



# DECENNIAL REACCREDITATION SELF-STUDY

**A Report to the Middle States Association  
Commission on Higher Education**

**February 28, 2001**

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**CORNELL UNIVERSITY**  
**Decennial Reaccreditation Self-Study**  
**Table of Contents**

**University Mission Statement** ..... v

**Prologue and Executive Summary** .....vii

**I. Comprehensive Review**

Chapter 1—Context, Mission, and Governance..... 1

        Overview and Context..... 1

        Institutional Focus..... 3

            “Composing Cornell” ..... 5

            Targeted Research Initiatives..... 8

                The Sciences..... 9

                The Arts and Humanities..... 11

                The Social Sciences ..... 11

        Current Institutional Priorities ..... 12

        Undergraduate Education Initiatives ..... 13

        The Graduate School..... 16

        The Professional Schools ..... 17

        Research and Scholarship..... 19

        Libraries ..... 21

        Information Technologies ..... 23

        Service and Outreach ..... 24

            Agricultural Experiment Stations ..... 25

            Cornell Cooperative Extension..... 25

            Industrial and Labor Relations Extension ..... 26

            Veterinary Teaching Hospital and Diagnostic Laboratory ..... 26

            Cornell Office for Technology Access and Business Assistance (COTABA)..... 27

            Other Outreach and Service Activities..... 27

        University Governance..... 29

        Institutional Integrity ..... 34

        Synopsis ..... 36

        Selected References and Sources ..... 36

Chapter 2—Ongoing Institutional Self-Examination..... 39

        Academic Program Reviews..... 39

        Reports and Survey Research ..... 41

            Undergraduate Enrollment Trends ..... 42

            Graduate School Enrollment Trends ..... 43

            First Professional-Degree Enrollment Trends ..... 46

            Graduation Rates..... 47

            Postgraduate Activities of Undergraduates ..... 48

            Recent Surveys of Students..... 49

        Synopsis ..... 53

        Selected References and Sources..... 53

## TABLE OF CONTENTS

---

<u>Chapter 3—Financial Administration and Resource Management</u> .....	55
Context.....	55
Resource Management .....	55
Resource-Allocation Approaches.....	57
Decision-Making Structures .....	57
Financial Resources.....	58
A Decade in Review .....	58
Ithaca-Campus Finance Overview.....	60
Tuition.....	62
Undergraduate Financial Aid.....	64
Government Appropriations.....	67
Investments .....	69
Research.....	69
Gifts .....	72
Faculty and Staff Salaries .....	74
Administrative Systems.....	78
Physical Space.....	79
Synopsis .....	82
Selected References and Sources.....	82

## II. Special Emphases Sections

<u>Chapter 4—Undergraduate Education</u> .....	83
Overview and Context.....	83
Curriculum .....	84
College of Agriculture and Life Sciences (ALS).....	84
College of Architecture, Art, and Planning (AAP).....	85
College of Arts and Sciences (A&S).....	85
College of Engineering .....	86
School of Hotel Administration.....	87
College of Human Ecology .....	87
School of Industrial and Labor Relations.....	88
Ethics .....	89
Undergraduate Research.....	91
Advising.....	91
Faculty-Advisor Selection and Training .....	93
Information Provided to Students and Advisors .....	95
Orientation and First-Semester Advisor / Advisee “Courses” .....	95
Student-Support Services and Early-Warning Programs.....	97
Incentives and Rewards for Faculty Advising, Mentoring, and Teaching.....	99
Assessment of Academic-Advising Programs.....	100
The Living-Learning Environment Residential Initiative .....	102
North Campus .....	104
Evening Examinations .....	105
Ethics and Student Life.....	106
Academic Connections .....	106
West Campus .....	107

---

West Campus Living/Learning Council .....	108
Academic Programming .....	109
Dining.....	110
House Governance .....	110
Graduate Resident Tutors and Undergraduate Peer Counselors.....	111
Recreation .....	111
West-Campus Neighborhood.....	112
Fraternities and Sororities .....	112
Synopsis	113
Selected References and Sources.....	114
<b>Chapter 5—Distributed and Distance Learning .....</b>	<b>115</b>
Overview and Context.....	115
Using Distributed-Learning Technologies On Campus .....	116
Distributed-Learning Infrastructure.....	118
Distance-Learning Facilities.....	118
Library Support for Distributed Learning.....	119
Other Technology-Support Services.....	120
Development of Distance-Learning Courses for Cornell Students in Winter and Summer Sessions .....	120
Distance Learning for Alumni and Friends: CyberTower.....	121
Distance Learning for External Constituencies.....	122
Popular Programming Using Distributed-Learning Technologies.....	123
Synopsis .....	125
Selected References and Sources.....	125
<b>III. Appendix—University Organizational Charts .....</b>	<b>127</b>

**TABLE OF CONTENTS**

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CORNELL UNIVERSITY

## Mission Statement

Cornell is a research university that aims to serve society by educating responsible citizens and extending the frontiers of knowledge.

In keeping with the founding vision of Ezra Cornell, our community fosters personal discovery and growth, nurtures scholarship and creativity across a broad range of common knowledge, and engages men and women from every segment of society in this quest. We pursue understanding beyond the limitations of existing knowledge, ideology, and disciplinary structure. We affirm the value to individuals and society of the cultivation of the human mind and spirit.

Our faculty, students, and staff strive to achieve these objectives in a context of “freedom with responsibility.” We promote initiative, integrity, and excellence in an academic community that prizes collegiality, civility, and responsible stewardship. As the land-grant university of the State of New York, we apply the results of our endeavors in service to the community, the state, the nation, and the world.

*I would found an institution where any person  
can find instruction in any study.  
Ezra Cornell, 1865*





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## Prologue and Executive Summary

A decade ago, the report of the evaluation team sent to Ithaca by the Middle States Association Commission on Higher Education (MSA/CHE) proclaimed Cornell a “world treasure.” This was not a label the University would have had the temerity to promulgate about itself, but no one at Cornell asked the team to edit it out. Rather, Cornell accepted the accolade and continued to go about its mission of serving society “by educating responsible citizens and extending the frontiers of knowledge,” tacitly affirming the evaluation team’s proclamation.

Cornell remains true to its founders’ broad and integrated vision. A private university with a public mission, it is still distinctive among institutions of higher learning for its particular combination of programs for basic and applied research and education. Widely identified as an Ivy League research university dedicated to the pursuit of “truth for truth’s sake,” Cornell is also the land-grant institution for New York State, committed to the application of basic knowledge for the public good.

When each role complements and strengthens the other, Cornell is at its best. Given the geographic separation of the Ithaca, Geneva (New York State Agricultural Experiment Station), and Manhattan (the medical units) campuses, and the complexity of operating four colleges under contract from the state as part of the State University of New York system, sustaining such synergy is never a simple task. The past decade has been filled with especially complex, even daunting, academic and administrative developments. But rather than immobilizing the University, this time of transition has spurred a renewed vision, first expressed by President Hunter Rawlings in 1998, to make Cornell “the best research university for undergraduate education in this country.”

This reaccreditation self-study examines the past decade, and places special focus on the implications of Cornell’s pursuit of the ambitious goal stated by President Rawlings, including the formulation of strategic initiatives and the early stages of their implementation. This self-study consists of two main sections. The first section is a comprehensive review of the last decade. Its three chapters seek to provide an understanding of the breadth and to some extent the depth of Cornell University, and to address MSA/CHE’s standards for accreditation as outlined in its publication *Characteristics of Excellence in Higher Education*. The second section devotes two chapters to areas of special emphasis and priority for Cornell: undergraduate education and distance learning.

The 1991 evaluation team from MSA/CHE noted that Cornell’s decentralized and entrepreneurial style of governance and decision-making would likely require the University to “find new ways of making difficult decisions without radically undermining the special strengths and unique qualities of either the parts of the University or the whole.” Cornell is consciously decentralized and entrepreneurial. It has made concerted and thoughtful efforts to remain so. This is an institutional *strength*, not a liability. It exacts some costs, but they are far outweighed by significant dividends.

Being the “best research university for undergraduate education” does *not* require Cornell to sacrifice excellence in research for the sake of improving instruction, or to focus on undergraduate education to the detriment of the research enterprise. It *does* require considered choices. Cornell’s human and financial resources can be stretched only so far. The faculty and staff can be asked to do only so much. There are limits on how much the students can contribute toward the cost of their education. Alumni and friends are extraordinarily supportive, but they have limits, too.

Hence, over the last decade, Cornell has tried to *focus* its research efforts in the sciences, the arts and humanities, and the social sciences. The University also has placed a premium on fostering interdisciplinary research and instructional activities. An articulation of these efforts and the motivations behind them is contained in Chapter 1.

Cornell has also made a major commitment—with significant financial assistance from its alumni and friends—to improving the undergraduate living-learning environment. The explication of these efforts is touched on in both Chapter 1 and Chapter 3. Chapter 4 contains a more detailed description of the north and west campus residential living-learning initiatives and of Cornell’s efforts to enhance faculty-student interaction, particularly with respect to academic advising and the ongoing metamorphosis of an undergraduate curriculum relevant to the challenges of today and of the future.

Cornell’s significant commitment to distributed and distance learning is described in Chapter 5. Much attention has been paid, in the national media and on the campus, to the University’s creation of eCornell as a for-profit distance learning provider. This is but one element of a much larger effort to capitalize on those technologies for the benefit of the University as a whole. Cornell is committed to being a major player in distributed and distance learning for the express purpose of supporting its existing institutional mission. This includes its efforts, described in Chapter 5, to use distributed learning technologies for the benefit of resident undergraduate and graduate students and alumni.

The financial and management contexts within which those and all other important decisions are made at Cornell are described in detail in Chapter 3. The peculiar and ever-changing character of the University’s financial resource structure, and the broad involvement of its relevant constituencies, are outlined in Chapter 3 as well as in the governance section of Chapter 1.

Undergirding the deliberations behind its decision-making, Cornell engages in an extensive and regular program of ongoing institutional self-examination in order to better understand current performance, as well as to contextualize decision-making about future plans and priorities. Chapter 2 summarizes two major elements of this work: academic program reviews overseen by the Faculty Committee on Program Review, and regular reports and consortial research primarily managed by the Office of Institutional Research and Planning.

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# CHAPTER 1

## Context, Mission, and Governance

### OVERVIEW AND CONTEXT

Cornell is a private university with a public mission, chartered and operated under the laws of New York State as a coeducational, nonsectarian institution of higher learning. Cornell was founded by Ezra Cornell, whose original endowment was augmented by a substantial land grant from the State of New York, received under the Federal Land Grant (Morrill) Act of 1862.

Ezra Cornell envisioned a “university of the first magnitude,” embracing both classical and practical studies, which would become the “seat of learning in America.” The University’s first president, Andrew Dickson White, shared this vision. While still a New York State senator, he formulated principles to guide the new institution toward becoming the site of “most highly prized instruction,” and an “asylum for science, where truth shall be sought for truth’s sake.” Both men drew inspiration from Senator Justin Morrill, sponsor of the land-grant act, who sought to provide instruction in agriculture and the mechanic arts through the land-grant universities. As Frederick Rudolph noted in his book *Curriculum*, “Cornell brought together in creative combination a number of dynamic ideas under circumstances that turned out to be incredibly productive . . . Andrew D. White . . . and Ezra Cornell . . . turned out to be the developers of the first American university and therefore the agents of revolutionary curricular reform.”

Today Cornell continues to be distinctive among institutions of higher learning for its particular combination of basic and applied research and education. Identified, on the one hand, as an Ivy League research university dedicated to the pursuit of “truth for truth’s sake,” and designated, on the other, as the land-grant university of the State of New York, committed to the application of basic knowledge for the public good, Cornell remains true to its founders’ broad and integrated vision. Over the past several years, we have seen a significant increase in research and education collaboration not only across disciplines but also across traditional boundaries between basic and applied sciences and, hence, between Cornell’s state-assisted contract colleges and its endowed colleges. The next decade of research and education will be characterized by even more permeable boundaries between these domains. Advances in basic science, technology, the social sciences, and the humanities challenge Cornell to develop more-flexible administrative and budgetary models that support emerging fields. Because Cornell is home to a very broad range of research and education activity, from the most basic to the most applied, we are well positioned to contribute to advances within those areas and at their intersections. In the body of this introduction we describe the areas we have designated as University-wide priorities and our efforts to support cross-college intellectual initiatives.

Cornell comprises thirteen schools and colleges: eleven in Ithaca and two—the Joan and Sanford I. Weill Medical College and Graduate School of Medical

## CHAPTER 1: Context, Mission, and Governance

Sciences—in New York City. During the 1999–2000 academic year, there were approximately 13,700 undergraduate and 6,000 graduate students, 2,700 faculty members, and 9,300 staff members in the two locations (see Table 1-1). The main campus in Ithaca includes approximately 260 major buildings. Cornell also owns or occupies 11 buildings in New York City and 45 buildings at the New York State Agricultural Experiment Station in Geneva, New York.

**Table 1-1**  
**Basic Academic Demographics for Cornell University, 1999–2000**

	Fall Enrollment	Faculty
<b>Ithaca Campus</b>		
Endowed Colleges		
Architecture, Art and Planning	527*	55
Arts and Sciences	4,373*	499
Engineering	2,630*	213
Hotel Administration	818*	42
Johnson Graduate School of Management	593^	43
Law School	529^	32
Contract Colleges		
Agriculture and Life Sciences	3,124*	379
Human Ecology	1,387*	89
Industrial and Labor Relations	762*	45
Veterinary Medicine	314^	110
Graduate School	3,916	---
<b>New York City</b>		
Weill Medical College	407^	1,522
Weill Graduate School of Medical Sciences	232	---

\*Undergraduate enrollments

^First professional degree (M.B.A., J.D., D.V.M., M.D.) enrollments

Because Cornell is an Ivy League university and also the land-grant institution of the State of New York, it is supported by a unique combination of private and public funds (discussed in more detail in Chapter 3). Of the privately funded schools and colleges (the endowed colleges) in Ithaca, four—the College of Architecture, Art, and Planning; the College of Arts and Sciences; the College of Engineering; and the Graduate School—are funded by a general purpose, or centrally distributed, allocation, and three—the School of Hotel Administration; the Law School; and the Samuel Curtis Johnson Graduate School of Management—function as responsibility centers, receiving designated funds directly from unrestricted revenue. The endowed units of the medical division, located in Manhattan, function in association with New York-Presbyterian Hospital and also receive designated funds.

In addition, four colleges on the Ithaca campus—the College of Agriculture and Life Sciences, the College of Human Ecology, the School of Industrial and Labor Relations, and the College of Veterinary Medicine—are operated by Cornell on behalf of New York State in accordance with statute or contractual arrangements, and receive appropriated state assistance through the State University of New York. As an important facet of this assistance, the contract colleges are provided with facilities built and maintained by the state. The New York State Agricultural Experiment Station in Geneva is a unit of the College of Agriculture and Life Sciences, and its departments are integral parts of that college. The annual state appropriations for the contract colleges, and income generated by their operation, are restricted to their exclusive use. These four contract colleges have been assigned specific responsibilities in research and extension directed to state needs. These very specific statutory requirements for research and extension activities do not exist for other campuses of the State University of New York. In addition, Cornell, through the contract colleges, administers the state’s cooperative extension system, which is described in this chapter.

### **INSTITUTIONAL FOCUS**

Cornell has experienced considerable change over the decade since its last reaccreditation site visit. Members of the 1991 reaccreditation site visit team succinctly set out much of what was on the horizon for Cornell when they wrote in their evaluation report:

*Although Cornell University is a highly diverse and decentralized university, the team was struck by the fact that Cornell is more than the sum of its parts. . . . At the same time, we detected a concern for what may lie ahead, particularly in an environment characterized by increasing financial pressure. The choices Cornell will confront may be ones for which the experience of the last decade may provide inadequate preparation. The current style of governance and decision-making, characterized by decentralization and entrepreneurial freedom, may be strained in an environment of diminishing resources. To the extent these concerns are valid, the challenge confronting Cornell will be to find new ways of making difficult decisions without radically undermining the special strengths and unique qualities of either the parts of the University or the whole. (Evaluation Team, 1991)*

That has indeed been the challenge of the past decade. The central project of this period has been to develop a strategy for the University as a whole. This is still a work in progress that involves thoughtful attention both to the challenges facing all research universities and to those challenges specific to Cornell.

Cornell must exploit the opportunities afforded by its status as a research university. This status attracts faculty members who contribute to the advancement of knowledge and help determine the future of education and its application to the world. Such a faculty brings enormous resources to the university in the form of federal, state, and private support for research, particularly in the sciences, and gains national visibility. This research status

also allows Cornell to attract highly qualified students who want to study with a faculty at this level of accomplishment and who often become involved in faculty research. This status also allows Cornell to attract highly qualified staff members who want to work in this kind of environment and who are able to support institutional needs.

But such a university must set priorities carefully and strike a balance between research and teaching. External support for research, however substantial, rarely covers the full cost, which includes start-up funds for the construction or renovation of facilities. Faculty members are responsible for both research and education. At best these are complementary missions, yet they are rarely easy to manage simultaneously. Research universities draw promising students eager to interact with the faculty, but the nature of the research does not always lend itself to the kind of individualized connections that allow students to fully realize their potential. Cornell must enable our students to have that kind of connection with the faculty.

In addition, Cornell is structurally highly decentralized, a private institution with a unique contract-endowed-designated college mix that has financial and mission implications. We are also geographically decentralized. The main campus is in a beautiful rural area that is relatively isolated, and there are significant campuses in Geneva and in Manhattan. Decentralization has intensified the difficulty of crafting a university-wide strategy for programmatic development, but we believe we are making progress.

In his October 1998 State of the University Address, President Rawlings set forth a challenge for the University:

*Our excellence in research and scholarship gives a special character to our teaching — and opens opportunities for our students — that makes a Cornell education distinctive. Research and scholarship are what give us a competitive edge in attracting the best and brightest students to the University. They make us a community of inquiry, where students and faculty members alike engage in the discovery process and enjoy the intellectual give and take that comes from playing with ideas.*

*But, as good as we are in undergraduate education, we aim to become even better — in fact, the best research university for undergraduate education in this country. We will do what no major research university and no liberal arts college in the nation has attempted before. We will combine our great strengths in undergraduate teaching and undergraduate research. We will offer a residential program for undergraduates that emphasizes community building and intellectual engagement with our world-class faculty members and with the world of ideas. And, I want to emphasize, we will do this while maintaining the University's long-standing commitment to making a Cornell education affordable to the nation's brightest students, regardless of their financial means.*

What does being “the best research university for undergraduate education” mean for Cornell?

It means offering students a wide variety of teaching/learning opportunities. The size and character of the instructional workforce in a research university argue for preserving a mix of lecture and seminar formats, exposing large numbers of students to distinguished scholars who are also effective lecturers, and preserving for all students the chance to work in small groups with faculty members in areas of particular interest. Instructors range from first-year graduate students to very senior scholars, allowing undergraduates to relate both to teachers close to them in age and cultural identity and to teachers with a long and distinguished history of research and scholarship.

The dynamic relationship between research and teaching, and the centrality of the tenure-track faculty to the education enterprise, are basic premises of a research university, and both are highly valued at Cornell. We believe that teaching that is informed by research is *better* teaching, and that students who have an opportunity to study with faculty members who are actively engaged in research, and in many cases an opportunity to participate in research as undergraduates, will develop a better understanding of the constitution of knowledge. It is part of the work of a research university to develop in its students the habits of critical inquiry and responsible scholarship that will allow them to contribute effectively in their future lives at work, at home, and in society, regardless of their particular vocations.

Cornell also includes among its instructional cadre a significant number of lecturers, many of them excellent teachers, concentrated in selected fields where they bring certain pedagogic and technical expertise not represented among the tenure-track faculty, or enable certain kinds of courses to be taught in small groups. An even larger number of graduate teaching assistants support the faculty in delivering undergraduate instruction. Fundamentally, however, responsibility for all levels of the undergraduate and graduate curriculum rests with the tenure-track faculty members, who supervise the teaching assistants and help these graduate students develop teaching skills.

### “Composing Cornell”

In his inaugural address as Cornell’s tenth president in the fall of 1995, on the heels of a strategic planning effort, President Rawlings called for “composing the Cornell of the future”:

*I urge that we reclaim, as our common purpose, the cultivation and improvement of the human mind. I urge that we reaffirm the commitment of our founders: our responsibility to provide moral and intellectual leadership for the nation, not only through our research and service, but also by educating our students for contributions to community.*

In the succeeding years since 1995, we have made a series of decisions designed to “compose the Cornell of the future,” or put another way, to get the remarkably

diverse parts of Cornell organized in a manner that allows them to work together more effectively. First was the decision to embark on a major effort to integrate more fully the academic and out-of-class experiences of our undergraduates. The north and west campus living-learning initiatives are described in greater detail in the special emphases sections of this self-study (in Chapter 4), as are companion efforts to improve academic advising and strengthen the curriculum. Major commitments of time, effort, and capital (including more than \$100 million in gift funds) have been focused on these initiatives.

It is also important that there be a strong connection between the classroom experience and the residential life of students. A university is an academic community. Both parts of that term “academic community” are significant, and the university environment should foster each. The intellectual life of a university does not exist solely in the classroom for students, any more than it does for the faculty. For that reason, Cornell is in the process of developing new residential-life programs and building new residential structures for students in which faculty members will both live and teach, and in which their mentoring role can be strengthened. Our aim in developing a new kind of residential community for first-year students is to promote a more engaging intellectual environment where dialogue among students about their common academic pursuits will be an integral part of their education experience.

Cornell’s student residential communities generate an active and diverse co-curricular and extracurricular life for their residents. Often it is through activities in those communities that students develop and refine their interests, leadership skills, and ability to work well with others, not to mention creating life-long friendships. Cornell strives to create additional opportunities for activities through its student-run programming boards; hundreds of student organizations supported by a student activity fee to serve the political, social, and cultural interests of students; varsity sports teams (eighteen for women and eighteen for men); and extensive intramural, outdoor education, recreation, and fitness programs. Also, through Cornell United Religious Work, the University provides a home and support for twenty-four spiritual communities that involve students, and faculty and staff members. Opportunities for engagement with local communities also abound.

For most of the 1980s and 1990s, Cornell annually renewed its commitment to a policy of need-blind admissions and need-based financial aid for undergraduates. In March 1998, based on the recommendation of the Trustee Task Force on Admissions and Financial Aid, the Board of Trustees adopted the following policy effective for students entering in the fall of 1999 and thereafter:

*Cornell University makes admissions decisions without regard to the ability of students or parents to pay educational costs. Students who are U.S. citizens or permanent residents and who demonstrate financial need will be assisted in meeting that need through one or more of the following: federal and state grants, employment opportunities, loans, The Cornell Commitment programs, scholarships from endowments and restricted funds, and Cornell grants. Annual adjustments will be made in self-help and family contribution levels.*



*Cornell will continue its commitment to excellence and diversity in the student population. Self-help levels for individual students may reflect the university's recognition of outstanding merit, unique talent, commitment to work and community service, and its commitment to diversity in the class.*

In addition to the education of undergraduates, a research university is charged with providing education at the graduate level. It does so to prepare a cadre of more highly skilled adults for roles in society at large, and to reproduce the workforce of higher education itself. The education of graduate students bridges the activities of teaching and research, both for the graduate students themselves and for the undergraduates whom they teach. It also contributes to the intellectual development of the faculty members who are the graduate students' teachers. If education is rarely a one-way transfer of information and experience, it is least so when both teacher and student are engaged in a discipline as deeply as is required for progress toward an advanced degree. The phenomenon of second authorship or joint publication does not reflect courtesy so much as offer evidence of a symbiotic relationship between a graduate student and a professorial mentor.

