulgation of the Yale *Standards of Business Conduct* reflected a similar commitment to integrity. The *Standards* integrated many previously existing policies (e.g., regarding conflict of interest, antitrust compliance, and sexual harassment) with newly articulated standards regarding ethical conduct, compliance with laws and contractual obligations, the stewardship of Yale property and funds, and other principles. In 2008 the [*Standards*](#) were reissued and again distributed widely. Newly included that year was explicit prohibition of retaliation against anyone who, in good faith, alleges a violation of the *Standards*.

President Levin's communications regarding a federal investigation of its federal grant accounting procedures stand as an important model of ethical conduct. At the outset of the investigation in 2006, the president committed publicly to full cooperation with the

investigation and provided the leadership and resources needed to fulfill that commitment. University faculty and staff worked closely with the government to produce complete documentation related to the stated accounting concerns and provide careful analysis of years of transactions. At the conclusion of the matter in 2008, when a settlement payment was made to the government, President Levin's public statement reminded all community members of the serious responsibilities inherent in accepting federal funds in support of research.

Future Agenda

Tone. Yale could find additional methods of weaving into the fabric of routine daily conduct the message that ethical behavior is expected of all those at the University.

International compliance. Application of the *Standards* in the context of burgeoning international initiatives poses special challenges. Compliance with U.S. law on domestic operations must be supplemented with compliance with U.S. laws regarding international activities, and with the laws of many countries regarding local activities such as hiring, leasing, and so on. To provide relevant guidance, in 2007 the University prepared and disseminated a fifty-page pamphlet called *Working Globally: Legal Considerations*. In addition, in 2008 the University convened a group of representatives from offices throughout the campus to identify and act on international compliance and operational needs. It has retained outside resources to advise on the panoply of immigration and local business compliance issues arising in countries around the globe.

The evolving compliance plan for international operations needs to be completed thoughtfully and thoroughly. Communications about compliance obligations in international operations could be improved so that faculty, staff, and students are more aware of best practices in hiring, traveling, and working outside the U.S.

Nondiscrimination, employment. An additional expression of integrity is found in the University's adherence to the principles of nondiscrimination based on certain social categories. As delineated by federal and Connecticut law, it is Yale's policy not to discriminate in admissions, educational programs, or employment against any individual on account of that individual's sex, race, color, religion, age, disability, status as a special disabled veteran, veteran of the Vietnam era, or other covered veteran, national or ethnic origin, or on the basis of sexual orientation or gender identity or expression. The University is committed to affirmative action under law in employment of women, minority group members, individuals with disabilities, special disabled veterans, veterans of the Vietnam era, and other covered veterans, and complies with related requirements. The University has created and implemented grievance processes to air and resolve allegations that its nondiscrimination policy has been violated. It provides training to faculty and staff on sexual harassment, and offers several avenues of recourse for persons who believe they have been targets of sexual harassment. In hiring and promoting faculty, in particular, the University has made focused efforts to improve its recruitment and advancement of minority and female faculty. It has altered its search process in the Faculty of Arts and Sciences and, more recently, in the School of Medicine to add a faculty "diversity representative" charged with finding ways to include women and underrepresented minorities in the search pools, and has trained that representative to be particularly sensitive to subtle expressions of bias.

The appointment in 2009 of a new chief diversity officer should help the office's operations and improve its continuity. The new position of vice president for human resources and administration provides increased support for diversity hiring initiatives on campus and for appropriate and ethically conducted downsizing.

Finally, to help ensure that members of the Yale community conduct themselves according to standards of integrity, nondiscrimination, fairness, and in accordance with law and University policy, Yale has in place a variety of grievance procedures tailored to suit various circumstances. These include, for example, procedures for adjudicating student grievances against faculty; staff grievances regarding employment; grievances regarding sexual harassment; and faculty grievances for non-promotion in violation of University policy or other unfair treatment. The procedures also establish a University Tribunal to assess serious cases of misconduct that could result in dismissal from the University, for faculty in particular. Also, many schools within the University have established their own grievance procedures to address complaints arising within those communities.