A research university like Cornell is characterized by a massive research infrastructure. In the 21<sup>st</sup> century we face the dramatically escalating cost of doing "big science" and a similarly escalating cost of maintaining adequate libraries and information technologies. Our libraries have high costs associated both with print materials and with the trend toward digital facilities. Our information technologies also have high costs associated with providing the infrastructure necessary to conduct modern collaborative research in geographically dispersed units and with keeping us seamlessly connected with the rest of the world.

A research university is an intellectual and social community. Some important recent efforts to strengthen Cornell's intellectual community are detailed under "Current Institutional Priorities" in this chapter, and in Chapter 4, "Undergraduate Education." The "Living-Learning Environment" section in Chapter 4 describes a major effort to reconfigure the undergraduate social community. Of deep and growing importance to universities as both intellectual and social communities is the matter of equal opportunity. Chapter 2 presents statistical information on the considerable increase in minority students at Cornell since the late 1980s. This growth, and the addition of minority faculty members, have improved the University, but have sometimes been accompanied by tension and, in the worst cases, by clusters of racist incidents—the most recent in the fall of 2000. The statement on diversity and inclusiveness included at the end of this chapter was part of a response to an earlier cluster of racist incidents. Obviously, there is much unfinished business here. Tangentially, the past decade has also seen the growth of faculty and student participation in ethnic studies, both in the traditional disciplines and in independent programs.

During the past decade, Cornell has undertaken a range of internal evaluations: University-wide strategic planning; an examination of undergraduate residential life; a cross-college review of disciplines within five broad academic areas (the

physical sciences, the biological sciences, the humanities, the social sciences, and the computing and information sciences), and ongoing program reviews focusing on individual departments. When these efforts are considered in isolation, their value may seem limited, but Cornell gained several important ideas from the strategic planning endeavor and acquired a broad sense of direction from the residential-life project and the academic area reviews. Predictably the discrete program reviews yielded more local (and occasionally general) guidance.

### Targeted Research Initiatives

In part in response to the 1991 accreditation team's assessment, in the early 1990s we embarked on a major, University-wide strategic planning effort that included a focused institutional self-examination. This effort involved all of the University's constituencies in an exploration of the realities facing Cornell; opened to a broader and more diverse group the deliberation processes preceding decision-making; and precipitated the emergence of several issues that continue to be of importance to Cornell. Two of these—the development of University-wide academic program reviews, and the development of residential communities that contribute more fully to an intellectually engaged and socially responsible campus environment—are discussed in this self-study. These endeavors, and others, were undertaken amid a growing awareness of the need to cultivate closer collaboration among our colleges and schools.

Size and disciplinary diversity are fundamental advantages for a research university in attracting top scholars, because major research initiatives commonly require large groups and participatory support from experts in neighboring fields or subfields. These characteristics are also fundamental to the kind of education strength that derives from cross-disciplinary interactions. One of Cornell's distinguishing features is our established culture of interdisciplinary work built on a disciplinary base, which is evident in both our instruction and research activities. This culture has been instrumental in our academic strategic planning decision to emphasize several target areas to which major shares of our resources would be directed. (Examples of these target areas, which will be detailed later in this chapter, are genomics, and computing and information sciences.) In return for this targeted support, we anticipate being able to make major advances in those areas, thereby increasing the general state of knowledge, as well as public recognition of Cornell's considerable strengths. In the short term, at least, this strategy means that there will be relative winners and losers among the disciplines at Cornell. There is a concomitant commitment, however, to continue to support core programs essential to our curricular base, even if they are not squarely in one of these priority areas.

As part of this effort to determine where to focus our resources and attention, the administration appointed five task forces to represent each of the five broad disciplinary groupings under review: the physical sciences, the biological sciences, the humanities, the social sciences, and the computing and information sciences. In addition, we have encouraged the Cornell Council for the Arts to advise the administration and the College of Architecture, Art, and Planning and

the College of Arts and Sciences on long-term planning issues for the arts. The reports of all of these groups have elicited considerable discussion, and all have been of use in establishing priorities.

### *The Sciences*

The first of these groups, appointed to consider the sciences, recommended emphasis on three enabling disciplines that build on existing strengths within Cornell: advanced materials science, genomics, and computing and information sciences. We have made significant commitments in those areas, including the recently initiated construction of Duffield Hall, a \$62 million facility for advanced materials research, especially nanofabrication.

We also have launched a comprehensive and coordinated interdisciplinary program in functional genomics known as the Genomics Initiative, which was and continues to be a faculty-driven effort without formal institutional structure. Devoted to advances in understanding the functions, interactions, and regulation of genes, the initiative is also committed to the many applications of functional genomics in bioengineering, agbiotechnology, pharmaceuticals, biomedicine, and computer software. Among the most innovative features of this initiative is its emphasis on the intersection of the biological with the physical and engineering sciences at Cornell. The task force has brought together faculty members based in agriculture and life sciences, arts and sciences, engineering, veterinary medicine, human ecology, the medical units, and the Boyce Thompson Institute for Plant Research. The Genomics Task Force has had a significant role in the recruitment of outstanding faculty members in plant breeding, biotechnology, computer science, plant biology, biomedical sciences, and molecular biology and genetics. The task force has also launched an active series of University-wide lectures by top scientists in genomics and has helped to develop a new curriculum in computational genomics.

The University administration is working with faculty members in the broad areas of genomics, materials sciences, and bioinformatics on plans for a new facility for life science technologies that will serve as a hub for interdisciplinary activities in the sciences.

And Cornell has established the new interdisciplinary Faculty of Computing and Information Science (FCI), an innovative group led by the Office of Computing and Information Science, which is developing administrative arrangements and operating procedures. This new faculty aims to create a fertile research environment, offer new courses in information science, and broaden the reach of computing-based programs across Cornell. The FCI has already begun to create interdisciplinary groups and is focusing its program-building efforts on bioinformatics, computational genomics, digital arts and culture, and the computational social sciences. Its activities are currently being organized by a cross-college group of “faculty founders.” In addition to helping to recruit faculty members into genomics and computer science, the dean for computing and information science has allocated funds to support a faculty position in the Department of Science and Technology Studies devoted to research and teaching

in “the social and ethical implications of computing and digital information.” The faculty intends to develop new undergraduate concentrations and graduate minors in the focal areas.

Although there is no single encompassing research goal, the anticipated importance of the life sciences in the upcoming century has strongly influenced our choices. We have determined to build core strength in molecular biology and genetics, especially in areas where Cornell already has a comparative advantage; e.g., plant molecular biology, non-human mammalian biology, and computational biology. We will endeavor to bring to bear on the life sciences our traditional strengths in the physical sciences; i.e., in chemistry, physics, engineering, computer science, and materials science. At a somewhat lower priority, we are developing an environmental science strategy as part of a move to integrate molecular biology with organismic and ecological disciplines, and we will also support an effort to connect selected aspects of the social sciences (e.g., public policy) and the humanities (e.g., ethics) to new problems posed by the biological revolution, such as cloning and genetically modified organisms.

In February 1998, a review of the structure of Cornell’s Division of Biological Sciences concluded with the recommendation that the division be dissolved and its units and resources incorporated into departments. The purpose of the recommended reorganization was to focus faculty effort and funding initiatives on basic molecular work, remove a layer of administration and decision-making, unleash new energy among the faculty, and promote closer ties among researchers in basic biology and applied life sciences and other potential collaborators in engineering and the life sciences. This recommendation was carefully considered by the administration before President Rawlings decided in the fall of 1998 that it should be implemented. Seven former sections of the division were converted into five departments: Plant Biology; Ecology and Evolutionary Biology; Neurobiology and Behavior; Molecular Biology and Genetics; and Microbiology. The former Section of Physiology became part of the Department of Biomedical Sciences in the College of Veterinary Medicine.

These new departments developed and submitted strategic hiring plans, which have been approved by the relevant deans. Several departments have successfully recruited outstanding scientists over the past two years and are benefiting from the responsibility they have assumed for invigorating the basic biological sciences. To ensure progress toward our goal of building strength in the basic biological sciences and promoting interdisciplinary research, President Rawlings charged Provost Martin with establishing internal and external Life Sciences Advisory Councils to assess progress and to advise the provost and the president. When President Rawlings dissolved the Division of Biological Sciences, he also approved the task force recommendation to retain one coherent, University-wide undergraduate biology major. The Office of Undergraduate Biology assumed responsibility for Cornell’s widely admired undergraduate biology program, which has not only sustained a strong, coherent major but also created and administered undergraduate research and internship opportunities on and off campus.

*The Arts and Humanities*

The process of determining new initiatives in the arts and humanities is ongoing. In 1997, the dean of the College of Arts and Sciences commissioned the Committee on the State of the Humanities at Cornell. It issued its report in the spring of 1998. One response to the Report on the State of the Humanities is reflected in the spring 2000 establishment of a new concentration in visual studies, which will draw on the disciplines of perception psychology and physiology, computer science and graphics, philosophy, semiotics, history, cultural theory, and gender studies. Another is a renewed emphasis on reconfiguring the field of American studies to include American ethnic studies, thereby broadening the disciplinary mix of scholars contributing to the program. A third is the plan, described in the section on undergraduate education initiatives in this chapter, to develop writing-intensive sophomore seminars taught by senior faculty members.

In recognition of the importance of the creative and performing arts to artistic intelligence across the curriculum and to the ambience of the Cornell community, the humanities report also called for continuing support of the arts and the facilities that showcase them. Cornell has sustained an ambitious program of investment in this sphere that began with the construction of a center for performing arts in 1989. Since then, we have upgraded the art facility Tjaden Hall (a \$9 million renovation) and the music facility Lincoln Hall (a \$19 million renovation and addition). More than \$20 million has been allocated for renovations and new construction for the College of Architecture, Art, and Planning, and \$13 million for the renovation of Bailey Auditorium, a prime performance space in the heart of the campus.

*The Social Sciences*

The faculty committee charged with evaluating and identifying opportunities within the social sciences recommended increased support for three research areas: life course studies, decision research (an extension, or arguably a critique, of rational choice analysis), and international poverty and development. Again, these are areas of existing strength at Cornell that we seek to augment. They cut across disciplinary lines, college boundaries, methodological differences, and the basic/applied divide. Though the scale of investment is not at the level of that for the physical/natural sciences, all the social sciences have received increased funding for faculty lines, conferences, or research seminars. These initiatives have been supplemented by the formation of the Institute for the Study of Social Inequality and by a year-long seminar on basic problems in the social sciences, attended by selected postdoctoral fellows, faculty members, the provost, and the president. The institute group has established working relations with faculty members in the fields of poverty and development. The seminar on the social sciences is expected to inspire fresh ideas and collaborations, and the newly formed Social Sciences Advisory Council (parallel to a recently established body for the life sciences) is expected to help guide University-wide policy. Significant strides have already been made in coordinating hiring decisions and curricular matters in both economics and sociology (disciplines represented, respectively,

in nine and five of the Ithaca-campus colleges). A significant upgrade in social sciences computing facilities should assist a number of those efforts.

The decisions described here arise from the ongoing challenges facing the social sciences in general and at Cornell in particular. The broader issues include the tension between enhancing interdisciplinary work and protecting the traditional disciplines on which sound interdisciplinary efforts depend. This is of course not limited to the social sciences. More distinctive are the ideological and acute methodological disagreements within and among individual social science disciplines. The problem probably is deeper here than the more heralded disputes in the humanities. The gap between quantitative and qualitative work is an obvious instance. Even when such alternative emphases do not result in actual conflict, they may preclude useful interaction. At Cornell this situation is exacerbated by the dual commitment to basic and applied work, and by the dispersion of social scientists across the campus. The initiatives already well under way, as well as others not yet as far along, all support the overriding strategy of forging a single university out of thirteen colleges and numerous other units. The aim is to produce a stronger intellectual community among social scientists, to continue to encourage the social sciences' traditional connection both with the humanities and with the natural sciences, and to address some of the pressing issues in the nation and the world.

It should also be noted that Cornell continues its commitment to building strength *within* the traditional disciplines while fostering these interdisciplinary, interdepartmental, and intercollege collaborations. Most notable is the success we have had over the last several years in making a number of senior faculty appointments in the Department of Sociology that have provided it with a much stronger academic base.

### **Current Institutional Priorities**

In summary, within the context of Cornell's overall mission and as part of the continuing effort to "compose Cornell," President Rawlings and Provost Martin have articulated, with strong faculty guidance, the following priorities to guide us in the coming years:

- Improve undergraduate education, taking advantage of Cornell's strengths as a research university. Transform the residential experience to create a living-learning environment that will benefit all freshmen and provide new opportunities to all undergraduates.
- Support strategic enabling research in computing and information sciences, genomics, and advanced materials science. Increase cross-college collaboration in those and other emerging areas.
- Enhance developments in the humanities and the social sciences.
- Continue to improve faculty and staff compensation.

- Increase information technology capabilities for our students, faculty, and staff.
- Revise undergraduate admissions and recruiting to reflect a University-wide image of Cornell in the national/international marketplace.
- Fortify Cornell's long-term relationship with New York State and SUNY.
- Maintain broad student access to a Cornell education.
- Enhance diversity within and among Cornell's faculty, staff, and students.

### UNDERGRADUATE EDUCATION INITIATIVES

Education is the core function of Cornell University. The special emphases sections of this self-study provide details on academic advising, the residential initiatives, curricular reexaminations, and the delivery of education programs through electronic means (see Chapter 4 and Chapter 5). Still, there are other critically important issues worth highlighting here.

Cornell is unique in combining the best traditions of American public and private higher education. This combination results in unusual intellectual diversity. Any attempt to homogenize undergraduate education across the entire University would seriously weaken a distinct strength. Yet it cannot be denied that Cornell's structure and institutional culture have often emphasized the separateness of its parts at the expense of shared goals. The result can be a failure to capture for itself and its publics the distinctive character of Cornell. To the extent that each of the schools and colleges sees itself as functioning in relation to the others so as to contribute to the greatest strength of the entire institution, Cornell benefits both as a whole and in each of its segments.

Although Cornell has seven undergraduate colleges and schools with very different orientations, all subscribe to the value for their students of a broad grounding in the basic liberal arts. This helps students to think logically, to communicate effectively, and to examine critically their own and others' ideas. Consequently, the curriculum of the College of Arts and Sciences is richly represented in the courses taken both as requirements and as electives by all Cornell undergraduates. One can think of Cornell's undergraduate curriculum as a wheel with a liberal arts education as the hub and with seven spokes representing the paths our students can take to graduation. If one excludes the students registered in the College of Arts and Sciences, the average number of arts and sciences courses taken per year by Cornell's other undergraduates is three, or approximately one-third of an average course load. This liberal arts "hub" curriculum thus creates many of the common educational experiences that build community among our students, and prepares them as well to be responsible members of the communities they will join after graduation.

Not surprisingly, there is reasonable agreement among all of the colleges to enhance this basic liberal arts foundation in a number of ways. The John S. Knight Institute for Writing in the Disciplines is a highly successful example.<sup>1</sup> Nearly all freshmen enroll in at least one of the freshman writing seminars coordinated by this program. Offered by a broad range of departments throughout Cornell, the seminars are designed to help students write expository prose that is characterized by clarity, coherence, intellectual force, and stylistic control. Recently, the John S. and James L. Knight Foundation awarded Cornell an additional \$5 million to expand this program. In part, the grant will help fund residential writing mentors, technology enhancement, and performance assessment. More than half of the grant, however, will be used, with matching funds from Cornell, to endow a new sophomore writing seminar program that will provide twenty-eight such seminars per year, on a broad array of topics reflecting the faculty's scholarly interests.

In this context of enhancing the instructional program, over the last several years concerted efforts have been put into coordinating both introductory and advanced courses in disciplines that cross college boundaries. For example, through a collaborative effort among the various economics faculty members, and the development of administrative "fixes" to organizational practices that discouraged such collaborations, Cornell now has a far more coherent set of economics course offerings, some of them jointly staffed by faculty members in different colleges. This gives students greater curricular flexibility while requiring less duplication of faculty effort. Similar changes have been implemented in statistics and sociology, two other disciplines that cross multiple boundaries.

In response both to student feedback and to the dictates of sound education pedagogy, the College of Engineering in partnership with the College of Arts and Sciences has transformed the introductory calculus sequence typically taken by freshman engineering students. An earlier redesign of introductory calculus for other students provided the successful model for this change. Previously taught in large lecture courses with enrollments of several hundred, introductory calculus is now offered in classes with twenty to twenty-five students per instructor, ensuring more individual attention. The faculty members who teach these sections are drawn not only from the mathematics department but also from many departments in the College of Engineering.

The creation of new majors is a component of the development of new research initiatives. Both follow from changes in the disciplines and the world at large or in the extant tools of analysis. For instance, over the course of the last decade, Cornell has established, or is in the process of establishing, new undergraduate majors in such fields as the science of earth systems and environmental sciences. New *graduate* fields have been developed in such diverse areas as Asian religions, biophysics, community and rural development, real estate, biomedical engineering, and systems engineering. An environmental studies option is now

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<sup>1</sup> In the fall of 2000, Cornell was named a "College of the Year" by *Time* magazine and *The Princeton Review* largely on the strength of this innovative program.



available in many of the Master of Professional Studies (MPS) programs in the College of Agriculture and Life Sciences. The availability of graduate minors in film and video studies and in lesbian, bisexual, gay, and transgender studies also dates from this period.

During the 1990s, Cornell also made a concerted effort to directly involve undergraduates in research projects. As President Rawlings has noted:

*Cornell does a superb job of teaching undergraduates, not in spite of the research that goes on here, but because of it. Our excellence in research and scholarship gives a special character to our teaching— and opens opportunities for our students—that makes a Cornell education distinctive. Research and scholarship are what give us a competitive edge in attracting the best and brightest students to the University. They make us a community of inquiry, where students and faculty members alike engage in the discovery process and enjoy the intellectual give and take that comes from playing with ideas.*

Cornell has several programs that facilitate this important type of faculty-student interaction. In the latter half of the 1990s, with the assistance of a major gift, Cornell initiated the Presidential Research Scholars Program. As many as seventy-five of the roughly 3,000 students who enroll as first-time freshmen each fall are awarded Presidential Research Scholarships. The scholarships are open to prospective students admitted to any of Cornell's seven undergraduate colleges who demonstrate superior academic potential and intellectual curiosity.

Cornell Presidential Research Scholars are connected to faculty mentors in their area of interest when they arrive on campus. Together, student and mentor develop a plan for the student to engage in faculty-directed research during each academic year and to work at least one summer on individualized research. The program can provide to each scholar \$10,000 support over a four-year period for this research. In addition, Cornell Presidential Research Scholars receiving financial aid are eligible for up to \$3,500 per year, or \$14,000 over a four-year period, to reduce their student-loan indebtedness. This amount will increase to \$4,000 per year, or \$16,000 over a four-year period, beginning with the 2001–02 academic year.

In 1990, the Hughes Scholars Program was initiated to increase research opportunities in biochemistry, genetics, cell physiology, and neurobiology for Cornell undergraduates studying in the biological sciences. Funding from a grant from the Howard Hughes Medical Institute will enable approximately twenty-five juniors per year to participate in the program, which consists of an intensive three-week lab course held during the summer, research conducted in faculty laboratories, and two seminar series.

The Cornell Undergraduate Research Board (CURB) is the only such entity in the country run by and for undergraduate students. In addition to helping undergraduates locate and become involved in research projects, CURB is committed to fostering academic excellence through undergraduate participation in events that bring student endeavors to the forefront of the Cornell

community's attention. To this end, CURB sponsors two annual gatherings: an open house to demystify the process of finding a research position, and a spring undergraduate research forum that enables students to present their research findings.

### THE GRADUATE SCHOOL

Graduate education at Cornell is unusual in its organization and in the degree of interdisciplinarity that its graduate-field structure permits and even encourages. The Graduate School is formally independent of the various colleges of Cornell. Its academic structure is twofold: special committees of Graduate Faculty members, composed to meet the needs of individual students' research interests; and the graduate fields of study, in which faculty membership is voluntary and may be identical to the faculty roster of the most closely related academic department, may be composed of faculty members from several related departments, and may even include individuals without tenure or tenure-track appointments at Cornell. The entire system is designed to maximize flexibility. The opportunity to cross disciplinary boundaries with ease and to combine the expertise of faculty members in more than one discipline or graduate field is one of Cornell's competitive strengths in attracting graduate students. The field structure also encourages cross-disciplinary collaboration among faculty field members themselves. A resulting benefit is that faculty members *and* graduate students are better prepared to function effectively in a contemporary environment where issues and problems increasingly demand attention from several disciplines at once.

Professional master's-degree programs operate a little differently, usually more along department and college lines, than do the research-degree programs. There has been a shift of resources at Cornell toward the professional master's-degree programs in recent years in response to higher demand and enrollment in those programs, though we have also attempted to rebuild enrollment in our doctoral programs during the last three years. New degree programs at both the undergraduate and graduate levels have been primarily interdisciplinary in character.

For more than twenty years, Cornell has offered teaching-assistant training to new graduate students in many departments, and in some cases has required graduate students to complete a summer or semester course of such training before they are permitted to teach. There is a growing emphasis on such training as a form of career enhancement for graduate students and as a matter of keeping faith with the undergraduates who become their students. There are now both central and decentralized offerings designed to deal with needs ranging from generic classroom presentation skills, to non-discrimination sensitivity training, to the sharpening of specialized skills needed for particular courses, such as the freshman writing seminars. In addition, the Academic Technology Center within Cornell Information Technologies trains TAs on the information technology skills needed by instructors in the 21<sup>st</sup>-century classroom. A high percentage of TAs now receive such training, but there are still gaps.

Cornell has also increased its investment in teaching-assistant training for international graduate students. Following up on an initiative begun in the late 1980s to address the continuing growth in the number of international-student TAs, current training includes attention to language skills, pedagogy, and acculturation.

Cornell has improved its competitive stance by offering an excellent package of support for graduate students. The total amount of financial aid for graduate students has increased substantially, not least through more fellowships with higher stipends. A very high percentage of doctoral students are now guaranteed twelve-month support for at least four years, and often until they complete their degree program, assuming steady progress. Beginning with the 2001–02 academic year, Cornell will cover the cost of health insurance for fully funded graduate students.

Finally, changes in the sizing and support of doctoral education are part of an integrated strategy at Cornell. Close attention is given to determining the right number of degree candidates in each graduate field, and to recruiting the highest-quality graduate students possible for faculty research needs, for undergraduate instruction needs, and for society's needs. In some areas we have decreased the size of a graduate field not for lack of applicants but because field members thought it irresponsible to educate more students than a shrinking job market could reasonably be expected to absorb.

### **THE PROFESSIONAL SCHOOLS**

All of the professional schools at Cornell have made notable changes to their curriculum in the last decade.

The College of Veterinary Medicine, for example, in the fall of 1993—after virtually ten years of systematic development—introduced an innovative new curriculum, emphasizing an interdisciplinary, tutorial-based approach. Veterinary students learn basic biomedical science principles in the context of clinical medicine through structured case-based exercises supplemented by laboratory sessions, lectures, interactive computer courseware, and independent study. The new veterinary-medicine curriculum provides greater opportunities for students to develop skills in critical thinking and medical problem solving, in accessing and analyzing information, and in communicating with clients and colleagues.

A number of changes have been effected in the Law School curriculum over the course of the last decade, the most significant of which is a shift in the method of teaching legal writing. Formerly this was a relatively small part of the law curriculum, relegated to short courses in the January term and overseen by a patchwork of adjunct instructors. Now the development of the skills necessary to produce clean, organized, precise, and economical writing is packaged within a legal methods component of the curriculum that runs for the full first year of instruction in parallel with the more traditional substantive legal course work.

Legal Methods is a full-year skills course designed to introduce first-year law students to the techniques of research, analysis, and writing that are necessary in legal practice. Instruction in the fall semester focuses on legal research and the written communication of objective legal analysis. Students complete a series of research and writing assignments to develop and test their skills in those areas. Instruction in the spring semester focuses on written and oral advocacy. In the context of a simulated civil or criminal trial, students carry out the necessary research and then draft and rewrite a trial or appellate brief advocating their client's position on one or more legal issues. The spring semester culminates with a moot court exercise designed to introduce students to the techniques and logistics of oral advocacy in a courtroom setting. Instruction occurs in small sections of approximately thirty students and in individual conferences. Each student receives extensive editorial and evaluative feedback on each written assignment.

The Johnson Graduate School of Management has made several changes in its curriculum over the past decade, all designed to improve learning and preparation for re-entering the workforce. Change both in content and pedagogical delivery systems has focused on issues of communication, leadership, and teamwork in a program providing high-quality training for general managers. Two examples best reflect this change:

- The Johnson School's innovative Immersion Learning curriculum represents a new model of management education that replaces static, case-based training with integrated, experiential, just-in-time learning. Cases are realistically complex, not based on functional "silos." Students work on real-world problems under real-world time pressures. They are evaluated as they would be on the job. They are often on the road, and see more companies, up close, in a semester than many executives have seen in a lifetime. The result is savvy students who combine a sound theoretical background with a hands-on sophistication and confidence and who have the broad perspective required for success in the business world today.
- For professionals without specialized management skills, opportunities for advancement in today's increasingly complex business environment are often limited. At the same time, incorporating a lengthy study leave into ongoing professional employment can be daunting. To address those concerns, the Johnson School has created its new twelve-month MBA option, a highly focused course of study designed for individuals with advanced scientific or technical degrees. Rigorous training is a matter of course for those in scientific and technical fields, and it fosters the kind of analytical thinking, problem solving, and decision-making characteristic of successful managers. The twelve-month option allows individuals with this background to build on their expertise. Their background enables them to move at an accelerated pace through the quantitative core curriculum and to focus on the business applications of those skills. Participants in the twelve-month option receive fifteen credits of advanced standing for prior graduate work, complete nearly all required course work during an intensive integrated ten-week summer term, join the second-year class in

the fall, participate fully in the regular academic-year program, and receive their MBA degree in May. They are back in the workforce after only a year's break in their careers.

## **RESEARCH AND SCHOLARSHIP**

Earlier, in the "Current Institutional Priorities" section of this chapter, Cornell's overall research outlook and major commitments to selective areas of research in the sciences, social sciences, and the humanities were outlined. It was noted that our choices of priority areas were made in order to build on our existing areas of strength. Those strengths, however, are legion. Here, we detail some of the significant research centers at Cornell.

Cornell has more than 100 interdisciplinary centers, institutes, laboratories, and programs. There is no clean, crisp definition of a center, an institute, a laboratory, or a program. There are centers that include programs, programs that include institutes, and institutes that have centers. These units create a rich research culture at Cornell, in the fields of nanofabrication, advanced materials, aging, ethics and public life, high-performance computing and communications, medicine, economics, family life, the environment, food, electronics, space research, and international issues, among others. They bring individuals together from across the University (and often from outside Cornell as well) to pursue research, teaching, and outreach on broad scholarly and social topics. Much of their work provides a direct benefit to individuals or serves the public good. And of course they are of enormous benefit to Cornell, both for their product and their process. They provide a means for our faculty, students, and staff to share expensive, specialized research facilities and equipment. They participate fully in federal and state programs that are designed to promote university, government, and corporate partnerships. They enhance graduate and undergraduate education, and they contribute significantly to Cornell's outreach activities.

Specifically, Cornell is home to nine designated national research/resource centers. The Center for Bioinformatics and Comparative Genomics is a U.S. Department of Agriculture national center. The Center for High Energy Synchrotron Studies (CHESS), the Cornell Electron Storage Ring/CLEO, the National Astronomy and Ionosphere Center, and the Cornell Nanofabrication Facility all are National Science Foundation national research centers. The East Asia Program, the Latin American Studies Program, the South Asia Program, and the Southeast Asia Program all are U.S. Department of Education national resource centers.

In addition to those formally designated national centers, Cornell hosts and supports its own array of similar multidisciplinary entities. For example, the Society for the Humanities was established at Cornell in 1966 as a research institute, a stimulus for innovative education, and a continuing society of scholars. The Society for the Humanities administers two fellowship programs. The Mellon Postdoctoral Fellowship Program is funded by a grant from the

Andrew W. Mellon Foundation and provides postdoctoral fellowships for non-tenured scholars and teachers in the humanities. This program is designed to encourage the academic growth of promising humanists with recent Ph.D. degrees. Appointments are for one year. While in residence at Cornell, Mellon postdoctoral fellows have department affiliation, limited teaching duties, and the opportunity for scholarly research. On a larger scale, there is the Society for the Humanities fellowship program, which has a focal theme each year. Society fellows include scholars from other universities and members of the Cornell faculty released from regular duties. Society fellowships are held for a semester or a year, and applicants work during that period on topics related to the year's theme. Their approach to the humanities is broad enough to appeal to students and scholars in several humanistic disciplines.

The Bronfenbrenner Life Course Center, housed in the College of Human Ecology, is a University-wide umbrella organization for three institutes: the Cornell Employment and Family Careers Institute, the Cornell Gerontology Research Institute, and the Family Business Research Institute. All three engage in research, education, and outreach activities. An additional project, the Pathways to Life Quality Study, is a collaboration between the Bronfenbrenner Center and the Gerontology Institute at Ithaca College.

The Bronfenbrenner Center seeks to foster collaborative efforts dedicated to understanding the forces that shape human development throughout all stages of life (the life course). It investigates challenges to the effective functioning of individuals and families, and tries to identify promising solutions. Scholars with diverse perspectives collaborate to examine the interplay between work and family social networks, career pathways, self-employment and family business enterprises, retirement and productive aging, health and well-being, and housing decisions and transitions. The work of the center is supported largely through the Alfred P. Sloan Foundation and the National Institute on Aging.

The Cornell Center for Materials Research (CCMR) brings together an interdisciplinary materials research community of about eighty faculty members in chemistry, geological and sciences, materials science and engineering, physics, theoretical and applied mechanics, mechanical engineering, applied and engineering physics, chemical engineering, and electrical and computer engineering. Funded primarily by NSF, it supports collaborative, interdisciplinary research projects in areas such as quantum phenomena, polymers, thin film growth, and optical materials. CCMR's central facilities also provide access to state-of-the-art research facilities and resources.

The Cornell International Institute for Food, Agriculture and Development (CIIFAD) supports sustainable rural and agricultural development throughout the world. CIIFAD seeks to generate knowledge that results in informed sustainable development policies and enhances institutional and individual capacities for promoting these policies at Cornell and in low-income countries. The institute's programs are interdisciplinary, problem-focused, and collaborative, and CIIFAD works with other interdisciplinary programs at Cornell that share its development concerns. CIIFAD is supported by funding

from the College of Agriculture and Life Sciences, foundations, industry, private gifts, and U.S. government grants and contracts.

The Cornell Laboratory of Ornithology, located a short distance from the main campus, in scenic Sapsucker Woods, is an international center for the study, appreciation, and conservation of birds, and also for bioacoustics research. Its Bird Population Studies Program studies habitat requirements, breeding biology, population control, and migration. Its Macaulay Library of Natural Sounds is dedicated to the collection, preservation, and distribution of natural-sound recordings and corresponding documentation. It is also a resource for research on bioacoustics and provides training in field recording techniques. The laboratory links birders to professional ornithologists by encouraging birders to participate in research programs. Administratively aligned with the College of Agriculture and Life Sciences, it has more than 20,000 members. Its research collaborators are drawn from the College of Engineering and from the Departments of Music, Natural Resources, Psychology, and Neurobiology and Behavior.

### **LIBRARIES**

Cornell University Library (CUL) is one of the most distinguished research libraries in the country. With 6.8 million printed volumes, 7.6 million microforms, access to more than 4,500 selected networked resources, and a staff of nearly 500, CUL placed tenth in the Association of Research Libraries rankings of the 120 largest North American academic research libraries. The CUL system comprises seventeen member libraries on the Ithaca campus, as well as the Geneva Experiment Station Library and the Weill Cornell Medical Library in New York City. Many of these member libraries—including the hotel school, industrial and labor relations, management, Mann, mathematics, music, and veterinary libraries, and the Library Annex—have undergone major renovations in the course of the past decade. The Library Annex is a 1.3 million-volume storage facility, built to accommodate the continued growth in CUL's collections. CUL added 159,863 volumes in 1999–2000.

CUL currently spends approximately \$12 million per year on library materials of all kinds. The proportion of this acquisitions budget spent on electronic (mainly networked) resources is increasing every year; in 1999–2000, approximately 12 percent of the budget was spent on access to such electronic materials. CUL's collections have a breadth and depth that can and do support advanced research in all major subject areas. Some of the collections (e.g., agriculture, hospitality, labor, mathematics, Southeast Asian studies) are among the best in the world. To assist Cornell community members in their use of these outstanding collections, CUL offers a highly proactive and professional reference and instructional program. In 1999–2000, CUL provided 1,373 separate instructional sessions to 19,228 Cornell students, and faculty and staff members.

In the summer of 2000, CUL replaced its NOTIS computer system, which had been in operation for twelve years, with a new client-server system known as

Voyager. The new system, which is produced and maintained by Endeavor, Inc., fully integrates all library functions, and is used by all of CUL's operations in Ithaca and Geneva. In addition to providing a much more effective searching capability, the Voyager system allows users to recall materials currently in circulation and to place interlibrary loan requests remotely. Perhaps most important, the catalog of the new computer system is Web-based, so that users can now connect from catalog records containing URLs directly to full text and other networked resources.

Cornell's library system is an acknowledged leader, nationally and internationally, in the creation and provision of digital services. CUL's Gateway (<http://campusgw.library.cornell.edu/>) is a model library portal, providing access to a broad range of networked resources and services for scholars and students. In 1999–2000 it received 41 million hits, up 25 percent from the previous year. In addition to purchasing access to thousands of networked resources, CUL has itself created a number of large and heavily used digital collections. A few examples:

- the Making of America collection (<http://cdl.library.cornell.edu/moa/>): digital versions of some of the most important 19<sup>th</sup>-century American periodicals
- the Core Historical Literature of Agriculture project: digital versions of the key literature of agriculture published between 1850 and 1950 (<http://cdl.library.cornell.edu/chla>)
- Saganet: a project undertaken in cooperation with the National and University Library of Iceland to digitize all of the major Icelandic sagas (<http://saganet.library.cornell.edu>)

CUL also has created the Digital Futures Plan to coordinate the development of new digital services over the next two years. Among the goals of the Digital Futures Plan are increasing the amount of digital content accessible to users, expanding the technological infrastructure for effective delivery of content and services, and developing services appropriate for users.

Programs to develop or promote information literacy among students—in addition to the skills that emerge in this area as a natural component of the curriculum across the University—are also available through CUL. CUL has training programs and documentation to familiarize students with various sources of information as well as to instruct them in search and retrieval procedures. All of the member libraries on the Ithaca campus provide such training. Cornell Information Technologies (CIT) augments this training for all new students at Cornell by providing technology-orientation sessions.



## **INFORMATION TECHNOLOGIES**

To be the “best research university for undergraduate education” and a model 21<sup>st</sup>-century institution of higher learning, Cornell must have outstanding information technologies (IT) to support its education, research, and outreach missions. Information technologies at Cornell are already an integral part of the president’s and provost’s University-wide priorities. IT have a role in nearly all of Cornell’s endeavors, and are helping to transform the undergraduate education experience; invigorate critical research areas; and market Cornell as a premier place to learn, teach, do research, and work.

Cornell now spends more than \$30 million annually on its central IT offerings, which include our network infrastructure and a diverse array of services for our faculty, staff, and students. Residence halls are also networked, and plans are under way for fraternities, sororities, and other student living centers to have access to similar services. The University is committed to maintaining a cutting-edge network infrastructure that supports our community members in their endeavors, and promotes true collaboration throughout the University and around the world. For example, Cornell’s gigabit-speed campus network has evolved to connect many of the top universities in the United States. Cornell now provides high-speed access (OC-3 or 155 megabits per second) between universities and research sites within New York State and gateways to two national research networks: MCI Worldcom’s vBNS+ and the Internet II/Abilene network from the University Corporation for Advanced Internet Development, a national collaboration of more than 170 universities with partners in government and industry.

Like many institutions, Cornell has witnessed a groundswell of faculty interest in using information technologies in the teaching and learning process. In addition, students now expect information technologies to be integrated into their course work and research, available around the clock and tailored to a diverse range of learning styles. Given this, IT in education must transcend the capability of a special “high-tech” classroom facility and achieve maximum flexibility in access and ultimate use. An up-to-date infrastructure for technology-enhanced learning must now include communication networks to move text, images, sound, and video among locations on and off campus; a control center to manage the interactive connection of campus sites with one another and with outside locations; facilities to store and serve course materials on demand and in real time; and on-campus classrooms equipped for a range of instructional support options, including data/video projection, audio/video streaming, and live interactive video. Wireless network technology is on the horizon and will allow our community members to connect to the network in public spaces in quads, libraries, and residence halls. Cornell also is building the infrastructure required to implement distance learning. As the Provost’s Committee on Distance Learning sets policy directions for campus initiatives that are part of the traditional academic programs, Cornell’s central technology organization, Cornell Information Technologies, will plan and deploy the communications, classrooms, services, and support that our faculty will require to provide the

same excellent instruction at a distance that students enjoy while sitting in a classroom.

A university of Cornell's stature must provide an IT-mediated business environment that not only streamlines administrative processes but also prepares its students for the future. For the last four years, Cornell—through our Project 2000—has been a national leader in programs to reshape university administrative information systems. The project's goals were to provide better access to data and more-modern information services, while integrating those data and services across functional areas of Cornell; human resources and payroll services were pilot-project areas. As is described in more detail in Chapter 3, not all of the original plan was accomplished in the anticipated time frame. Still, many new programs and processes were invented as part of Project 2000, and Cornell continues its commitment to explore means of controlling administrative costs and modernizing the information systems that support core processes, especially in areas where our students, faculty, and staff are directly affected.

IT capabilities for our faculty, students, and staff are increasingly key to Cornell's mission as "a research university that aims to serve society by educating responsible citizens and extending the frontiers of knowledge." Our ongoing investment in network infrastructure, instruction technology, distance learning, and modern administrative systems—along with a spirit that continues to embrace emerging technologies of benefit to scholarship and research—all will ensure that our faculty remains preeminent, our staff has the resources required to do its work in a modern institution, and our graduates are prepared for the 21<sup>st</sup> century.

### SERVICE AND OUTREACH

Cornell was founded as New York State's designated land-grant institution, and so has a rich history of serving society and New York State in particular. Indeed, Cornell's mixture of basic and applied scholarship and outreach programs gives life to Ezra Cornell's vision of a marriage between intellectual inquiry and practical service. The University's influence extends far beyond the borders of New York State, through programs of national and even international importance, including those in many of the world's less-developed nations. Cornell graduates hold positions of responsibility throughout the world as well.

Outreach is an integral part of our mission. This is a two-way process, in which the very practice of outreach provides feedback to our research programs, classrooms, and outreach initiatives.

Cornell's outreach activities permeate the entire University, and extend throughout the world. They take a variety of forms, including technology transfer, technical assistance, demonstration projects, evaluation studies, for-credit and not-for-credit instruction, formal and informal education, distance

learning, policy analysis, and consulting, as well as community and public service. Below is a summary of a few of our prominent service activities.

### **Agricultural Experiment Stations**

Cornell discharges its responsibility for research in the agricultural and life sciences through the Cornell University Agricultural Experiment Station in Ithaca and the New York State Agricultural Experiment Station in Geneva. There are additional agricultural experiment facilities in the mid Hudson Valley at Highland, at Lake Placid, on Long Island (the Horticultural Research Center) in Riverhead, and elsewhere in the state, as far west as Fredonia and as far north as Chazy.

These experiment stations investigate growing conditions in the varied climates and soils important to New York agriculture—the state’s largest industry—and provide the research base for agriculture, food production, and related activities throughout the state. The stations also administer the New York State Integrated Pest Management Program and the North Country Agricultural Research Program, and contribute to the national agricultural research program as well.

### **Cornell Cooperative Extension**

The Cornell Cooperative Extension system, a vital resource of New York State, is respected for its ability “to put knowledge to work.” It is valued by individuals, families, organizations, and communities, whether they be consumers, fruit growers, dairy producers, teenage parents, state agencies, local municipal units, decision makers, or industries.

Through a dynamic collaboration among local, state, and federal partners, Cornell Cooperative Extension (a joint program of the College of Agriculture and Life Sciences and the College of Human Ecology) serves as a vitally important door to the University. It enables individuals and communities to improve their lives through partnerships that put research and experiential knowledge to work. It is estimated that Cornell Cooperative Extension’s educational outreach programs, and its 1,600 employees, 400 agents, 240 faculty members, and 60,000 volunteers, have contact with and an impact on roughly one-third of New York State’s residents.

Funding to support Cornell Cooperative Extension programs continues to be a challenge. For the most recent fiscal year, county government provided 26 percent of the Cooperative Extension budget; the State of New York contributed 27 percent through Cornell’s two sponsoring colleges and 3 percent directly to the county extension associations; the federal government contributed 17 percent; the county extension associations generated 9 percent; and grants and contracts accounted for 18 percent. Over the past decade, there has been a modest increase in total funding for the system. Despite this growth of funding, the purchasing power of these funds has declined when adjusted for inflation. A review of the trends by source of funding shows modest increases in federal and state funding and modest decreases in county funding. Grants and contracts,

traditionally a small part of extension funding and generally targeted to very specific programs, have become increasingly important for program success and will likely grow in importance in the future.

### **Industrial and Labor Relations Extension**

Cornell's Industrial and Labor Relations Extension program exists to disseminate research-generated knowledge and to train union and management leaders throughout New York State and the nation in the latest techniques and information related to the field of labor relations.

ILR Extension is funded annually by a core state appropriation, along with grants and contracts and fees for education and technical assistance. In addition to using the expertise of the faculty of the School of Industrial and Labor Relations, ILR Extension employs 75 or so staff members on the Ithaca campus as well as in offices in Albany, Buffalo, New York City, Old Westbury, and Rochester.

Programs are targeted at three groups: unions and corporations with an interest in labor-management relations and human resource management and development, policy makers with interests in employment relations and employment policy matters, and workers with interests in employment relations and employment law. Special emphasis is placed on labor studies, management training and executive education, programs for employment and disability, and programs for employment and workplace systems. In total, ILR Extension programs annually reach more than 25,000 individuals.

### **Veterinary Teaching Hospital and Diagnostic Laboratory**

The Cornell University Hospital for Animals (the veterinary medical teaching facility) annually treats more than 15,000 patients—horses, cattle, sheep, goats, dogs, cats, even exotic animals—through its Companion Animal Hospital and its Equine/Farm Animal Hospitals. Additionally, the college's Ambulatory Service serves more than 400 farms within a 30-mile radius of Ithaca. Board-certified specialists are available in the areas of animal behavior, anesthesiology, cardiology, clinical pathology, dermatology, internal medicine, neurology, nutrition, ophthalmology, pathology, radiology, surgery, theriogenology, toxicology, and zoological medicine.

The Diagnostic Laboratory at the College of Veterinary Medicine conducts more than 700,000 diagnostic tests each year for many species of animals, including humans. It is New York State's official laboratory and diagnostic center for animal disease control, and it is accredited by the U.S. Department of Agriculture to perform official tests. The lab also carries public-health accreditation for endocrinology and water testing.

Using four regional laboratories in Ithaca, Cobleskill, Geneseo, and Potsdam, the Quality Milk Promotion (Mastitis Control) Program provides diagnostic services to the dairy industry of New York State, supervising bacteriological examination

of more than 170,000 cows and making more than 3,000 farm visits annually. In addition, the Equine Drug Testing and Research Program was formed in 1971 at the request of the racing industry to prevent drug abuse in the largest spectator sport in New York State—horse racing. More than 224,000 samples are analyzed annually. Two Poultry Diagnostic Laboratories—in Ithaca and Eastport, Long Island—serve commercial producers of chickens, ducks, and turkeys in New York State. The labs’ research and vaccines help to prevent serious outbreaks of poultry diseases.

### **Cornell Office for Technology Access and Business Assistance (COTABA)**

The Cornell Office for Technology Access and Business Assistance (COTABA) was formed in January 1995 as the first step in establishing an Innovation Center at Cornell. The mission of this office is to support entrepreneurship, business creation and innovation, and other early-stage elements of the commercialization process, thereby contributing to economic development through the effective use of Cornell resources. COTABA’s three fundamental objectives are to coordinate technology access and resource information on campus, nurture formative new business enterprises, and provide links to the business community.

Since its founding, COTABA has been instrumental in a number of activities that have encouraged the development of new ventures based on Cornell research. Some are national in scope, such as its joint sponsorship of a think tank on new-venture creation with the Center for Entrepreneurial Leadership, Inc., of the Ewing Marion Kauffman Foundation and the Johnson Graduate School of Management at Cornell. This think tank has spurred discussion across the United States about the appropriate role of research universities in spawning new businesses.

Locally, COTABA has assisted in the establishment of the Finger Lakes Entrepreneurs’ Forum, which currently has sixty corporate members and a monthly seminar series. Internally, COTABA is collaborating on technology assessment as part of a team to develop targeted marketing plans for new-business attraction and local-company retention.