Grievance procedures. The community could benefit from more clarity and wider dissemination of the University grievance procedures, easier navigation on Yale's Web site to access information about these procedures, and increased simplicity and consistency among the procedures.

Ethics in the Undergraduate Community

Description and Appraisal

Each freshman and incoming transfer student is advised about the *Undergraduate Regulations* before arriving at Yale. These regulations make clear the responsibilities that students assume when they enroll in Yale College, responsibilities consistent with living and studying in a community devoted to mutual respect and honest academic inquiry. And, in the opening weeks of their first term, new students meet in small groups with their residential college deans. These "fireside chats" are informal conversations that give texture and nuance to the resources and regulations of Yale College. Deans explain that the regulations exist in support of various communities, and that such communities include rooming groups, classes, the residential colleges, academic departments and their intellectual disciplines, and the larger world of academic inquiry and research.

The faculty are also encouraged (for instance, though the Yale College Writing Center) to bring education about academic integrity into Yale College courses via their syllabi, the actual work of the course, and the ways in which the instructor and students discuss and understand the nature of writing and research as members of an academic community. Yale College is committed to the view that education about plagiarism should do more than help students know what to avoid; it should provide them with productive models for creative and original work even as they make fair use of the work of others.

Cases of plagiarism and other undergraduate infractions are dealt with by the Yale College Executive Committee, which is charged with enforcement of the *Undergraduate Regulations*. The full Executive Committee consists of ten regular voting members: three tenured members of the Yale College faculty, three nontenured members of the Yale College faculty, three undergraduates, and the dean of Yale College or the dean's representative. In addition there

are three officers of the Executive Committee: a chair, a fact-finder, and a secretary. These three plus a student constitute the Coordinating Group. In almost all cases, rather than appear before the full committee, students who are charged with an infraction choose to accept a "disposition without a formal hearing" by the Coordinating Group, which means that the student admits the validity of the complaint. The Coordinating Group may then decide that the complaint does not warrant a penalty, or it may assess a penalty ranging from reprimand to probation to suspension. Students meet with the full Executive Committee in cases in which they assert their innocence, or in certain cases in which the infraction is particularly severe.

In its dealings with these students, who always appear in person, both the Coordinating Group and the Executive Committee seek to be educational and not just punitive. The Executive Committee consistently emphasizes that a student who has been brought before it has an important role in the process. In the same way that members try to instill a sense of *ethos* in its work with ethical violations, they strive also to locate the student as a *person* in its discussions about personal responsibility.

There have been some new challenges. The Internet has changed the way students experience the community of information and discourse outside of Yale and has raised challenges for the maintenance of academic integrity. It is a rare student who does not consult an online source while working on a paper, and even well-intentioned students can lapse into unintentional plagiarism because of careless "cut and paste" editing that can easily blur the line between what is their work and what was imported from elsewhere. Students are often genuinely confused as to whether they need to cite sources such as Wikipedia and can lull themselves into thinking that information on the Internet is not only available to anyone but also "author-less." The Internet's covering or apparent erasure of the author has implications also for other kinds of ethical infractions that have increased in recent experience of the Executive Committee, including sending of e-mail under a false name (typically as part of a prank), modification of online information so as to produce ID cards with false birthdates, and falsification of information sent via the Internet to potential employers. Students often seem unaware of the gravity of these acts; they tend to see them as different from, say, sending off a forged letter or falsifying a written document.

On a positive note, such cases are still quite rare. Indeed, there has been no overall increase in the bad behavior of Yale students; the number of cases dealt with by the Coordinating Group or the Executive Committee has remained fairly constant over the last decade. The exception to this is alcohol-related incidents, but this is likely due to more rigorous enforcement of certain regulations, particularly involving the serving of alcohol to minors and the drinking of alcohol in public, because of changes in state law.

In 2007 Yale College, noting that there are student members on the full Executive Committee but none in the Coordinating Group (which as mentioned earlier, handles about 95% of cases), added a student to the latter. Yale College also began referring many alcohol-possession cases to the deans and masters of the residential colleges, who are better equipped to deal with these infractions.