### **Other Outreach and Service Activities**

Though the Cornell Cooperative Extension and Industrial and Labor Relations Extension programs are perhaps Cornell’s most visible outreach entities, many other units at Cornell routinely perform outreach functions and offer activities that are open to the public. For instance, the Herbert F. Johnson Museum of Art is visited each year by more than 30,000 individuals without formal ties to Cornell. The Johnson Museum’s programs for elementary and secondary schools provide guided tours of the collections, demonstrations, and workshops to more than 5,000 schoolchildren annually. The museum’s more than 100 additional tours, lectures, workshops, and presentations for adults, families, and children were attended by more than 2,000 individuals and 30 community groups, including groups of students from 12 area colleges.

## CHAPTER 1: Context, Mission, and Governance

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In 1991 Cornell established the Public Service Center (PSC) to support and coordinate the service and social-action initiatives of members of the Cornell community. The PSC provides a range of services that facilitate connecting academic, professional, and personal interests to the needs of the larger community. One example, the Faculty-Fellows-in-Service Program, has supported the efforts of more than 100 faculty members, representing all of Cornell's schools and colleges, in more than 87 community-service projects and has distributed \$30,000 in grants each year. Projects are local, regional, national, and international in scope. One new venture that seems especially promising is a collaboration between this program and the Cornell Council for the Arts that has led to several community arts-outreach projects and new courses.

More than 5,000 students annually participate in PSC activities. Through this involvement, students experience the rewards and challenges of public service locally, across the nation, and around the world. As students connect what they are learning on the campus to real-world settings, they develop technical and interpersonal skills as well as a better understanding of community—all necessary to be leaders in a continually dynamic social environment.

An example of this student commitment to service is the Community Partnership Board. Funded through Cornell's student activities fee, this student-run organization supports student-inspired projects in local communities. In the last year alone, it supported fourteen grass-root projects developed by students in collaboration with community agencies. Another example is the REACH (Raising Educational Attainment Challenge) Fellowship, which serves as the umbrella program for the PSC's literacy programs, especially the America Reads Challenge and the America Counts Challenge, currently offered at ten Tompkins County sites. A third example is the Graduate Student Outreach Project, which sends at least two dozen graduate students into local elementary, middle, and high schools each year to teach mini courses.

The Cornell Theory Center is also a prominent participant in outreach and service activities. Its outreach activities for academic and research institutions in the United States are provided through the Smart Node Program, a consortium of universities, colleges, and government research laboratories that distribute supercomputing information, expertise, support, and training to researchers at their sites. More locally, the Theory Center offers workshops for area K–12 educators—teachers, librarians, computer support staff members, principals, superintendents, and school board members.

The Cornell Institute for Biology Teachers (CIBT) is a five-year-old effort aimed at improving K–12 biology education. To date, more than 200 high school science teachers have spent at least one summer on the Cornell campus and continue to interact through an electronic network and the activities of staff members who work with the teachers in their schools. A hallmark of the program has been the production of materials and exercises that can be used directly in the schools. Personal support is provided through an extension associate and, in collaboration with Cornell biotechnology programs, a lending library of supplies and equipment. A middle-school project that includes a

broader spectrum of science than just biology has recently been introduced. CIBT is cosponsored by Cornell's Department of Molecular Biology and Genetics and School of Continuing Education and Summer Sessions. CIBT is among the largest outreach efforts sponsored by the Howard Hughes Medical Institute, and also receives funding from a series of small private foundations, from industry, and from the State of New York.

### **UNIVERSITY GOVERNANCE**

The Charter of Cornell University appears in the Consolidated New York Education Law as Article 115 (sections 5701 through 5716). The statutes, regulations, and procedures that govern the relationship between Cornell and New York State make clear that Cornell's Board of Trustees has ultimate responsibility for overseeing all aspects of the University, including the four contract colleges. Cornell's Board of Trustees consists of sixty-four members, including forty-two voting members and twenty-two non-voting "trustee fellows."

The forty-two voting members include the following: four ex officio members (the governor of New York, the president pro tem of the state senate, the speaker of the general assembly, and the president of Cornell); one life member (the eldest lineal descendant of Ezra Cornell); three members appointed by the governor; twenty-one members-at-large, elected by the board, including two each from the fields of agriculture, business, and labor in New York State; eight members elected from and by the alumni of the University; two faculty members elected by the University Faculty; two students elected by the students of the university; and one nonacademic employee elected by the staff of the University.

The twenty-two trustee fellows elected by the board participate in all meetings of the board and its committees; they are expected to contribute actively to the work of the board and may be elected committee chairpersons. Although trustee fellows do not have a formal vote, they help fashion the consensus by which the board strives to operate.

Administratively, since our decennial self-study and site visit in 1991, Cornell has undergone a dramatic, yet remarkably orderly, change in its senior leadership. Through a combination of retirements, relocations, reorganizations, and deaths, the University has had an opportunity to promote individuals both from inside Cornell and from outside the university to positions of leadership. The turnover has been substantial: a new president, two new provosts in Ithaca and two more at the medical school, new deans of every school and college, nine new vice presidents, a new university librarian, and a new university counsel. Additionally, many new senior leadership positions were created or reconstituted over the past ten years in response to University needs, and the number of women holding senior administrative positions increased dramatically. Positions that have been newly created or reconstituted (or both) include the vice president for administration and chief financial officer, the vice president for financial affairs, the vice president for student and academic

services, the vice president for planning and budget, the vice provost for diversity and faculty development, and the associate provost for admissions and enrollment.

As the appended organization charts illustrate, the deans of all colleges report to the provost, and the central administration of the University has much the same relationship with the contract colleges as with the endowed colleges. Given the obvious connection to the financial management of the University, a portion of the information about Cornell's organizational structure appears in Chapter 3. What follows is a brief summary of selected components of the University's internal governance and decision-making structures.

Cornell's decision makers, like those at virtually every other post-secondary education institution in America, have faced a perpetual stream of difficult choices for the past decade, as they sought a balance between legitimate calls for resources to fulfill Cornell's education mission and preservation of fiduciary responsibility. At Cornell, there has been a commitment to ensure that decision-making is driven by sound education policy, rather than bookkeeping conventions or other forms of "administrivia."

To help meet this challenge, and to respond to calls from the 1991 reaccreditation site visit team and our own strategic planning process for more-widespread engagement of the deans in institutional decision-making deliberations, several deliberative bodies have been formed or reconstituted during the past ten years.

For the past three years, the University's academic cabinet has met regularly to provide advice and counsel to the president. Composed of Cornell's senior academic officers on the Ithaca campus—the president; the provost; the vice provost and dean of the Graduate School; the vice provost for research; other vice provosts; and two other deans—this group has played a vital role in shaping Cornell's strategic academic and policy decisions. The academic cabinet has been a vitally important sounding board in the deliberations regarding such issues as the reorganization of the administration of the biological sciences, the residential living-learning initiatives, and the various research-focus proposals.

The executive budget group (EBG) is advisory to and chaired by the provost. It includes the vice provost and dean of the Graduate School; the vice president for administration and chief financial officer; the vice president for planning and budget; the vice president for financial affairs and university controller; and the director of planning information and policy analysis. The Capital Funding and Priorities Committee, chaired by the vice president for administration and chief financial officer, provides guidance for Cornell's physical and capital planning. Its membership includes the president, the provost, the vice president for planning and budget, the vice president for alumni affairs and development, and the associate vice president for facilities services.

Since 1970, the four University Assemblies have actively involved Cornell's students, staff, and faculty in the governance of the Ithaca campus. The assemblies are structured to promote student, faculty, and staff participation in



decision-making in areas of direct and joint concern to them; provide a forum for discussion of campus issues; and supervise the campus judicial system.

- The Student Assembly is the undergraduate-student government entity at Cornell and represents the 13,000 or so students in the seven undergraduate colleges. It comprises 23 members representing each of the colleges (in proportion to the size of their population), freshman students, and transfer students; there are also at-large and liaison positions. With legislative authority—subject to the approval of the president—for the Office of the Dean of Students, the department of Campus Life (housing and dining), and 600 student organizations, the Student Assembly strives “to seek out and voice effectively” student interests and concerns to administrators and other University decision makers. The Student Assembly also sets the University’s student activities fee and oversees the resulting \$1.2 million revenues, which fund student organizations, provide free student admission to most athletic events, and subsidize the cost of tickets for movies, speakers, concerts, and other programs on campus.
- The Graduate and Professional Student Assembly (GPSA) is charged with representing the interests of Cornell graduate and professional students. The GPSA is derived from a larger group, the Council of Representatives (COR), which is composed of representatives from each of the 108 graduate fields and the three Ithaca-campus professional schools. The 15 voting GPSA members are elected by and from the COR membership.
- The Employee Assembly consists of 13 members, elected by their peers, and provides the Cornell staff with a means of continuous involvement in the governance of the affairs and life of the University. Working closely with members of the administration, the Employee Assembly encourages a higher visibility for staff members in the Cornell community, more-equal participation with faculty members and students in the policy-making process, and an increased sense of union among all constituencies through shared responsibility.
- The University Assembly comprises 21 voting members: 6 undergraduate students, 3 graduate and/or professional students, 5 staff members, and 7 faculty members. In addition, there are 4 non-voting members: the vice president for student and academic services; the vice president for administration and chief financial officer; and another member of the central administration appointed by the president, along with the chair of the Committee on Minority and Third World Community Affairs. The University Assembly has legislative authority for policies that guide the activities of the departments of Transportation and Mail Services, Cornell United Religious Work, Gannett: Cornell University Health Services, and the Cornell Campus Store. An associated structure of committees and boards consider and propose policies for their respective departments to the University Assembly. The University Assembly also has legislative authority for those aspects of the conduct of members of Cornell University

now covered by the Campus Code of Conduct and the Statement of Student Rights.

The other major component of the internal governance structure on the Ithaca campus is the Faculty Senate. At the end of 1995, the University Faculty and the University administration both endorsed a proposal for a major restructuring of faculty governance. As a result, the Faculty Senate replaced the Faculty Council of Representatives that had been formed twenty-five years earlier. The Faculty Senate embodies the following major changes:

- The representative structure of the Faculty Senate is now department-based rather than college-based, to reflect the basic structure of Cornell's faculty. Each department elects at least one faculty member to the senate; departments with more than twenty-five tenure-track faculty members elect two.
- The University Faculty Committee (UFC) elected from the senate by the faculty at large was established to consult with and advise the central administration, particularly the provost and the president, on all major education policy issues that affect more than one college or school. To facilitate that advisory and consultative relationship, the provost and/or the president meet on a regular basis with the UFC.
- Both for joint faculty-administration committees and for committees established by the administration in which the faculty has a stake and to which faculty members are to be appointed, the provost makes the final decision about faculty membership; half are selected from nominations submitted by the associate dean of the faculty. For joint committees, the dean of the faculty and the provost work together to create the committee charge and appoint faculty members. The associate dean of the faculty solicits nominations for committee members from the Committee on Nominations and Elections, and meets with the provost to discuss these nominations. When the administration establishes a committee, the provost and the associate dean of the faculty discuss faculty membership after the provost has decided on the charge (though whenever possible the dean of the faculty and the provost work together to create the charge).
- The dean of the faculty, the associate dean of the faculty, the faculty-elected trustees, the nine at-large members of the Faculty Senate, and the members of the University Faculty Committee and the Nominations and Elections Committee are directly elected by the entire faculty. Other faculty members of administration and faculty committees are selected by the Faculty Senate upon nomination by the Nominations and Elections Committee.

These changes were designed to promote more-effective faculty participation in University-level governance. Rooting the Faculty Senate in academic departments ties that body more closely to the faculty at large. The University Faculty Committee is a mechanism for closer communication between the administration and the Faculty Senate. Since much of the input of the faculty to

decision-making takes place through ad-hoc committees, it is important that the members of those committees are representative of the faculty. The provision for sharing the responsibility for appointing faculty members to all major committees provides a mechanism for bringing that about.

More fundamentally, however, the shift to the Faculty Senate has permitted a transformation of emphasis and focus in faculty governance. Now, rather than primarily attending to legislative activity, the Senate and its various committees are able to deliberate on larger issues such as faculty-student interactions, the transition to a distance learning environment, academically sound / fiscally responsible means of containing costs, and the campus climate. On this last front, it was the Faculty Senate that took the lead in bringing together the relevant constituencies from across campus to engage in a substantive conversation about climate issues on campus. One product of those deliberations was the promulgation of “Open Doors, Open Hearts, and Open Minds: Cornell’s Statement on Diversity and Inclusiveness.” The Employee Assembly, the University Assembly, the Student Assembly, the Graduate and Professional Student Assembly, the Faculty Senate, and the Board of Trustees all endorsed this statement.

***Open Doors, Open Hearts, and Open Minds***  
***Cornell’s Statement on Diversity and Inclusiveness***

***Open Doors***

*“I would found an institution where any person can find instruction in any study.” This statement, made by Ezra Cornell in 1865, proclaims Cornell University’s enduring commitment to inclusion and opportunity, which is rooted in the shared democratic values envisioned by its founders. We honor this legacy of diversity and inclusion and welcome all individuals, including those from groups that have been historically marginalized and previously excluded from equal access to opportunity.*

***Open Hearts***

*Cornell’s mission is to foster personal discovery and growth, nurture scholarship and creativity across a broad range of common knowledge, and affirm the value to individuals and society of the cultivation of the human mind and spirit. Our legacy is reflected in the diverse composition of our community, the breadth of our curriculum, the strength of our public service, and the depth of our commitment to freedom, equity, and reason. Each member of the Cornell community has a responsibility to honor this legacy and to support a more diverse and inclusive campus in which to work, study, teach, research, and serve.*

***Open Minds***

*Free expression is essential to this mission, and provocative ideas lawfully presented are an expected result. An enlightened academic community, however, connects freedom with responsibility. Cornell stands for civil discourse, reasoned thought, sustained discussion, and constructive engagement without degrading, abusing, harassing, or silencing others. Cornell is committed to act responsibly and forthrightly to maintain an environment that opens doors, opens hearts, and opens minds.*

### INSTITUTIONAL INTEGRITY

Diversity of opinion, freedom of expression, the opportunity for peaceful protest, academic freedom of the faculty, and the integrity of the academic community are cherished at Cornell. Yet with these privileges comes a responsibility to enjoy them within the bounds of the rights of others. In a memorial occasioned by the death of a colleague in 1938, Cornell Professor Carl Becker said of the University:

*If there be any intangible possession that distinguishes this university, it is the tradition of freedom united with responsibility— freedom to do what one chooses, responsibility for what it is that one chooses to do.*

The careful balancing of these ideals—freedom and responsibility—is a core commitment of the University. A number of formal policies and procedures guide the implementation of these principles—rules and regulations promulgated by the Board of Trustees, the University’s central and college-level administrations, the Faculty Senate, and the Student, Employee, and University Assemblies. Although some of the documents have become quite elaborate, there is a simpler underlying philosophy at Cornell to prescribe minimum standards that allow maximum individual freedom yet ensure the effective functioning of the University.

To provide for defining and implementing an effective University process for formulating, issuing, and cataloguing administrative policies, the University Policy Office (UPO) was established in February 1991. The UPO works closely with two standing university committees: the Policy Advisory Group (PAG), comprising individuals with extensive institutional perspectives representing the decentralized operating units of Cornell, and the Executive Policy Review Group (EPRG), comprising senior administrators and deans who give final approval to each policy prior to its distribution.

The PAG is chaired by the vice president for financial affairs and university controller and is co-chaired by the director of the University Policy Office. The EPRG is chaired by the vice president for administration and chief financial officer. The proper composition of these committees is essential to ensuring the continuation of a meaningful approach to policy formulation, which has, over the years, gained campus-wide acceptance. The UPO maintains an up-to-date catalog of recognized University policies on the World Wide Web at <http://www.univco.cornell.edu/policy/Library.html>.

Ethical behavior is a key aspect of any great institution. At Cornell that expectation is inherent in the fundamental purposes of the institution: the education of students, service to our communities, and the pursuit of research and scholarship to improve the lives of future generations. Hence, in the mid 1990s, realizing the importance of having everyone in the Cornell community fully understand and adhere to a policy identifying behaviors that may be construed as problematic, the University commissioned a group of faculty and

staff representatives, and senior administrators, to develop a policy of ethical conduct appropriate for Cornell. This group considered carefully how to accomplish three objectives: to define ethical conduct, to increase the awareness of the importance of individual ethical behavior for the entire University, and to establish procedures for the proper reporting of suspected unethical conduct.

In November 1996, the results of that group's efforts were released as the University Policy on Standards of Ethical Conduct. The policy covers topics such as the abuse of power, communication, computer use, confidentiality, conflicts of interest and commitment, financial transactions, intellectual property, kickbacks, statutory reporting, and stewardship.

The maintenance of academic integrity is principally the responsibility of the faculty and is largely delegated to the individual colleges and schools. In practice, Cornell relies on individual faculty members to maintain academic integrity, although ultimately the University expects individuals to police themselves within the bounds of Cornell's Principles of Academic Freedom and Responsibility for the faculty and Code of Academic Integrity for students. The Cornell University Campus Code of Conduct is widely distributed among Cornell's students, faculty, staff, and Board of Trustees, and sets out board-approved principles and policies regarding public order, the maintenance of the educational environment, judicial structures and processes, and responsible speech and expression. In February 2000, the Office of the University Faculty issued the Academic Integrity Handbook, which provides information about the Code of Academic Integrity and how it is administered. This handbook also offers examples of violations, suggestions for working with students to prevent violations, and methods for handling a variety of issues that arise from questions of academic integrity.

Faculty research endeavors are governed by the policies and procedures of human-subjects review, internal committees, and the integrity statements of public and private sponsors of university research, such as the National Science Foundation and the National Institutes of Health. *The Cornell University Faculty Handbook*, distributed to all members of the University Faculty, is a comprehensive guide to personnel issues, academic responsibilities of the faculty, benefits (including leave policies), consulting and conflict of interest issues, patent and intellectual property rights, and student records policy.

Soon after admission, Cornell students are informed of general University and college requirements for graduation and receive copies of handbooks prepared by each of the colleges. The annual catalog *Courses of Study* provides information about academic programs and courses, administrative policies and procedures, important timelines for students, expectations for class attendance, grading guidelines, student records policy, the protection of human subjects, and the use of animals in courses.

The Office of the Dean of Students produces the *Policy Notebook for Cornell Community* and the *Student Handbook*, which provide information about an array of policies and situations, including codes of behavior, computer use (network

identities, privacy, data access, and security policies); intellectual property; the use and distribution of alcoholic beverages; carrying of firearms; various grievance procedures; student residential units; student identification cards; roles and functions of the Office of the Judicial Administrator, the Office of the Judicial Codes Counselor, and the Office of the University Ombudsman; and use of the Cornell University Library system.

No institution is immune from occasional lapses arising from the activities of the individuals it serves and employs. Particularly where competition exists and is encouraged, there will be challenges to maintaining integrity and civility—institutional and individual, personal and professional. The principal challenge for Cornell is to maintain a firm institutional posture on social responsibility and civility, ethics, and integrity, without unnecessarily reining in the very freedoms that make the University environment and community so productive and enjoyable.

### SYNOPSIS

The past decade has been one of extraordinary self-examination and change for Cornell. Our ability to effectively respond and adjust, let alone strategize, forecast, and act preemptively, has been severely tested. Nevertheless, we have had some remarkable successes in our continuing efforts to reformulate the University to ensure that it will continue to be an active and vibrant leader in higher education, fulfilling our mission to “serve society by educating responsible citizens and extending the frontiers of knowledge.” Obviously, this is a never-ending process, in which much work remains to be done, and many new initiatives await launching. Similarly, the process of establishing Cornell as the “best research university for undergraduate education in the country” is off to an impressive start, but is far from complete. In short, we have more than enough on our institutional agenda right now to keep us occupied through the *next* decade, but have every reason to expect that it, too, will be an exciting and satisfying time for Cornell and our constituencies.

### SELECTED REFERENCES AND SOURCES

Bishop, Morris (1962). *A History of Cornell*. Ithaca: Cornell University Press.

*Cornell University Faculty Handbook* (fifth edition 1990)

Cornell University Electronic Fact Book  
<http://www.ipr.cornell.edu/factbook>

Cornell University Library Digital Futures Plan, July 2000 to June 2002  
<http://www.library.cornell.edu/staffweb/CULDigitalFuturesPlan.html>

Electronic Library of Cornell University Policies  
<http://www.univco.cornell.edu/policy/policies.html>

*Policy Notebook for Cornell Community*. August 2000-2001

Rawlings, Hunter (October 12, 1995). To Compose Cornell: Cultivating the Mind (Inaugural Address).

<http://www.news.cornell.edu/campus/Inauguration/Speech.html>

Rawlings, Hunter (October 23, 1998). 1998 State of the University Address

<http://www.news.cornell.edu/campus/stateofuniv98.html>

*Research Futures Task Force I: Physical Sciences and Engineering and their Relationship with Biological Sciences* (October 16, 1997)

*Report on the State of the Humanities at Cornell University* (May 15, 1998)

*Report to Cornell University of the Evaluation Team representing the Commission on Higher Education of the Middle States Association of Colleges and Schools, 1992.*

Rudolph, Frederick (1987). *Curriculum: A History of the American Undergraduate Course of Study Since 1636*. San Francisco: Jossey-Bass.

University Policy on Standards of Ethical Conduct

<http://www.univco.cornell.edu/policy/SOEChr.html>





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## CHAPTER 2

### Ongoing Institutional Self-Examination

To contextualize policy development and decision making, Cornell engages in on-going institutional self-examination. Primarily of a summative rather than formative nature, these activities take place at a variety of levels throughout the institution. What follows is not an exhaustive recapitulation, but a selective highlighting of the major university-wide elements and how they are utilized. These are of two types: a system of academic program reviews overseen by the faculty; and a regular program of reports and survey research conducted largely by the Office of Institutional Research and Planning. Chapter 3 reviews Cornell's efforts to continually monitor financial administration and resource management.

#### Academic Program Reviews

In the fall of 1996, after extended campus-wide deliberation, the Faculty Senate adopted a set of guidelines to govern the regular review, at five-to-ten-year intervals, of all academic departments, degree-granting graduate fields, centers, and programs on the Ithaca campus. The actual frequency of the reviews depends on such considerations as accommodating external mandates by specialized accrediting agencies, the scheduling of area reviews, and any special urgency as perceived by the deans). Such reviews were not entirely foreign to the campus prior to 1996. For instance, the College of Engineering had previously begun a practice of reviewing two of its ten schools and departments each year, and for a much longer time, departments in the contract colleges had engaged in program reviews regulated by agencies external to Cornell (notably the U.S. Department of Agriculture).

The reviews are overseen by the Faculty Committee on Program Review (FCPR), which was established by the Faculty Senate in 1996 with the endorsement of the University administration. This faculty committee is advisory to the provost, and its members are jointly selected by the provost and the Faculty Senate to serve three-year terms. The FCPR determines the cycle of the reviews with a particular eye to facilitating reviews of broad areas of scholarship.

Leadership of each review falls to the appropriate dean. A review consists of two main phases: a self-study by the department faculty, and an evaluation by a visiting external review team (ERT) of specialists. These steps are supplemented by the department's and the dean's responses to the ERT report, as well as by two additional evaluations of the self-study from specialists who do not visit the campus. Finally, the FCPR provides a brief summary of the entire review for the provost and the president.

Table 2-1 lists the academic program reviews of Ithaca-campus units that have been completed to date, along with those in process as of February 2001. The first set of completed program reviews largely focused on the biological sciences, to help inform Cornell's plans for genomics and for the administrative reorganization of the biological sciences (many of the reorganization transfers and name changes that have occurred since those reviews began, are reflected in Table 2-1).

## CHAPTER 2: Ongoing Institutional Self-Examination

**Table 2-1 Academic Program Reviews Completed and in Process**  
First reviews begun in 1997-98, status as of February 2001

Completed Reviews	Reviews in Process
Applied Economics and Management [formerly Agricultural, Resource, and Managerial Economics]	Agricultural and Biological Engineering
Animal Science	Anthropology
Bailey Hortorium	Art
Biochemistry, Molecular and Cell Biology [now part of Molecular Biology and Genetics]	Biomedical Sciences (Vet. Med.)
Computer Science	City and Regional Planning
Ecology and Evolutionary Biology [formerly Ecology and Systematics]	Clinical Sciences (Vet. Med.)
Electrical and Computer Engineering [formerly Electrical Engineering]	Communication
Food Science	Earth and Atmospheric Sciences [formerly in Soil, Crop, and Atmospheric Sciences] (Agriculture and Life Sciences, Engineering, Arts and Sciences)
Fruit and Vegetable Science [now part of Horticulture]	Economics
Genetics and Development [now part of Molecular Biology and Genetics]	Economics (Arts and Sciences)
Linguistics [formerly Modern Languages and Linguistics]	Labor Economics (Industrial and Labor Relations)
Microbiology	Policy Analysis and Management (Human Ecology)
Natural Resources	Education
Neurobiology and Behavior	Floriculture and Ornamental Horticulture [now part of Horticulture]
Nutritional Sciences	Government
Physiology [now part of Biomedical Sciences (Vet. Med.)]	History
Plant Biology	History of Art
Plant Breeding	Mario Einaudi Center for International Studies
Plant Pathology	Africana Studies
Rural Sociology	Asian American Studies
	Berger International Legal Studies Program
	Comparative Economic Development
	Comparative Societal Analysis
	Cornell Abroad
	Cornell Food and Nutrition Policy Program
	Cornell International Institute for Food, Agriculture and Development (CIIFAD)
	Cornell Participatory Action Research Network
	East Asia Program
	Gender and Global Change
	Institute for African Development
	Institute for European Studies
	International Agriculture Program
	International Political Economy Program
	International Studies in Planning
	Latin American Studies Program
	Latino Studies Program
	Peace Studies Program
	Population and Development Program
	Program in International Nutrition
	South Asia Program
	Southeast Asia Program
	Microbiology and Immunology (Vet. Med.)
	Music
	Operations Research and Industrial Engineering
	Ornithology
	Population Medicine and Diagnostic Sciences (Vet. Med.)
	Psychology
	Science and Technology Studies
	Sociology
	Theoretical and Applied Mechanics
	Area-wide review of Life Sciences

More generally, these program reviews have helped guide the academic direction of the University. To date, the president, the provost, the academic cabinet, and some of the deans and participating departments have found the process useful. However, academic program review at Cornell remains at least modestly controversial. Detractors contend that it is time-consuming and fairly costly, and there are also objections to the across-the-board strategy the University has adopted. Some deans would prefer to direct the process within their own colleges with more autonomy than the current system allows. Moreover, the ambitious idea of following the review of individual departments in a given area with a more comprehensive synthesizing review (e.g., of the biological sciences) has yet to be put to the test.

Nonetheless, in addition to influencing decision-making on the life sciences, program review has had a role in the formation of the Faculty of Computing and Information Sciences, has produced numerous thoughtful suggestions about Cornell's often cross-disciplinary hiring strategies, has warned of lurking dangers for strong departments, and has pointed out promising paths forward for disciplines that have in part lost their sense of direction.

### **Reports and Survey Research**

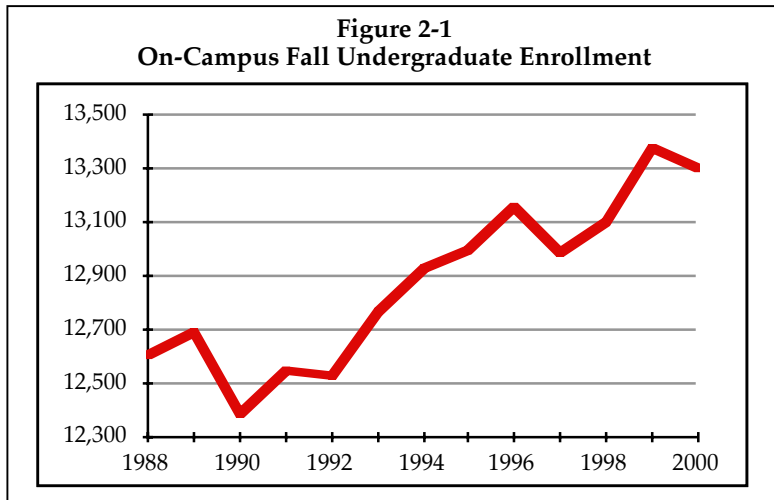
As Table 2-2 depicts, a number of routine reports and regularly scheduled constituent surveys are conducted to fuel University-wide self-examination.

**Table 2-2 Schedule of University-Wide Reports and Survey Research**

	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Admitted Student Questionnaire (ASQ)	X			X	X	X	X	X
Entering Freshmen Survey (CIRP)				X	X	X	X	X
Enrollment Trends Report	X	X	X	X	X	X	X	X
Graduation Rates Report	X		X		X		X	
Postgraduate Survey	X		X	X	X	X	X	X
Enrolled Student Surveys Cycles CSEQ		X		X		X		X
Graduating Seniors Survey	X				X			
Alumni Survey			X					
Parents Survey					X			

## Undergraduate Enrollment Trends

Cornell has continued to attract and retain a diverse population of highly qualified, motivated, accomplished, and diverse students. At the undergraduate level, as is detailed in



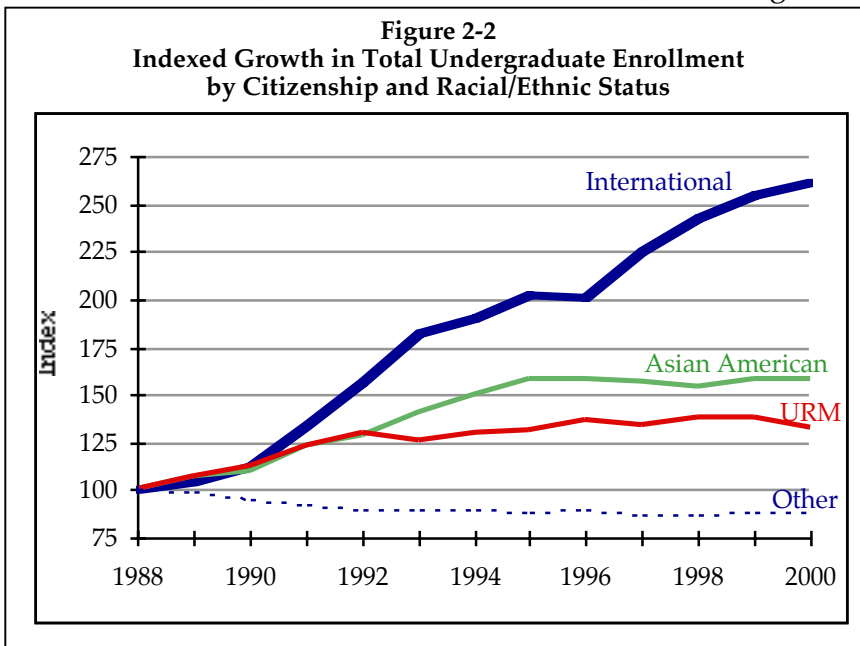
our annual Undergraduate Enrollment Trends Report to the Board of Trustees, there are certain ways in which we have been almost too successful in recruiting students. For the last several years, we have sought to achieve a maximum total on-campus undergraduate enrollment of 13,000

students, and a corresponding maximum of 3,000 first-time freshmen each fall. However, as Figure 2-1 shows, total undergraduate enrollment has been above 13,000 in each of the last six fall semesters, and there has been a corresponding overenrollment of fall first-time freshmen.

In the fall of 1997, the president announced the Undergraduate Residential Initiative, which had as a key component the goal of providing guaranteed housing on north campus for all freshmen, as well as of eventually guaranteeing campus housing for all sophomores and entering transfer students who want it. The juxtaposition of those two housing objectives against the recent climb in total undergraduate enrollment led the provost to charge the Undergraduate Enrollment Planning Team with crafting recommendations on how to stabilize undergraduate enrollment. This led to a series of discussions in the fall of 1999 among the provost, the deans, the associate deans, and the admissions community. The product of those discussions was a commitment to take the steps necessary to limit fall first-time freshman enrollment to 3,000, in part by making more-aggressive use of the wait list, which had not been a common practice in all of Cornell's seven undergraduate colleges.

Consequently, for the fall 2000 freshman class, Cornell offered admission to (accepted) nearly 400 fewer applicants than we had in fall 1999, and in fall 1999 we had accepted about 300 fewer freshman applicants than in fall of 1998. Those decreases in acceptances (admits) for both years *did* lead to a decrease in actual enrollment of first-time freshmen in fall 2000. Still, we exceeded our enrollment target, largely because in both years our *yield* increased by a bit more than two percentage points. For fall 2000, our yield was slightly better than 51 percent though our admit rate was just under 31 percent, *down* from 33 percent for fall 1999.

In the context of these all-too-robust undergraduate enrollments, Cornell has been quite successful in increasing the diversity of its undergraduate-student population (see Figure 2-2). The proportion of minorities among the undergraduate population<sup>1</sup> has grown from 20 percent in fall 1988 to 30 percent in fall 2000. The proportion of underrepresented minorities (URM: Native Americans, Hispanic Americans, and African Americans) has grown by 33 percent from fall 1988 to fall 2000 (from 1,085 students to 1,442). The largest growth has been among Hispanic Americans (from 507 to 765 students), followed by African Americans (535 to 606) and Native Americans (43 to 71). The number of Asian American students grew from 1,415 in fall 1988 to 2,235 in fall 2000, an increase of 58 percent. For



all other U.S. citizens (whites and those who elected not to designate racial/ethnic information), enrollments declined from 10,053 in fall 1988 to 8,293 in fall 2000, a decrease of 17 percent. During that period, enrollment of international students increased 162 percent, from 390 to 1,022.

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### Graduate School Enrollment Trends

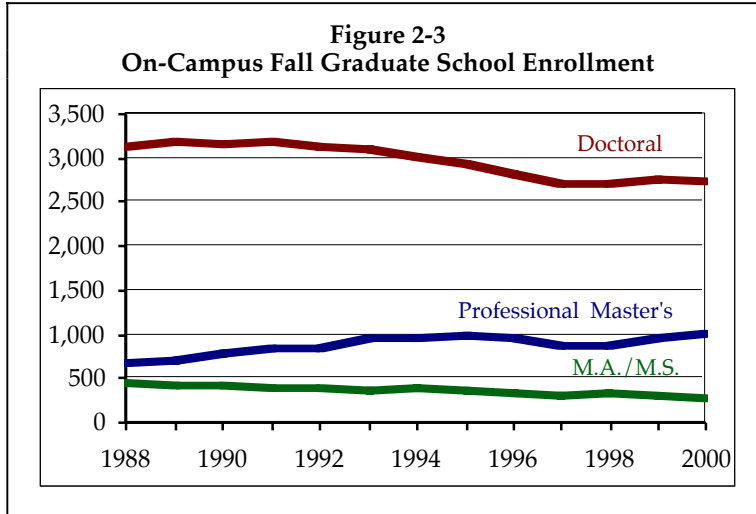
Overall enrollment in the Graduate School declined from 4,317 in fall 1988 to 4,097 in fall 2000,<sup>2</sup> a net reduction of 5 percent, or 220 students. The downward trend was not consistent, however. From fall 1988 to fall 1991—continuing an upward movement that had begun in fall 1978—Graduate School net enrollment rose by almost 5 percent, reaching an all-time high of 4,522 in 1991, before bottoming out in fall 1997 at 3,938, a net decrease of 13 percent. From fall 1998 to fall 2000, though, there has been a net increase of 4 percent. Despite a drop of 19

<sup>1</sup>Limited to U.S. citizens only; racial/ethnic data is not gathered and reported on international students.

<sup>2</sup> The 4,097 Graduate School enrollment figure does not correspond to the 3,916 reported in Table 1-1. This is because the figures in Table 1-1 are “official” third week enrollment counts that are used for federal reporting purposes. In point of fact, graduate enrollments are rarely stabilized by the end of the third week, and the 4,097 reported here is a more accurate reflection of actual enrollments.

students from fall 1999 to fall 2000, further modest growth in overall enrollment seems likely.

During that same fall 1988–fall 2000 period, doctoral-degree-program enrollments have mirrored—indeed governed—overall Graduate School enrollment trends, decreasing a net 12 percent, or 382 students (from 3,122



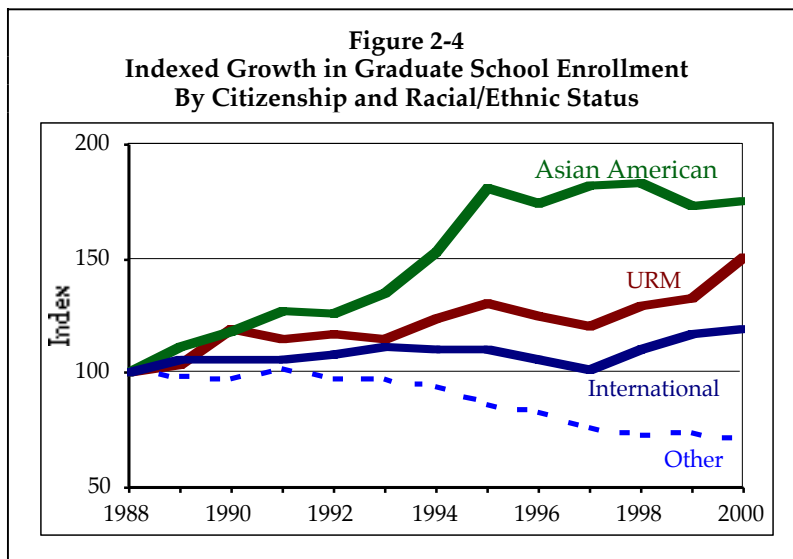
students in fall 1988 to 2,740 in fall 2000; see Figure 2-3). The number of doctoral students had climbed in the 1980s, peaked at 3,203 in fall 1991, and hit a low of 2,699 in fall 1997. Since then, there has been a small recovery that may continue, a net loss of 17 doctoral students between fall 1999 and fall 2000 notwithstanding.

Enrollment in M.A./M.S. degree programs experienced a steadier and more precipitous descent than did doctoral-program enrollment between fall 1988 and fall 2000: a net 34 percent decrease, or 152 M.A./M.S. students (from 441 to 289). The one-year slide from fall 1999 to fall 2000 was 9 percent, or 28 M.A./M.S. students.

In contrast, enrollment in professional master's-degree programs increased by a net 48 percent, or 327 students, from fall 1988 to fall 2000. The total-enrollment figure of 1,008 M.P.S. students in fall 2000 is a record and represents a one-year gain of 5 percent, or 51 students.

Because the length of time spent in a degree program is considerably longer for doctoral students than for master's-degree students, particularly M.P.S. students, there is far less turnover of doctoral students than of master's-degree students in the total Graduate School enrollment population, and doctoral students have always been a significant majority numerically in that population. Nevertheless, doctoral-student total enrollment in fall 2000 accounted for 67 percent of the Graduate School's total enrollment, down from 72 percent in fall 1988—a net 5 percent proportional drop that accompanied the net 12 percent drop in the total number of doctoral students enrolled in the Graduate School during that same twelve-year period. In contrast, M.P.S.-student total enrollment in fall 2000 accounted for 25 percent of the Graduate School's total enrollment, up from 16 percent in fall 1988—a net 9 percent proportional increase that accompanied the net 48 percent increase in the total number of M.P.S. students enrolled in the Graduate School during that same twelve-year period.

The Graduate School continues to improve in attracting a diverse pool of students (see Figure 2-4). Total enrollment of minority students in the Graduate School increased to 530 in fall 2000, up 30 percent from fall 1991, and up 62 percent from the fall 1988 total of 327. In fall 1988, minority students constituted slightly more than 7 percent of the total graduate-student population; in fall 2000, the figure was 13 percent. The total number of underrepresented minority students in fall 2000 was a record high of 277—up 6 percent from fall 1999 and up 20 percent from fall 1997. That is a rise of 25 percent from fall 1991, when Graduate School enrollments peaked, and up 50 percent from the fall 1988 figure of 183—despite the fact that the overall Graduate School enrollment in fall 2000 was 5 percent lower than in fall 1988. In fall 1988, underrepresented minority students constituted a little over 4 percent of the total graduate-student population; the fall 2000 figure is slightly under 7 percent.<sup>3</sup>



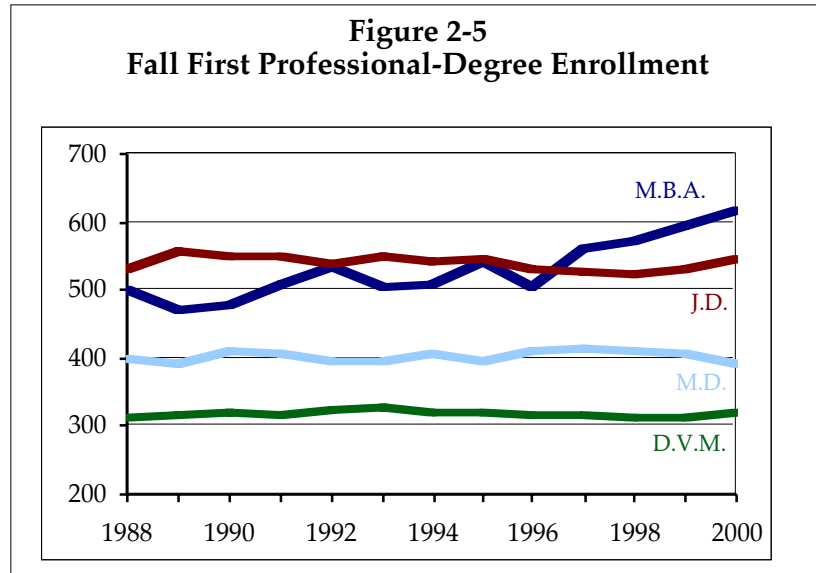
As is the case with Cornell’s undergraduate-student population, the largest net growth in the number of underrepresented minority students in the Graduate School population has been among Hispanic Americans (from 83 students in fall 1988 to 139 in fall 2000, up 67 percent), followed by African Americans (from 84 students to 118, up 40 percent) and Native Americans (from 16 students to 20, up 25 percent). The number of Asian American students went up from 144 in fall 1988 to 253 in fall 2000, or 76 percent. For all other U.S. citizens (whites and those who elected not to designate racial/ethnic information), Graduate School enrollment declined from 2,546 students in fall 1988 to 1,764 in fall 2000, a decrease of 31 percent. The total number of international students enrolled in the Graduate School in fall 1988 was 33 percent of the overall enrollment; in fall 2000 that number was 44 percent. Nationally, of course, the number of international students studying in the U.S. also rose during that twelve-year period.

<sup>3</sup> The minority-student percentages of Graduate School enrollments given above are based on total enrollments. Minority students constituted 11 percent of U.S. citizens enrolled in the Graduate School in fall 1998, and 23 percent in fall 2000. Underrepresented minority students constituted 6 percent of U.S. citizens enrolled in the Graduate School in fall 1988, and 12 percent in fall 2000.

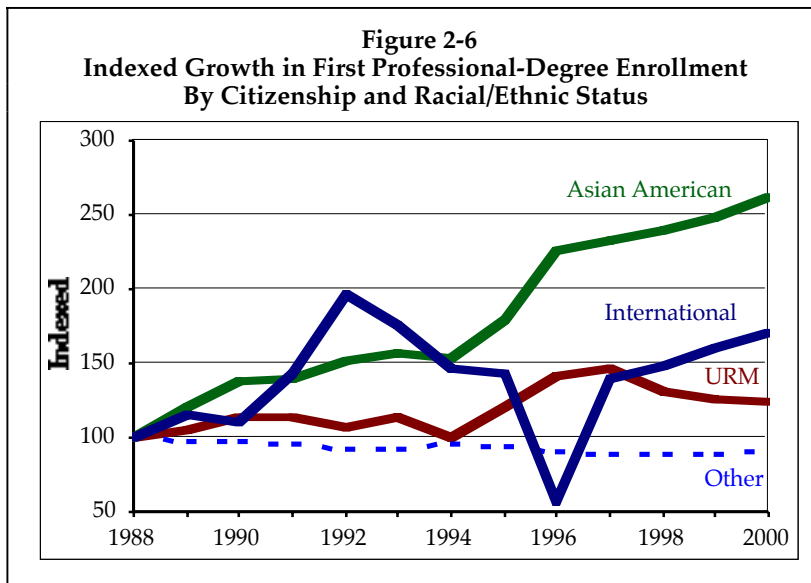
First Professional-Degree Enrollment Trends

Cornell offers first professional-degree programs in the fields of law (J.D.), management (M.B.A.), medicine (M.D.), and veterinary medicine (D.V.M.). For the most part, enrollments in each of those four programs have been relatively stable for the past dozen years. Overall, first professional-degree enrollments increased from 1,741 in fall 1988 to 1,877 in fall 2000 (up a net 8 percent).

As Figure 2-5 depicts, the most dramatic enrollment increase during that twelve-year period occurred in the Johnson Graduate School of Management's M.B.A. program: between fall 1988 and fall 2000, M.B.A. enrollment increased a net 24 percent, from 500 students to 619. Both the Law School's J.D. program and the New York State College of Veterinary Medicine's D.V.M. program experienced a net enrollment increase of 3 percent from fall 1988 to fall 2000. In contrast, M.D. enrollment in the Weill Medical College decreased net 3 percent, or 10 students, in that same twelve-year period.



From fall 1988 to fall 2000 there was a small net increase in the diversity of the



total student population enrolled in these first professional-degree programs (see Figure 2-6). The underrepresented minority enrollment increased a net 2 percent from fall 1988 to fall 2000. That included an increase of 2 Native Americans, 3 African Americans, and 33 Hispanic



Americans. From fall 1999 to fall 2000, decreases occurred in the number of Native American students (by 1) and African American students (by 22). However, the number of Hispanic American students increased (by 20). The overall one-year increase, from fall 1999 to fall 2000, was 2 percent.