Future Agenda

The University will need to continue and likely to increase its efforts to educate students about accountability and evolving standards of ethical behavior attendant on use of the Internet and other new technologies. In addition, challenges to the application of University disciplinary processes for behavior occurring off campus and particularly in the context of international programs could be more expansively addressed.

Ethical Challenges in the Global University

Description and Appraisal

As Yale's commitment to becoming a global university finds its full expression, the University is alert to demands that the growing array of international initiatives exert upon a range of offices and the services they provide. Six years after Yale's 2003 Report on Yale College Education urged that academic study of the international world and first-hand experience of foreign cultures become more conscious institutional goals, there is much to celebrate in what has been accomplished. Not surprisingly, challenges remain.

Communicating cultural norms. Yale actively seeks to attract students, faculty, and researchers from around the world, and incurs a corresponding obligation to make sure that these visitors are prepared for the challenges they may encounter here. Accordingly, Yale's Office of International Students and Scholars (OISS) offers a menu of orientation options. Undergraduates matriculating from outside the U.S.—now approximately 10% of the undergraduate population—attend a four-day training preceding the orientation week that is mandatory for all freshmen. Graduate and professional school students have access to a comparable program of activities over the first month of the fall term. Because new international scholars arrive almost daily, OISS also offers individual orientation sessions and group orientation sessions repeated monthly. Participants in OISS programs receive the practical information they need to get settled, a review of relevant immigration regulations, and an introduction to Yale, New Haven, and American life through a mixture of seminars and social events. As of spring 2009, freshman counselors (seniors selected to model responsible behavior and help freshmen make a successful transition to college life) will be introduced more systematically to issues specifically affecting international students. In addition, the Yale College Writing Center offers non-native speakers of English throughout the University both ESL writing support and instruction in the expectations governing preparation and submission of academic work, including norms related to plagiarism.

Applying regulations when there are immigration consequences. Yale recognizes that with respect to withdrawal from Yale College, international students sometimes need to be treated differently in order to be treated fairly. For example, Yale's standard policy is that students who are withdrawn for academic reasons cannot apply for readmission until after two full academic terms. But if the standard policy would cause an international student to be deported to a situation that could be expected to make the withdrawal permanent, Yale permits the student to apply for readmission after just one term away.

Financial aid for international students. Need-blind admission for international undergraduates (other than Canadians, who were already afforded need-blind admissions) was

implemented with the class of 2005. In recognition of their different circumstances, Yale offers these students a number of accommodations, including in its financial aid needs analysis and by provision of support for health plan participation and vacation and travel expenses.

Undergraduate travel abroad. In 2003–04, 550 students engaged in some form of international experience. By 2007–08 that number had grown to 1,229 students. The guiding principles for Yale College in developing these opportunities have been assurance of program quality and equality of access. Administrators have carefully planned and monitored the growth of international opportunities. In response to concerns raised in the practices at other institutions regarding the travel abroad industry, in 2008 Yale provided the Connecticut Attorney General with full documentation surrounding the ethical practices governing its relationship to independent providers.

Administrators also have developed outreach programming so that students know what programs are available, how to access them, and how to secure financial support as needed. To serve these goals, in 2006 Yale College created the position of associate dean for international affairs, and in March 2008 opened the Center for International Experience (CIE), which offers all students team-oriented advising and an integrated process for learning about international study, service, research, internships, and employment. To help ensure well-planned and safe experiences abroad, students enrolling in formal study abroad programs must interview with and be cleared by their residential college deans and register not just with Yale, but also MEDEX (Worldwide Travel Assistance and Medical Insurance), to establish a safety net.

Future Agenda

International opportunities. Yale plans to institute even more rigorous assessments of international opportunities and follow up more closely on students' obligations to evaluate and reflect on their own experiences.

Digital Technology

Description and Appraisal

Developments in digital technology have led Yale University faculty, students, and staff to expect easier and more effective ways to search, access, create, and share digital resources. The existence, use, and generation of online resources and multimedia and digital content have become more widespread both within and beyond the borders of the Yale campus. Electronic journals accessible to the Yale community by means of library subscriptions are rapidly outpacing paper journals. Consistent with societal trends, faculty, students, and staff appear to be spending more time on social networking platforms and participatory media environments, such as blogs, wikis, and listservs, which foster collaboration and the dynamic exchange of information. Further, advances in digital technology have allowed Yale to share more easily its intellectual and cultural assets with a broader global community. In 2007 Yale launched two ventures to appeal to this wider audience of learners: (1) *Open Yale Courses*, an open courseware initiative, which offers full course materials including audio-visual recordings of each lecture, transcripts, and syllabi for more than thirty popular courses free

via the Internet; and (2) *Yale University on iTunes U*, another free Internet-based educational experience, which features audio recordings of faculty lectures and presentations. More digital initiatives are in process and promise to extend Yale's intellectual and cultural reach and influence.

The evolution of digital technology has led to shifts in educational, social, and cultural norms, which in turn have challenged traditional conceptions of integrity. In addition to promoting efficiencies and enriching the "marketplace of ideas," digital technology can enable the widespread dissemination of content that is by academic standards, false, deceptive, dishonest, or invalid; by legal standards, infringing, invasive, or defamatory; and by general community standards, hurtful or highly offensive. Prominent among these concerns is the apprehension that the ease by which students, faculty, and staff may access and copy digital information may encourage plagiarism and copyright infringement. Further, projects such as *Open Yale Courses* and *Yale University on iTunes U* have underscored the need for well-articulated policies and process regarding ownership rights among faculty, staff, and students who contribute to collaborative digital endeavors, and standards regarding use of the Yale name to identify projects intended for widespread distribution.

Yale has responded to issues emerging from the digital environment by articulating policies and encouraging norms that support behavior that is respectful of the intellectual property and privacy rights of others, that is in compliance with the law, and that is fair, reasonable, and honest. Traditionally, Yale's department of Information Technology Services (ITS) has taken the lead in articulating the scope of appropriate conduct with regard to the use of technology, especially regarding Yale's network systems. Yale's Information Technology Appropriate Use Policy covers many such issues, while also acknowledging Yale's technology-neutral commitment to freedom of expression. ITS publishes specific guidance on copyright infringement in the context of peer-to-peer file sharing, and each year presents information to freshmen on the risks of illegally downloading copyrighted material.

Yale's Office of the Vice President and General Counsel regularly assists the Yale community in making informed decisions regarding use and distribution of intellectual and creative material in digital form. It also has supplied written resources regarding rights clearance and fair use; social networking platforms; use of electronic media in the classroom and in connection with open courseware projects; privacy rights; and standards for the development of terms of use for Yale-developed Web sites. Various other units and departments throughout the University have communicated to their constituents the importance of legal compliance and ethical conduct in this regard. To supplement these efforts, in 2008 Yale announced the creation of the Office of Digital Assets and Infrastructure (ODAI) to guide collaboration among the schools, libraries, museums, and other campus units in developing strategies relating to the creation, use, and dissemination of digital content.

Future Agenda

Yale's present copyright policy, last revised in October 2001, is in serious need of updating to address copyright ownership issues as they relate to the creation of digital media. It is imperative that the University effectively address and manage expectations of students and faculty in this regard, especially in light of various Yale-sponsored initiatives that feature faculty and student output.

Admissions: Changes in the Landscape and Challenges to Integrity

Description and Appraisal

The most obvious change in the admissions landscape at Yale over the last decade has been the remarkable rise in application numbers and the concomitant dramatic decline in the rate of admission. In the thirty years between the Yale classes of 1972 and 2002, applications increased by about 4,000 annually. In the last eleven years, between the Yale classes of 2002 and 2013, they increased by another 14,000, to 26,000. The rate of admission has declined from over 17% in 1999 to less than 8% for the class entering in fall 2009. NEASC Standard 11 advises that the University should "manage its interactions with prospective students with honesty and integrity." In today's intensely competitive climate, the University's warm welcome must be accompanied by information and advice enabling the applicant to make a realistic assessment of his or her chances for admission.