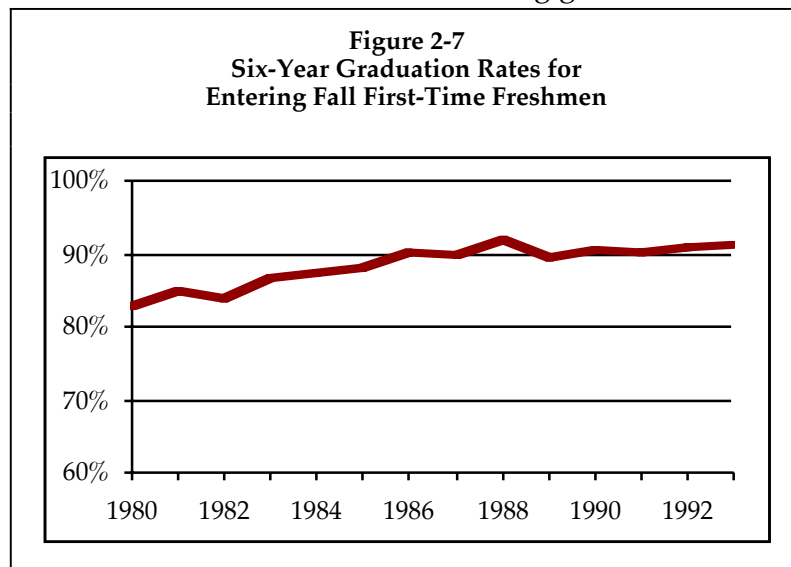
Because these data are self-reported, and because many students decline to identify their race/ethnicity, the actual figures may be higher. Indeed, fully 318 (approximately 21 percent) of all fall 2000 first professional-degree students declined to provide racial/ethnic data; 296 of those were in the Law School. In comparison, only 66 first professional-degree students declined to provide racial/ethnic data in the fall of 1988.

The number of Asian American first professional-degree students more than doubled from fall 1988 to fall 2000, increasing from 109 in 1988 (6 percent of the total enrollment) to 285 in 2000 (15 percent of the total enrollment). The majority of that increase occurred in a steady annual climb since fall 1994, when the Asian American first professional-degree enrollment was at 168 students.

Between fall 1988 and fall 2000, the proportion of U.S. citizens in Cornell's first professional-degree programs increased by only 4 percent, while international-student enrollment increased by 70 percent. The number of international students in these programs had been as high as 185 in fall 1992 and as low as 54 in fall 1996. In fall 2000, international students constituted approximately 9 percent of the total enrollment in all first professional-degree programs.

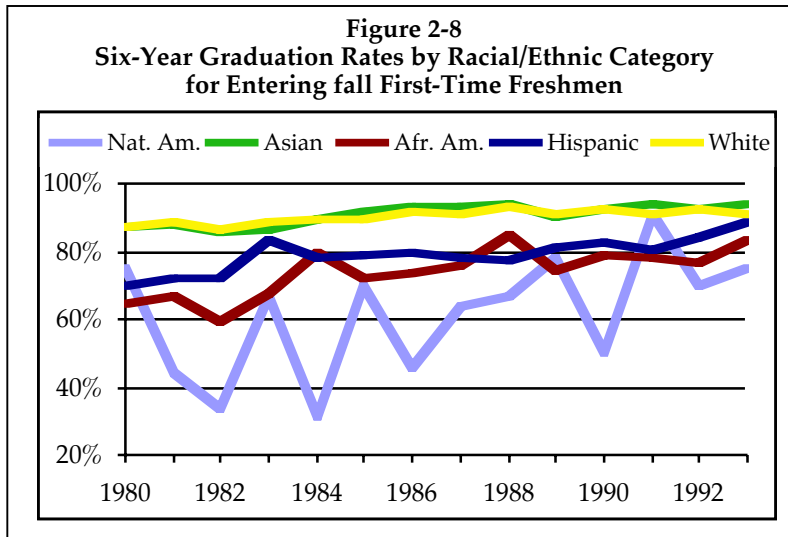
### Graduation Rates

Six-year graduation rates—the standard mean for monitoring graduation rates throughout the nation—are continuing to rise at Cornell. As reported more fully in Cornell's most recent biennial report on graduation rates and displayed in Figure 2-7, in the two most recent classes that had a full six years to finish their degrees, at least 91 percent of the matriculants earned a degree from Cornell within six years.



The gap in graduation rates between underrepresented minority undergraduate students and Asian American and white undergraduate students is continuing to

shrink (see Figure 2-8). For first-time freshmen who entered Cornell in fall 1980, there was a gap of nearly 20 percentage points in six-year graduation rates between those groups (68 percent for underrepresented minorities; 87 percent for



Asian Americans and whites). For first-time freshmen entering in fall 1993, the gap was 6 percentage points (86 percent for underrepresented minorities; 92 percent for Asian Americans and whites). Note that the rather extreme volatility in graduation rates displayed in Figure 2-8 for

Native American students is a function of the small numbers of students identifying themselves with this racial/ethnic category. The Native American cohorts ranged from a low of 6 students to a high of 22 students per matriculating class during that period.

### Postgraduate Activities of Undergraduates

Cornell Career Services annually surveys the University's bachelor's-degree recipients for six months following graduation, to keep track of where our graduates are going and what they are doing. The most recent survey, of the Class of 2000, confirms previous findings that new Cornell graduates are successful in making postgraduation transitions to other endeavors.

Fully 54 percent of the Class of 2000 were employed within six months of graduation; another 30 percent had enrolled in postbaccalaureate degree programs; and the remaining 16 percent were engaged in other endeavors. These figures are nearly identical to the Class of 1991's (54 percent employed within six months, 32 percent in graduate school, and 15 percent engaged in other endeavors). Those "other endeavors" in both instances ranged from service in the Peace Corps, to volunteering, to travel, to continuing a search for employment.

Of the 30 percent of the Class of 2000 who went on to graduate study, 35.6 percent had graduated from Cornell's College of Engineering, 35.1 percent from the School of Industrial and Labor Relations, and 34.1 percent from the College of Arts and Sciences. Nearly 55 percent of the group entering graduate study chose to pursue degrees in law (19.9 percent), medicine (17.6 percent), or engineering (17.4 percent).

The most-recent data available from the Law School Admission Council indicates that 93 percent (of the 200) 1999 Cornell graduates who applied to law school were accepted. Similarly, the Association of American Medical Colleges reports that 70 percent (of the 205) 1999 Cornell seniors who applied to medical school gained admission. For those who had at least a 3.4 cumulative grade point average, 86 percent were accepted.

Andersen Consulting, Aramark, the Four Seasons Hotels & Resorts, Goldman Sachs, PriceWaterhouseCoopers, Procter & Gamble, Salomon Smith Barney, Teach for America, and the United States Navy were the employers who hired the most graduates from the Class of 2000.

Starting salaries for Class of 2000 graduates entering the workforce averaged \$41,197. That is a 13.8 percent increase over 1998 starting salaries and a 23.6 percent increase over those of the Class of 1997. Graduates from engineering (\$50,825) and industrial and labor relations (\$44,116) had the highest average starting salaries. The mean starting salary for Cornell liberal arts graduates (\$38,381) was 17.6 percent higher than starting salaries reported nationally for liberal arts students.

### **Recent Surveys of Students**

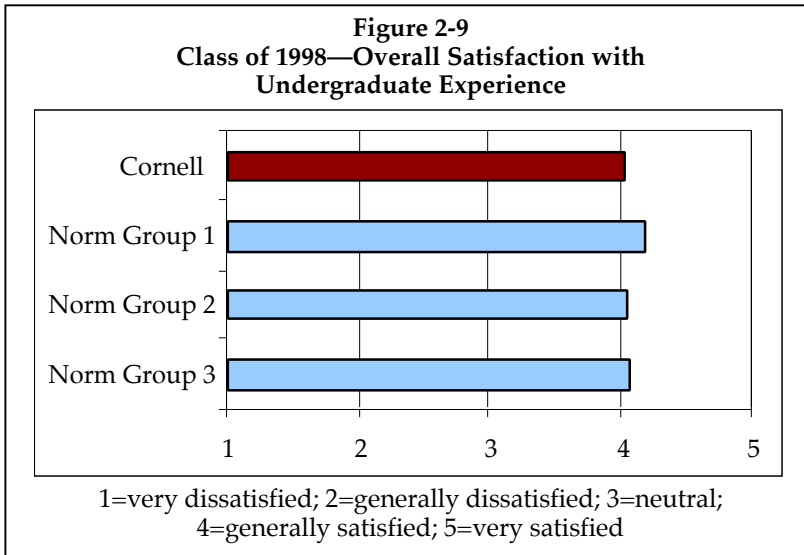
As table 2-2 earlier indicated, Cornell regularly participates in a series of surveys designed to capture information from our relevant constituencies at a set of critical junctures. We routinely query accepted applicants, incoming freshmen, enrolled undergraduates, graduating seniors, and alumni about their expectations for, and their evaluation of, their Cornell experience.

The intra- and inter-institutional comparative findings from this research are shared with a variety of audiences on and off campus, with the explicit understanding that they are intended to serve as “conversation starters,” and not as the final or definitive word on any particular aspect of Cornell. A host of other important information and a wealth of institutional knowledge and experience also need to be brought to bear in deliberating the issues raised by this research.

Most of these surveys are conducted in conjunction with a set of other highly selective private research universities and liberal arts colleges. Administering these surveys consortially obviously has the benefit of helping us to contain costs through economies of scale. However, the more significant benefit of conducting these surveys along with our peer institutions is that it permits comparison of Cornell’s results with those of our comparators. By agreement among the participating institutions, single institution to single institution comparisons are not permitted, but comparing the home institution with a “norm group” of at least three other institutions is encouraged. In Cornell’s case, we generally make comparisons with three norm groups from among the institutions that choose to participate in a particular survey. We define our relevant norm groups on the basis of a comparator institution’s position among our admissions overlap group. One norm group will include institutions that typically “win” in the

competition for commonly admitted undergraduates (designated “Norm Group 1” in the figures that follow). A second norm group will include institutions with which Cornell competes on a relatively even footing for common admits (“Norm Group 2”). And a third norm group will include institutions among which Cornell most often “wins” the direct competition for common admits (“Norm Group 3”).

Overall, recent surveys of graduating seniors in the spring of 1998 (Figure 2-9) as well as of freshmen and sophomores in the spring of 1999 (Figure 2-10) indicate

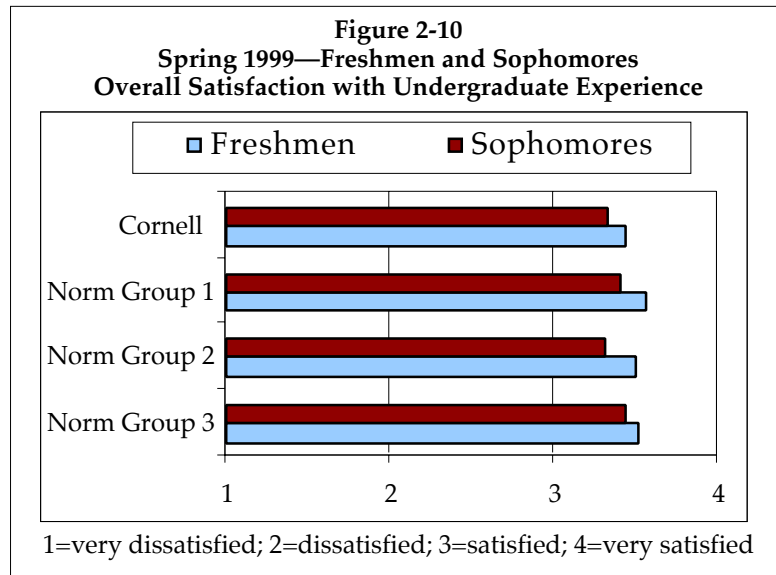


that our students are highly satisfied with their undergraduate experience—as are the students at our comparators.

That level of satisfaction, though remaining generally high, does vary when it is considered from the standpoint of the variety of subpopulations

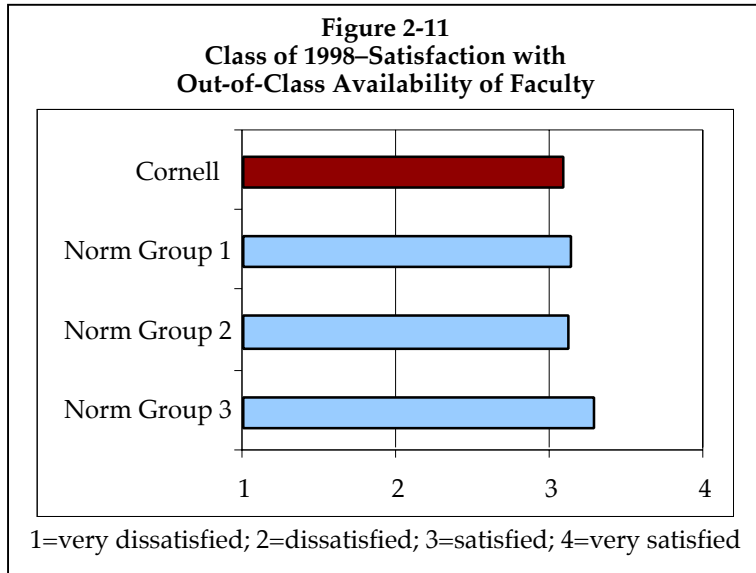
within the larger community that we generally consider for additional analysis. For instance, and perhaps not surprisingly, overall satisfaction with their Cornell experience was higher for seniors, freshmen, and sophomores in our smaller colleges—School of Hotel Administration, College of Human Ecology, and School of Industrial and Labor Relations—than in our larger colleges—College of Arts and Sciences, College of Engineering, and College of Agriculture and Life Sciences.

Similarly, when student satisfaction with a variety of services, facilities, or aspects of Cornell is considered, there is variability depending on the factor. The areas with which graduating seniors as well as freshmen and sophomores expressed the highest degree of satisfaction were related to library



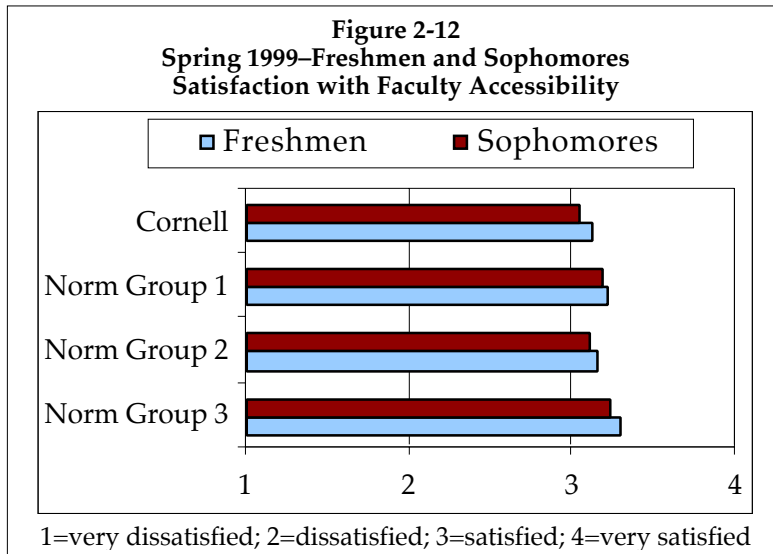
facilities and services, security on campus, and extracurricular/cultural activities. Factors related to financial aid, administrative responsiveness, and campus climate were areas with which students expressed less satisfaction, though not dissatisfaction. On the whole, our comparators saw a similar set of factors singled out for attention and concern.

Chapter 4 provides more discussion related to faculty-student interactions and academic advising, but the following paragraphs and figures briefly outline the survey results being used as a base for the deliberations on those topics that are ongoing throughout the campus.



In terms of faculty accessibility, Figure 2-11 and Figure 2-12 depict that graduating seniors as well as freshmen and sophomores were generally satisfied with this component of their undergraduate experience (all bars, for Cornell and our norm groups, are beyond the point of “satisfaction,” 3 on the scale).

Note that freshmen expressed greater satisfaction than sophomores at Cornell and at all three of our norm groups. There were no statistically significant gender differences for freshmen or sophomores. However, for graduating seniors, women were more satisfied than men at Cornell as well as at two of the three norm groups.

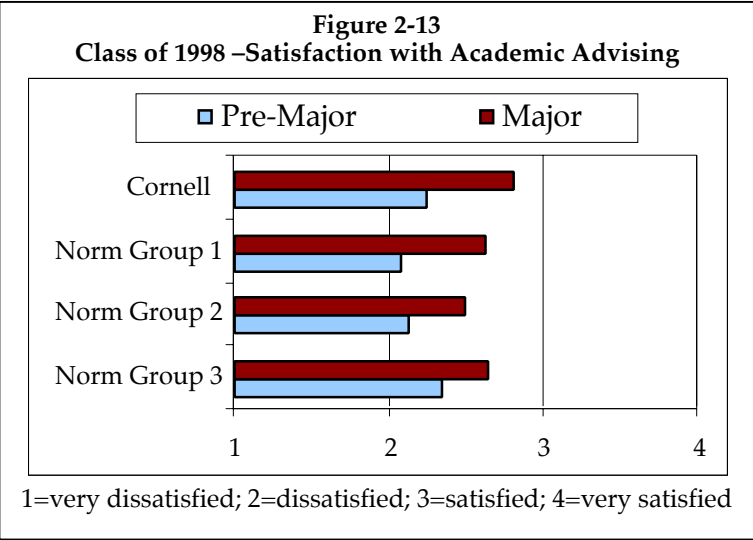


the College of Architecture, Art, and Planning expressed the greatest satisfaction

There were statistically significant differences for freshmen and sophomores when comparing among Cornell’s seven undergraduate colleges; freshmen and sophomores in

and those in the School of Industrial and Labor Relations the least (though they were still generally satisfied). Graduating seniors in the School of Hotel Administration and in the School of Industrial and Labor Relations were more likely to find the faculty accessible out-of-class, and College of Architecture, Art, and Planning graduating seniors were the least likely.

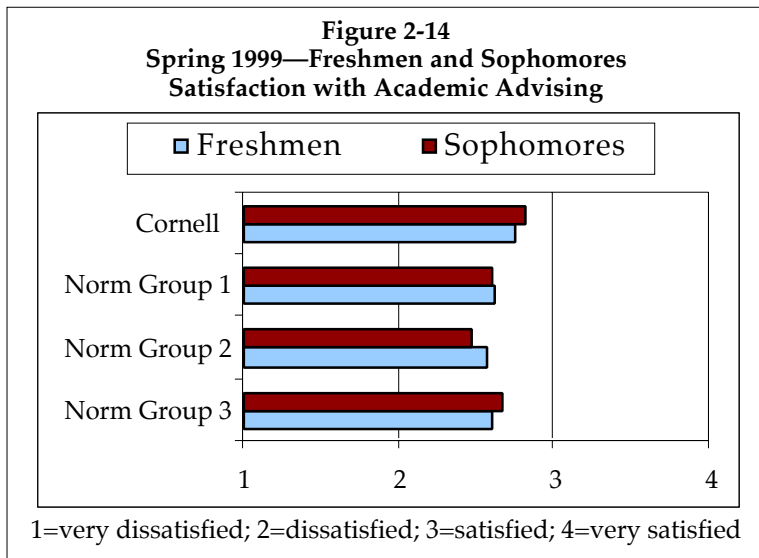
Among freshmen, sophomores, and graduating seniors, Asian American students expressed the least satisfaction with faculty accessibility/interactions at Cornell and at all three of our norm groups. Though we don't have further inter-institutional comparative detail on various components of faculty accessibility, many of the local questions we used in the freshmen/sophomore survey dealt with that issue. Asian American students at Cornell reported less satisfaction than other racial/ethnic groups on such factors as "I am taken seriously by professors" and "faculty are easy to contact or easy to talk with when I need assistance" and "faculty are willing to spend time outside the classroom to discuss issues of importance to me" and "faculty



members have been responsive to my needs" and "faculty members care about students at this institution." However, on all of those factors, Asian American students still expressed at least general satisfaction (at least 3.0 on a 5-point scale).

With respect to academic advising, Figures 2-13 and 2-14 indicate that our undergraduates were less than enthralled with this aspect of their Cornell experience. Note that in both figures, all bars fall below the point of "satisfaction" (3 on the scale). Nevertheless, Cornell's seniors, freshmen, and sophomores were generally more satisfied than were the students at

With respect to academic advising, Figures 2-13 and 2-14 indicate that our undergraduates were less than enthralled with this aspect of their Cornell experience. Note that in both figures, all bars fall below the point of "satisfaction" (3 on the scale). Nevertheless, Cornell's seniors, freshmen, and sophomores were generally more satisfied than were the students at



our comparators with this aspect of their undergraduate experience.

For graduating seniors there was greater satisfaction with “advising in the major” than with “pre-major advising” at Cornell and at all norm groups. Between 45 percent and 88 percent of graduating seniors in Cornell’s College of Agriculture and Life Sciences, College of Architecture, Art, and Planning, College of Human Ecology, and School of Industrial and Labor Relations indicated that satisfaction with pre-major advising was not relevant to them. However, nearly 60 percent of graduating seniors in the College of Arts and Sciences and 50 percent in the College of Engineering—in both of which students do not declare majors until their sophomore or junior year—were generally, or very, dissatisfied with their pre-major advising.

Among Cornell freshmen, sophomores, and seniors there were no statistically significant differences by class or by race/ethnicity. With respect to gender, there was no difference among freshmen and sophomores. However, among graduating seniors, males were more satisfied with pre-major advising. But for advising in the major there was no statistically significant gender difference.

### **SYNOPSIS**

Cornell engages in an extensive and regular program of ongoing institutional self-examination in order to better understand current performance as well as to contextualize decision-making about future plans and priorities. Much of this ongoing self-examination takes place within the University’s various colleges, departments, and other administrative units. At the macro-level, we pay close attention to the academic program review process, overseen by the Faculty Committee on Program Review, as well as the regular program of reports and consortial research that is largely managed by the Office of Institutional Research and Planning.

In Chapter 4, ongoing efforts to plan and monitor the University’s financial administration and resource management are discussed

### **SELECTED REFERENCES AND SOURCES**

Academic Program Review at Cornell

[http://www.ipr.cornell.edu/Prweb\\_page/program\\_review.htm](http://www.ipr.cornell.edu/Prweb_page/program_review.htm)

*Annual Report of the Graduate School: 1999-2000*

1999 Cycles Survey

[http://www.ipr.cornell.edu/Reports/report\\_menu.htm](http://www.ipr.cornell.edu/Reports/report_menu.htm)

Class of 1998 Senior Survey

[http://www.ipr.cornell.edu/Reports/report\\_menu.htm](http://www.ipr.cornell.edu/Reports/report_menu.htm)

Cornell Career Services, *Class of 2000 Postgraduate Report*

<http://www.sas.cornell.edu/ccs/general/postgrad.html>

Cornell University Electronic Fact Book

## CHAPTER 2: Ongoing Institutional Self-Examination

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<http://www.ipr.cornell.edu/factbook>

*Seventh Biennial Report on Freshman Graduation Rates: Fall 1980 – Fall 1993 Entering Classes*

[http://www.ipr.cornell.edu/Reports/report\\_menu.htm](http://www.ipr.cornell.edu/Reports/report_menu.htm)

*Undergraduate Enrollment Trends – Fall 2000*

[http://www.ipr.cornell.edu/Reports/report\\_menu.htm](http://www.ipr.cornell.edu/Reports/report_menu.htm)



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## CHAPTER 3

# Financial Administration and Resource Management

### CONTEXT

Given the geographic separation of Cornell's Ithaca and medical campuses, the University has developed a parallel management structure for each. Under Cornell's president, each campus has its own provost who acts as the chief operating officer and primary academic officer. Combining those roles in each of the provosts has served Cornell well by ensuring that our academic mission stays at the forefront of our financial decision-making and resource allocation.