Technology. The dramatic rise in the use of the Internet in college admissions has profoundly changed the behavior both of applicants and of the Yale Office of Undergraduate Admissions. Prospective students who might never have considered Yale in the past find Yale through Web tools. Using e-mail, student workers at the admissions office reply to thousands of prospective students' questions each year and are major players in outreach efforts to recruit targeted groups of prospective applicants as well as admitted students. Today, 95% of applications are received electronically; all application documents are read online; and application documents are available for examination soon after receipt. The fairness and thoroughness of the evaluation process have been greatly enhanced as a result, as have the efficiency and timeliness of the application process. The use of the Internet also has raised expectations of the office for openness, efficiency, and responsiveness. Admissions has been able to provide easily accessible Web-based information about both Yale and the admissions process, but it is difficult to maintain accurate, clear, and up-to-date information on its Web site at all times.

Future Agenda

Admissions and technology. The [admissions Web site](#) needs an overhaul in design to make it more effective in providing easily accessible and up-to-date information to prospective students, as well as serving the regular admissions functions. Finally, there is the critical question of how to retain the integrity and fairness of the admissions process and the quality and diversity of incoming Yale classes, when the admission staff struggles to keep up with the increase in applications. Given the plummeting rate of admission at Yale, admissions officers feel that it is especially important to be as honest and open with prospects as possible about the extreme selectivity of the admissions process and the need for students to apply to a broad range of institutions. This may become an even more important function of the admissions staff in the future if application trends continue.

Research

Description and Appraisal

Over the past decade, Yale's research enterprise has grown substantially. It has grown in size, attracting over $626 million for sponsored projects in FY 2008. (In 1999 Yale had $370 million in support.) It has increased in complexity, as reflected by the creation of interdisciplinary programs such as the Yale Center for Clinical Investigation and the Yale Institute for Nanoscience and Quantum Engineering. Finally, it has advanced in distinction. Yale's School of Medicine, the University's largest recipient of sponsored research funds, rose from eighth (in 2005) to fifth (in 2008) in NIH rankings of medical schools by funding dollars. This growth is accompanied by expanded obligations to ensure the integrity of research activities.

The past decade has also seen an increase in research-related laws and regulations. Accordingly, the University now has policies supporting new and complex legislation such as the Health Insurance Portability and Privacy Act (HIPPA), and the USA PATRIOT Act. It also has undertaken major revisions of its existing policies regarding human research protection and conflicts of interest, with particular focus on faculty involvement in start-up companies, clinical research, and clinical practice. The Yale Corporation has instituted biannual reviews of the University's conflict-of-interest policies, and annual reviews of disclosures of outside activities of high-ranking University officials.

Future Agenda

Conflict of interest. The University has taken steps to promote a culture of compliance and integrity throughout its research community. A University Research Compliance Committee was convened in 2001 to exert broad oversight over research compliance activities. An early product of the committee was a [Training Management System](), which electronically alerts researchers to applicable training and disclosure requirements, provides access to related courses, and tracks compliance status. In 2005 the Yale Corporation formally designated the Yale [Interdisciplinary Bioethics Project]() a "center," confirming the project's role in stimulating university-wide discussion of complex ethical questions in biomedical and environmental research and clinical care. In addition, the University's animal care and use program maintains accreditation by the [Association for Assessment and Accreditation of Laboratory Animal Care International](), most recently achieved in 2007. The University currently is preparing for the accreditation process regarding its human research protection program through the [Association for the Accreditation of Human Research Protection Programs]().

The University recognizes the need to develop a comprehensive policy statement and procedure for handling institutional conflicts of interest. The General Counsel's Office currently is working on this policy and is in the process of reviewing Yale's policies and procedures related to clinical research and academic-industry relationships, in particular regarding the provision to industry of certain technical services, and sharing of royalty income with industrial sponsors.

Academic fraud and research ethics, student training. The provost has announced plans to establish an Office of Academic Integrity. The first task of the office will be to review and revise procedures, education, and communications relating to academic fraud. Yale anticipates that over the course of the next two years it will develop formal programs of training in research integrity and prevention of scientific misconduct for the research community and expand research ethics training for its undergraduate and graduate student bodies.

The risks of fragmented research processes were underscored during the investigation, concluded in 2008, of Yale's financial grant management practices. Since before the investigation began, the University has taken steps to improve its integration of research compliance and administrative activities. In 2006 the University created an Office of Research Administration (ORA) and recruited an experienced professional to oversee the office as associate vice president for research administration. ORA has reviewed all steps in the grants management process, coordinated activities of pre-award offices, revised and implemented core policies for effort reporting, enhanced financial management capabilities, and defined investigator-focused specifications for a new research administration system now under construction. The Office of Research Compliance (ORC), established contemporaneously with the ORA, has worked closely with ORA on these efforts. ORC has implemented a compliance assessment program and is taking steps to establish an internal risk assessment program. The University's Conflict of Interest Office is now enhancing the means available for faculty and research staff to disclose financial interests relevant to their research.

The University has begun a multi-year initiative (YaleNext) to enhance its business processes, such as by process redesign and addition of software technologies to integrate compliance programs and applications for sponsored research. Yale plans to address ethical issues arising from anticipated increases and flexibility in embryonic stem cell research funding through its Embryonic Stem Cell Research Oversight Committee. Finally, University licensing activities related to medicines needed throughout the world will continue to pose important ethical questions for the University community's focused consideration.

Table of Acronyms	
Acronym	**Full title**
AAUDE	Association of American Universities Data Exchange
AAUP	American Association of University Professors
ADA	Americans with Disabilities Act
CIE	Center for International Experience
CIHE	Commission on Institutions of Higher Education
CLS	Center for Language Study
COFHE	Consortium on Financing Higher Education
COM	Committee on Majors
CRC	Capital Replacement Charge
CYCE	Committee on Yale College Education
DAC	Design Advisory Committee
DOE	Department of Energy
DUS	Director of Undergraduate Studies
ELI	English Language Institute
EPC	Educational Policy Committee of the Corporation
ERM	Enterprise Risk Management
ESC	Class of 1954 Environmental Science Center
FAS	Faculty of Arts and Sciences
FASTAP	Faculty of Arts and Sciences Tenure and Appointments Policy
FC&R	Facilities Construction and Renovation
F&ES	Forestry & Environmental Studies
FOCUS	Feedback and Ongoing Coaching for University Success
FTE	Full-time equivalent
G&P	Graduate and professional
GPSCY	Graduate & Professional Student Center at Yale
GPSS	Graduate and Professional Student Senate
GSA	Graduate Student Assembly
GSF	gross square feet
GTC	Graduate Teaching Center
HGS	Hall of Graduate Studies
HIPPA	Health Insurance Portability and Privacy Act
HPC	High-performance computing
ISA	International Summer Award
IT	Information technology
ITS	Information Technology Services
LEED	Leadership in Energy and Environmental Design
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer

Table of Acronyms	
Acronym	**Full title**
LSC	Language Study Committee
M&TS	Media and Technology Services
M.E.M.	Master of Environmental Management
M.E.Sc.	Master of Environmental Science
MB&B	Molecular Biophysics & Biochemistry
MOU	Memorandum of Understanding
NAICU	National Association of Independent Colleges and Universities
NASULGC	National Association of State Universities and Land-Grant Colleges
NEASC	New England Association of Schools and Colleges
NIH	National Institutes of Health
NRC	National Research Council
NSF	National Science Foundation
OCE	Online Course Evaluation
ODAI	Office of Digital Assets and Infrastructure
OEHS	Office of Environmental Health and Safety
OIA	Office of International Affairs
OIR	Office of Institutional Research
OISS	Office of International Students and Scholars
OPR	Officers' Program Review
ORA	Office of Research Administration
ORC	Office of Research Compliance
PTAI	Part Time Acting Instructor
QR	indicates a course fulfilling the quantitative reasoning skills requirement
Sc	indicates a course fulfilling the science distribution requirement
SFAS	Student Financial and Administrative Services
SHARE	Sexual Harassment and Assault Resources & Education Center
TF	Teaching Fellow
TLA	Committee on Teaching, Learning, and Advising
UCS	Undergraduate Career Services
UHS	University Health Services
WR	indicates a course fulfilling the writing skills requirement
YCBA	Yale Center for British Art
YCC	Yale College Council
YMG	Yale Medical Group
YNHH	Yale-New Haven Hospital
YURAP	Yale University Retirement Annuity Plan