In addition to the two provosts, Cornell appoints a number of vice presidents and vice provosts who have responsibilities for specific functional areas and offices. The deans of the colleges and schools and the directors of several academic organizations also report to the provosts.

Together those officers are charged with developing and managing Cornell's resources. This is a complex task. Though it is a private university, Cornell is chartered under the laws of New York State as the state's land-grant institution. Cornell also operates four colleges under contract from the state that are part of the State University of New York system. To address specific state laws governing the administration of the contract colleges and to adapt to the physical separation of the Ithaca and medical campuses Cornell has evolved an elaborate system of resource management.

### **Resource Management**

Cornell has thousands of budgets that represent resource and expenditure plans for a wide variety of colleges, departments, programs, and activities.

- These budgets may not be aligned with the University's July to June fiscal year, and many—especially in the grant and contract area—span multiple fiscal years. In addition, individual budgets are developed for donors and sponsors, to support Cornell's annual planning processes.
- A consolidated University financial plan, published annually, is a compilation of the majority of these budgets for one fiscal year, and covers the individual financial plans of the endowed Ithaca, contract, and medical divisions. (See 2000–01 Financial Plan.)
- Components of these plans are based on very different assumptions, primarily due to the diversity of their resource and expenditure bases. For example, all three divisions have separate tuition rates and fee structures. Each division negotiates separate indirect-cost reimbursement rates with the federal government and uses individual employee-benefit recovery rates to distribute benefits costs to operating funds. The contract colleges receive substantial support from New York State for operations and plant capital,

## CHAPTER 3: Financial Administration and Resource Management

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and most employee-benefit costs for contract-college employees are paid for directly by the state and are not recorded on Cornell's books. Finally, the Weill Medical College's budget is dominated by clinical practice revenue. Only a few budget assumptions, such as investment payout levels, span all three divisions.

The endowed Ithaca division comprises seven colleges and schools—the College of Arts and Sciences; the College of Architecture, Art, and Planning; the College of Engineering; the School of Hotel Administration; the Graduate School; the Johnson Graduate School of Management; and the Law School—as well as the research centers, the libraries, and a number of individual academic programs. Additionally, the endowed Ithaca division includes the central costs of student services (e.g., bursar, financial aid, career services), undergraduate financial aid for the Ithaca campus, physical-plant costs for some of the Ithaca campus (e.g., utilities, maintenance, care of buildings and grounds), and central services and administration (e.g., information technologies, finance, development, human resources, and university relations).

The contract division includes the College of Agriculture and Life Sciences, the College of Human Ecology, the School of Industrial and Labor Relations, and the College of Veterinary Medicine, as well as Cornell Cooperative Extension and the New York State Agricultural Experiment Station in Geneva. In addition, the budgets of this division record most of the physical-plant costs and part of the administrative costs specific to the contract colleges.

The medical division includes the clinical practice plan of the physicians as well as the academic and research programs of the Weill Medical College. Almost all physical-plant and administrative costs specific to the Weill Medical College are recorded in its budgets.

Cornell's central operating fund is the endowed Ithaca general-purpose budget. It is composed of:

- the operating funds of four of the ten colleges and schools on the Ithaca campus (the College of Arts and Sciences; the College of Architecture, Art, and Planning; the College of Engineering; and the Graduate School),
- funds for central support and administrative services, and
- the majority of undergraduate financial aid and a significant amount of graduate-student support.

It is this budget that the central administration of Cornell influences most directly. Because the costs of central administrative and support services and financial aid are distributed to all colleges and other operating units, the general-purpose budget affects financial planning throughout the University. Additionally, the general-purpose budget serves as the funding focus for the development of strategic themes for the Ithaca campus. Its detailed revenue and expenditure model provides a proxy for priority setting and planning.

**Resource-Allocation Approaches**

Financial resources are allocated in many ways on the Ithaca campus, and most academic programs and colleges receive their resources from a variety of these methods.

- **General Purpose**—Allocations are made to units and programs from unrestricted revenues that are pooled centrally. In some cases there are formulaic methods by which allocations are made (often referred to as subsidies). In most cases, allocations are based on a set of existing distributions that are adjusted during the budget cycle for program priorities and inflationary trends.
- **Designated**—By trustee action, some unrestricted revenues are assigned directly to colleges and programs and thus are not pooled and distributed across college or program boundaries. Examples are the School of Hotel Administration, the Law School, the Johnson Graduate School of Management, and the Weill Medical College. Those academic units are responsible for all direct and indirect costs of their programs, and are sometimes referred to as “tubs on their own bottoms.”
- **Aggregate**—By federal and state law, some unrestricted revenues are assigned to the contract colleges as a collective. Cornell designates those revenues to individual contract colleges, which then operate in ways similar to those of the designated colleges.
- **Enterprise and Service**—Unrestricted revenues generated by enterprise and service units that are based on rate structures designed to recover full costs are retained by those units. Examples are housing, dining, and many facilities-services units, as well as the campus store.
- **Restricted**—Restricted revenues are recorded directly by departments and individual programs to meet donor or granting-agency restrictions and requirements. Examples are restricted gifts, endowments, and grants and contracts.

**Decision-Making Structures**

A number of committees and constituencies participate and are consulted in the setting of budget parameters, resource allocations, and cost distributions for the Ithaca campus. The budget process is quite iterative, and the committees and campus forums are involved throughout the budget cycle. The major committees and their involvement with budget planning are described below.

- **Executive Budget Group**—Responsible for oversight of the general-purpose budget and major planning parameters of the University budget.
- **Capital Funding and Priorities Committee**—Responsible for capital budget priorities and funding, including fund-raising for capital.

## CHAPTER 3: Financial Administration and Resource Management

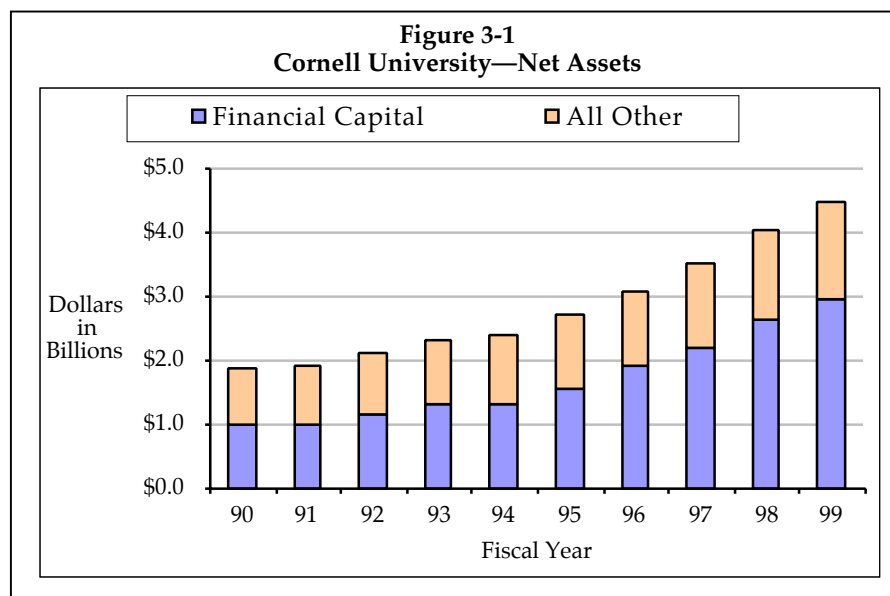
- President's Council—Advisory on strategic initiatives of budget and budget parameters, and reviews changes in policy or practices that influence resource allocations or cost distributions.
- Academic Deans—Advisory to the provost on academic matters and on the academic implications of financial decisions.
- Financial Policies Committee of the Faculty Senate—Provides input on budget and planning priorities from the faculty perspective.
- University Assembly and Related Committees—Have topical interest in program plans on transportation, employee benefits, and other major issues that may inform the planning of those items.
- The Board of Trustees—The full board approves the annual budget, and both the Finance Committee and the Executive Committee of the board are advisory on financial matters.

### FINANCIAL RESOURCES

#### A Decade in Review

By any measure, the 1990s represented an extraordinary period for Cornell. Our academic reputation and financial strength increased during an era of substantial management turnover. Our new leadership continued to build on the University's strengths while simultaneously launching initiatives to further enhance the services we provides our students and society at large.

In the period 1989–90 through 1998–99, Cornell's net assets (financial wealth) increased at an annual compounded growth rate of 10.2 percent, expanding from \$1.87 billion to \$4.47 billion (see Figure 3-1).<sup>1</sup>



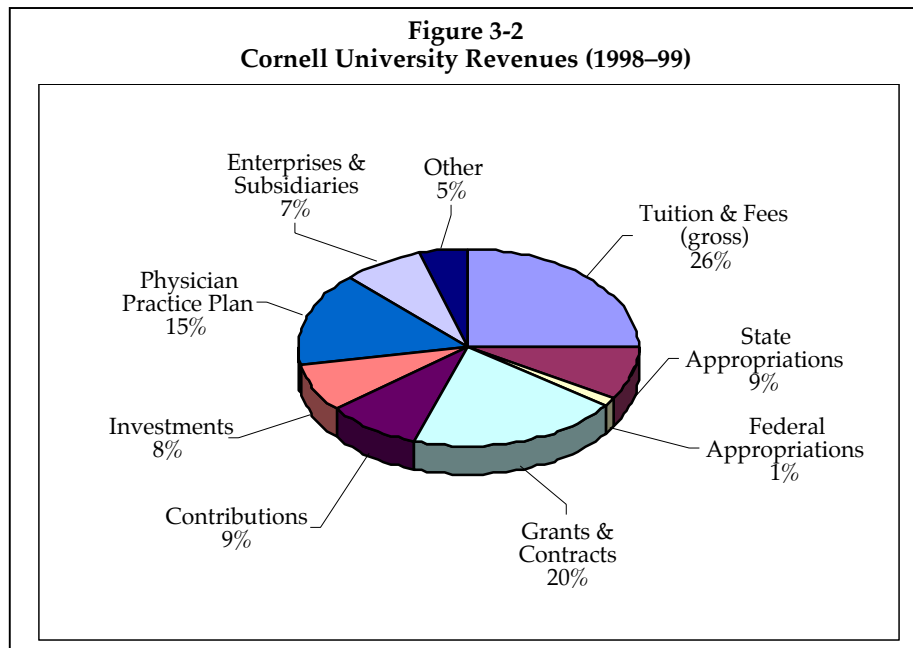
<sup>1</sup> This view of the University's financial situation is taken from the annual *Financial Report*, published each fall along with the University's audited financial statements. The bulk of the information in the remainder of this chapter is drawn from the *Financial Plan: Operating and Capital*, which is published each May.

Cornell has a long history of identifying new revenue streams to support its core mission. Much of that growth lay in the endowment and other forms of financial capital, which tripled in value, expanding from a little over one-half to two-thirds of the net asset base. The record growth of the stock market, coupled with strong performance in other investments, along with the generosity of alumni and friends, fueled this expansion. Also, the University's trustees took a more cautious approach in the spending of investment returns, thereby contributing to the growth in the value of financial principal.

This period of expansion included steady growth in both operating revenues and expenditures and a sustained investment in the physical plant in the form of new construction and major renovation of existing facilities. Operating revenues for the Ithaca campus and the Weill Medical College (including payout from financial capital) totaled \$1.56 billion in 1998–99. In addition, we incurred \$156 million in capital costs in 1998–99 for property, buildings, and equipment, making Cornell a \$1.72 billion enterprise. Throughout the decade, operating expenditures were consistently less than revenues, and the difference was added to fund balances. In the vast majority of cases, these fund balances are designated for specific programs and activities pending in the next three to five years.

Tuition remains the largest single revenue source for funding Cornell's general operations, representing 25 percent of the total. (See Figure 3-2.)

Tuition is also one of our most unrestricted resources, underwriting faculty and staff compensation, student financial aid, and much of the general operating cost of the University. Other substantial revenue streams are



grants and contracts (20 percent) and physician practice plan income (15 percent). Donor-related resources in the form of contributions and investment income (much of which derives from prior giving) account for a total

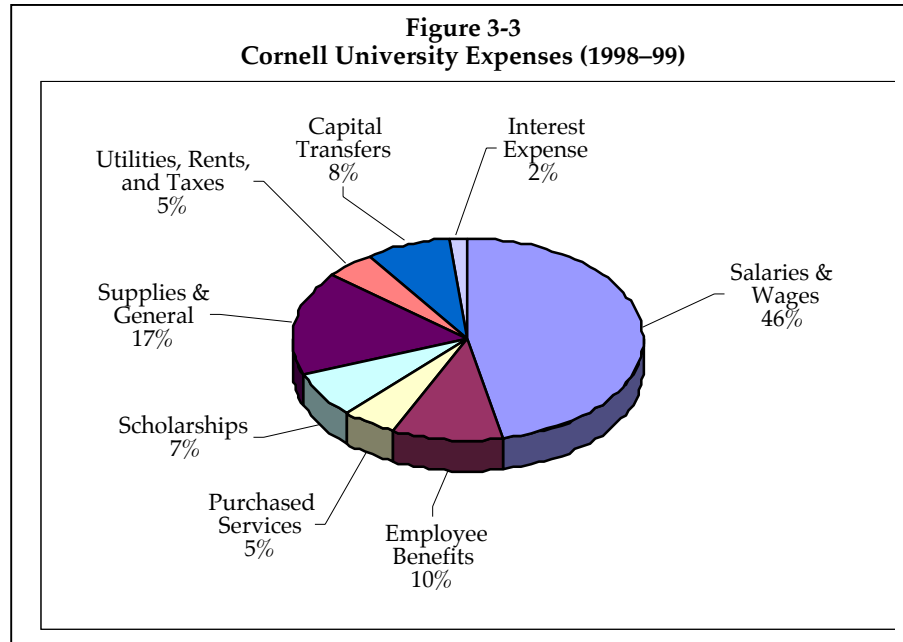
## CHAPTER 3: Financial Administration and Resource Management

of 17 percent. Compensation costs for faculty, staff, and student employees currently account for 56 percent of operating expenditures <sup>2</sup>. (See Figure 3-3.)

### Ithaca-Campus Finance Overview

The Weill Medical College accounts for about 30 percent of Cornell's finances. The remaining 70 percent is often referred to collectively as "the Ithaca campus."

In this sense, the term "Ithaca campus" represents everything except the Weill Medical College, and includes operations throughout New York State, in other states, and at several overseas sites.



Operating revenues for the Ithaca campus increased 51 percent from 1989-90 through 1998-99, to \$1.133 billion. (See Table 3-1.) They grew at an annual

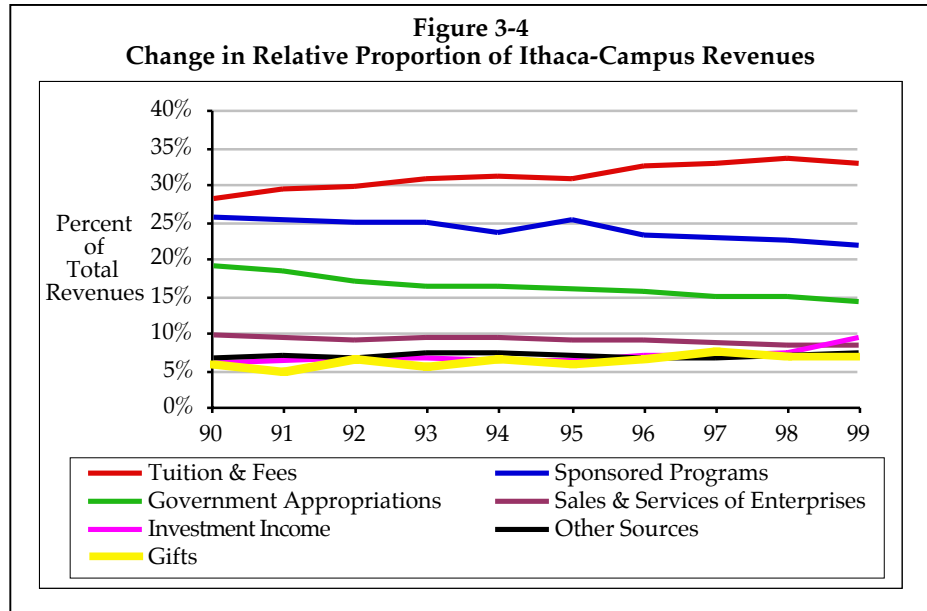
**Table 3-1  
Ithaca-Campus Operating Revenues  
(dollars in thousands)**

	1989-90	1994-95	1998-99	Percent Change	Nominal Growth Rate	Real Growth Rate
Tuition & Fees	210,048	289,994	371,010	77%	6.5%	3.6%
Investment Income	42,611	59,328	105,469	148%	10.6%	7.5%
Gifts	43,002	54,856	76,351	78%	6.6%	3.6%
Sponsored Programs	189,698	237,411	246,182	30%	2.9%	0.1%
Government Appropriations	141,110	149,580	158,685	12%	1.3%	(1.5%)
Sales & Services of Enterprises	73,438	85,224	92,301	26%	2.6%	(0.3%)
Other Sources	47,823	64,050	82,787	73%	6.3%	3.4%
<b>Total Revenues</b>	<b>747,730</b>	<b>940,443</b>	<b>1,132,785</b>	<b>51%</b>	<b>4.7%</b>	<b>1.8%</b>

<sup>2</sup> Because New York State pays directly for the employee-benefit costs of most contract-college employees, this percentage is understated. Though the exact value of New York State-provided employee benefits has not been calculated, if it were added, estimates are that it would increase overall compensation costs to 58 percent of total expenditures.

compounded rate of 4.7 percent. In inflation-adjusted terms, revenues increased 18 percent, growing 1.8 percent annually. Over the decade, there was uneven growth in the primary revenue components and actual declines in some when measured in inflation-adjusted terms. Growth leaders included tuition (6.5 percent nominal; 3.6 percent real), investment income (10.6 percent nominal; 7.5 percent real), and gifts (6.6 percent nominal; 3.6 percent real). There was marginal growth in government appropriations (1.3 percent nominal; negative 1.5 percent real)

and sales and services of enterprises (2.6 percent nominal; negative 0.3 percent real). Sponsored programs, mostly in the form of grants and contracts for research, recorded nominal growth that was roughly equal



to inflation. Figure 3-4 illustrates the effect that this differential growth had on the relative proportion of each revenue stream to the total. Tuition now represents a third of all revenue, and government appropriations have fallen from 19 percent to 14 percent of the total (see also Table 3-3 and Table 3-4).

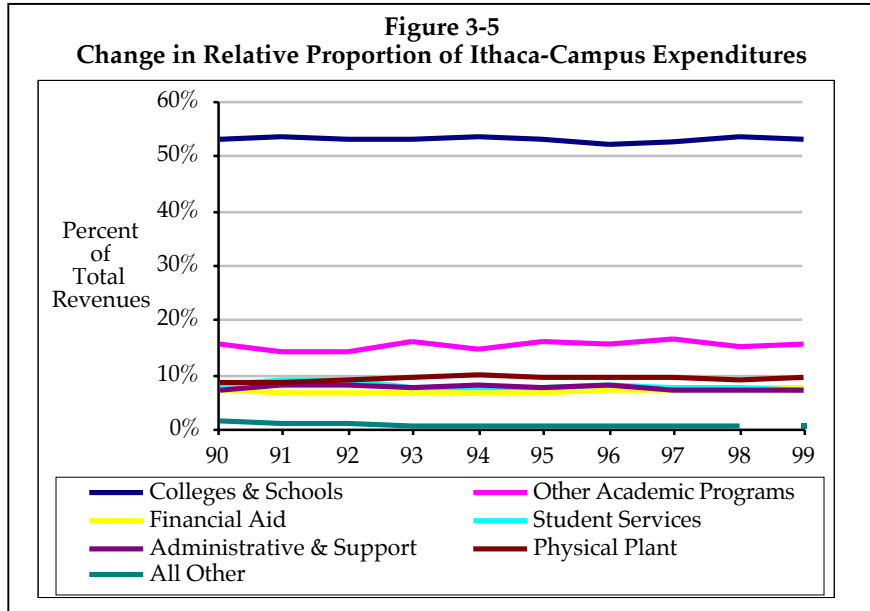
Operating expenditures for the Ithaca campus increased 48 percent from 1989–90 through 1998–99, to \$1.075 billion (see Table 3-2.). They grew at an annual compounded growth rate of 4.5 percent. In inflation-adjusted terms, revenues

**Table 3-2**  
**Ithaca-Campus Operating Expenditures**  
(dollars in thousands)

	1989-90	1994-95	1998-99	Percent Change	Nominal Growth Rate	Real Growth Rate
Colleges & Schools	382,831	482,442	568,032	48%	4.5%	1.6%
Other Academic Programs	110,615	146,720	165,696	50%	4.6%	1.7%
Financial Aid	50,998	60,837	79,837	57%	5.1%	2.2%
Student Services	58,368	67,134	77,963	34%	3.3%	0.4%
Administrative & Support	49,683	67,966	75,460	52%	4.8%	1.9%
Physical Plant	62,035	84,361	100,743	62%	5.5%	2.6%
All Other	9,368	5,338	6,949	(26%)	(3.3%)	(5.9%)
Total Expenditures	723,898	914,798	1,074,680	48%	4.5%	1.6%

increased 15 percent, growing 1.6 percent annually. Figure 3-5 shows that, unlike revenues, the pattern of expenditures remained remarkably unchanged over the decade.

A little over half of all expenditures occurs in the colleges, and another 15 percent occurs in other academic programs, including libraries and research centers. The



The other areas of financial aid, student services, administrative support, and physical plant represented roughly equal shares of the remainder. The fact that the nature of expenditures could remain constant during a period of

major resource shifts is demonstrative of Cornell's institutional nimbleness in being able to adapt to significant changes while maintaining our programmatic bearing.

**Tuition**

In setting tuition, we must balance Cornell's need for an important resource against the ability of students and their families to pay the costs of education. Tuition is a major revenue for the Ithaca campus, representing 70 percent of the endowed Ithaca general-purpose budget. (See Table 3-3.)

**Table 3-3**  
**Tuition as a Percent of Total Budgeted Revenues**  
**Plan for 2000-01**  
(dollars in thousands)

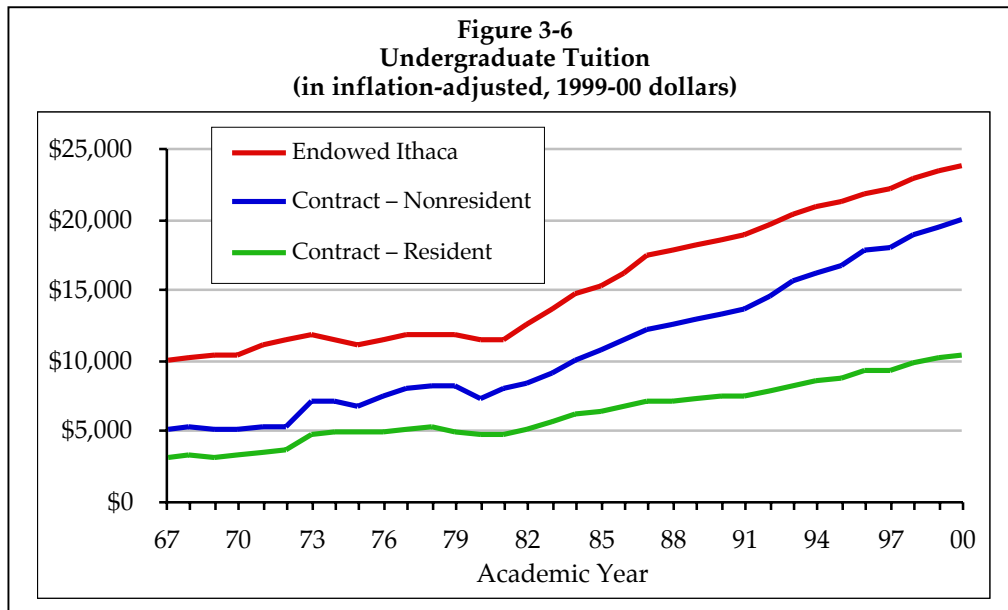
	Tuition	Total Revenues	% of Revenues
Endowed Ithaca	326,437	807,356	40%
General Purpose Budget	239,940	344,505	70%
Statutory Colleges	86,161	438,708	20%
Total Ithaca Campus	412,598	1,246,064	33%

- Cornell has three undergraduate tuition rates—one for all endowed Ithaca colleges and two for the contract colleges (one of which is lower for New York residents).



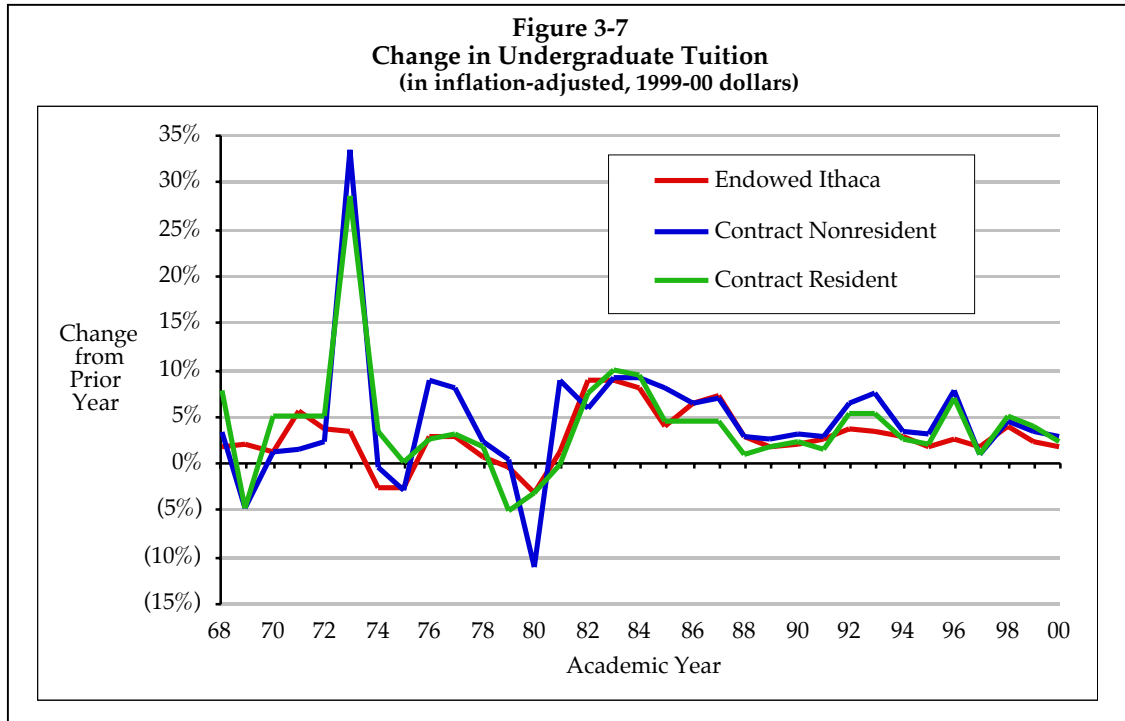
- Contract-college tuitions are set not only to meet contract-college funding needs but also to provide revenue to the State University of New York (SUNY). Step increases in this component of contract-college tuition tend to create uneven growth patterns.
- Among Ivy League and peer research institutions, Cornell's undergraduate tuitions are relatively low. (See Appendix D, 2000-01 Financial Plan.) However, among the broad spectrum of institutions with which Cornell competes for students, endowed Ithaca tuition is relatively high. Cornell's commitment to financial aid allows us to compete effectively with those institutions for the best students when cost is an element of the enrollment decision.
- Cornell's contract-college tuition remains at the top of tuition rates of comparable land-grant institutions; our nonresident contract-college tuition is close to that of some private research universities.

Since 1966–67, Cornell's undergraduate tuition has grown irregularly (in inflation-adjusted terms):



- Endowed Ithaca tuition increased, on average, only slightly faster than inflation through 1980–81. (See Figure 3-6.) During the early 1980s, our tuition was raised significantly above inflation. Since 1986–87, we have held the growth in Cornell's tuition to two or three percentage points above inflation. (See Figure 3-7.)
- Our contract-college tuition has experienced wider swings, especially in the 1970s. During the 1980s, its pattern of growth paralleled that of endowed Ithaca tuition. In the early 1990s, contract-college tuition grew more rapidly than endowed Ithaca's, as stepped increases in SUNY tuition triggered

increases in the portion of contract-college tuition remitted to SUNY. Since then, the growth in contract-college tuition has roughly followed that of endowed Ithaca.

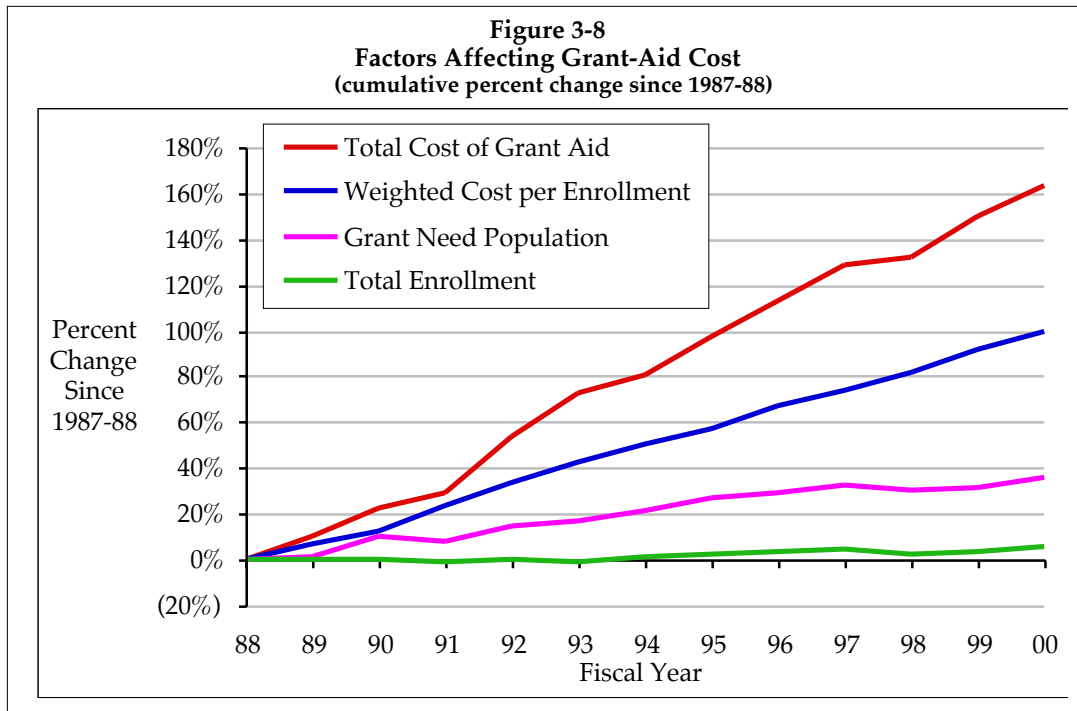


- It is our goal to keep the annual growth in Cornell’s endowed Ithaca tuition, when adjusted for inflation, at 2 percent or less. For 1999–00, endowed Ithaca tuition was increased 4.3 percent. This growth was 1.8 percentage points above 2.5 percent—the anticipated rate of inflation for the fiscal year.
- We approach the setting of Cornell’s contract-college tuitions similarly. However, actions by the state that change the portion of contract-college tuition remitted to SUNY, and the need to support local costs that are not funded through state appropriations, both affect growth rates.

### **Undergraduate Financial Aid**

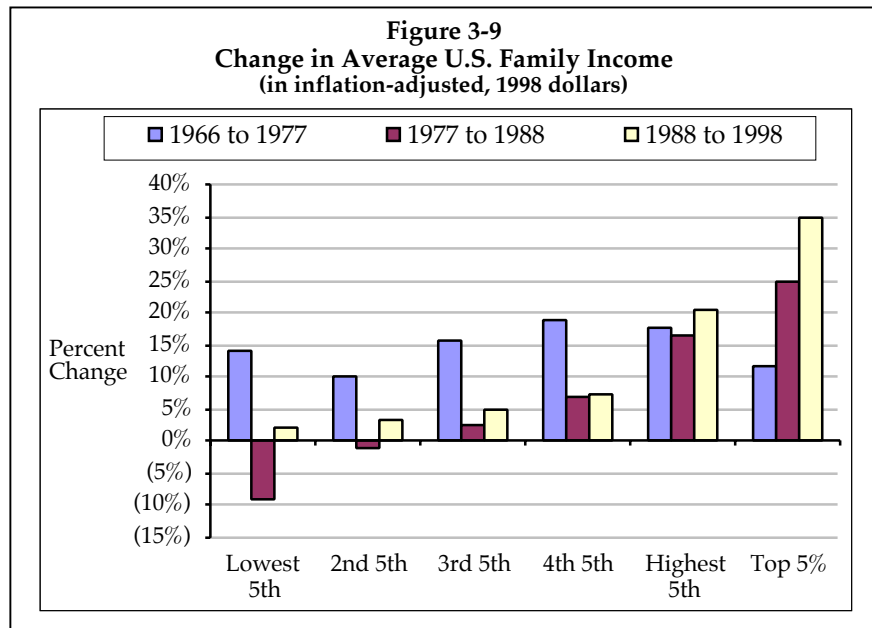
Cornell’s combination of need-blind admissions and a commitment to assist students and families in meeting the cost of education allows us to compete for undergraduate students. Providing adequate undergraduate financial aid, however, places significant burdens on our unrestricted budgets. Financial aid is packaged for each student as combinations of work opportunities, loans, and cash grants. The sources of these grants have changed dramatically over the past ten years (see Figure 3-10), for a variety of reasons.

- Cornell has increased the cost of education. Since 1987–88, the weighted cost of attendance (tuition, fees, room, and board) for endowed Ithaca and contract-college students has doubled. (See Figure 3-8.)



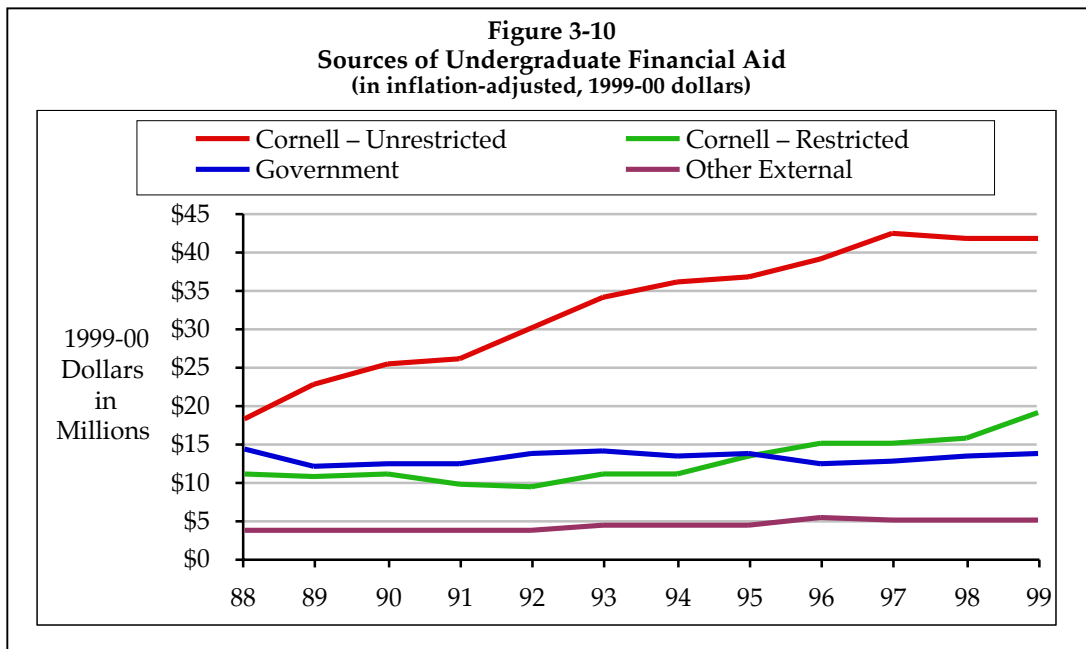
- During that 13-year period, the number of students eligible for grant aid increased a net 36 percent, from 3,815 to 5,204. Underrepresented minority students accounted for 27 percent of that increase, Asian/Pacific Islander students for 47 percent, and majority students for 26 percent.

- The growth in the nation’s economy has not been distributed evenly across the population. A substantial factor affecting the demand for grant aid has been the uneven growth in family income. (See Figure 3-9.) While the richest families have enjoyed significant inflation-adjusted increases in family income,



middle-income Americans have experienced more-modest growth, and the poorest families have experienced little growth. Cornell's success in creating a more diverse socioeconomic student population came during a period when a segment of society lost purchasing power. As a result, our student grant-aid population rose faster than the increase in our overall undergraduate enrollment.

- Government sources of grant aid have declined (in inflation-adjusted terms). Although government support for financial aid increased over the same period, there has been a shift at the federal level from grant aid to loans as the main vehicle for student support. In inflation-adjusted terms, federal and state grant aid administered by Cornell was less in 1998–99 (\$13.7 million) than in 1987–88 (\$14.2 million). (See Figure 3-10.)

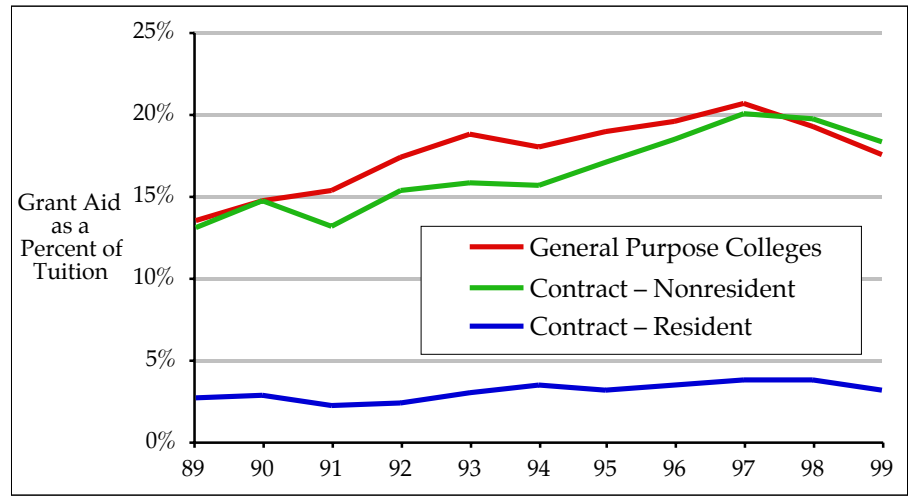


Comparing the amount that is allocated for financial aid from unrestricted funds to the amount of tuition revenues provides a measure of the pressure that financial aid places on Cornell (see Figure 3-11). From 1988–89 through 1996–97, that ratio for the general-purpose colleges rose from 13.4 percent to 20.7 percent. There was an almost identical change for the contract-college nonresident population (13 percent to 20 percent). Both ratios fell below 19 percent in 1998–99 due to an increase in gift and endowment support. The ratio for contract-college students who are New York State residents grew from 2.6 percent to 3.1 percent over the same period. (The figures for resident students are lower because of reduced tuition rates and the availability of state-funded tuition assistance, among other factors.)

To help fund the growth in financial-aid costs, Cornell has highlighted the raising of financial-aid endowments as part of our fund-raising strategy. The Cornell Campaign, which ran from 1988 through 1995, raised \$101 million in

undergraduate financial aid, much of which was given as endowment. Following that success, we launched a challenge campaign to raise \$200 million in new undergraduate financial-aid endowments. That effort was successfully concluded in

**Figure 3-11**  
**Unrestricted Undergraduate Grant Aid as a Percent of Undergraduate Tuition**  
 (excludes Hotel Administration and off-campus)



December 1999, yielding \$250 million. The combination of this additional principal and the strong returns afforded by the performance of the endowment has permitted Cornell to maintain its commitment to students while minimizing the demand for grant funding from the general-purpose budget.

**Government Appropriations**

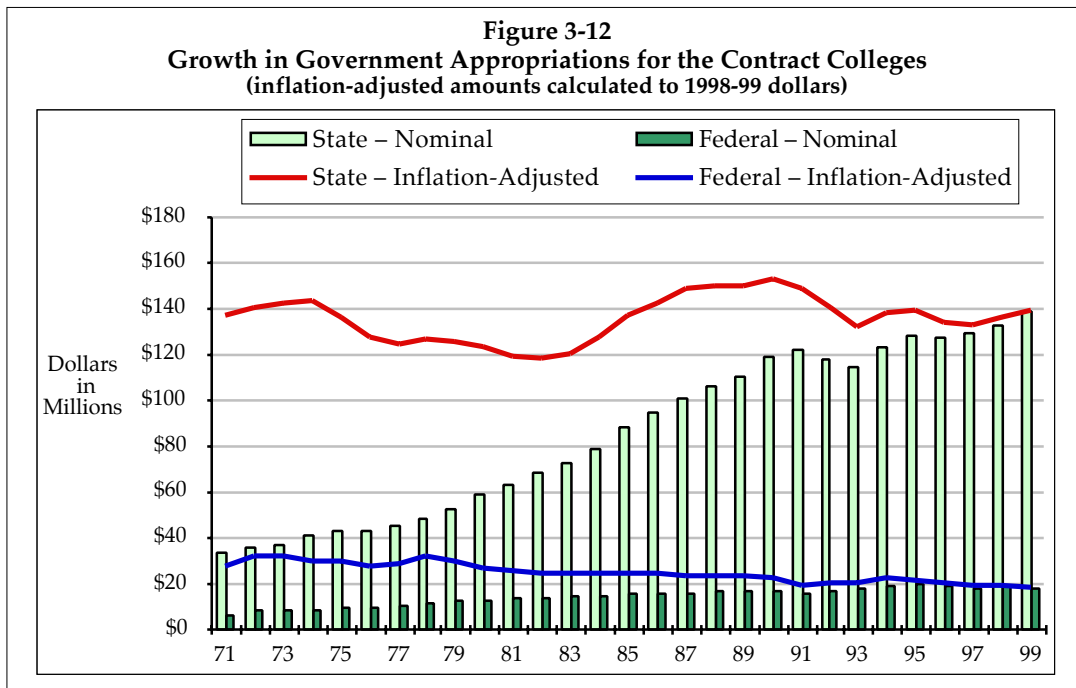
Government appropriations flow to all three divisions of the University. (See Table 3-4.) However, the bulk of this funding comes from the State University of New York (SUNY) to underwrite the activities of the four contract colleges. (Not included in this analysis are state investments in physical-plant and employee-benefits costs on behalf of the contract colleges that are funded separately by SUNY and New York State and are not recorded on Cornell’s books.)

**Table 3-4**  
**Appropriations as a Percent of Total Budgeted Revenues**  
**Plan for 2000-01**  
 (dollars in thousands)

	Approp.	Total Revenues	% of Revenues
Endowed Ithaca	2,089	807,356	0%
General Purpose Budget	1,769	344,505	1%
Statutory Colleges	169,951	438,708	39%
Total Ithaca Campus	172,040	1,246,064	14%

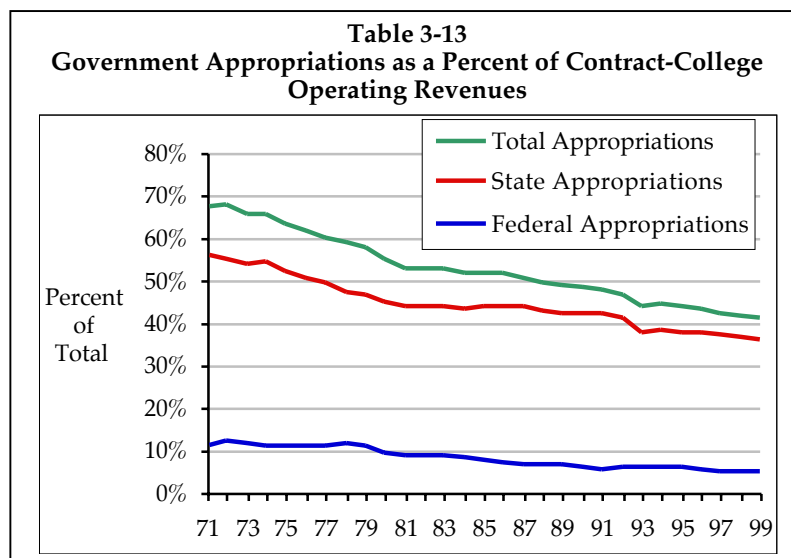
Government appropriations are the largest single source of revenue for the contract colleges, funding core academic missions. Ensuring an adequate flow of such appropriations is essential if the public-service aspect of these missions is to be continued.

- These appropriations have grown in nominal terms since 1970-71. (See Figure 3-12.)



- In inflation-adjusted terms, state appropriations are about equal to early 1970 levels while federal appropriations have declined.
- Even with the nominal growth in these revenues, government appropriations have steadily declined as a percent of the operating budgets of the contract colleges. (See Figure 3-13.) In effect, the four contract colleges were transformed from government-supported to government-assisted institutions during the latter half of the twentieth century.

Recent reductions in state funding have come as SUNY has dealt with significant budget cuts triggered by New York State’s deteriorating financial condition during the early 1990s. Though the state’s finances improved considerably at the close of the 1990s, SUNY’s redefinition of the methodology by which it allocates resources to SUNY campuses further reduced Cornell’s appropriations. Also, because our appropriated funding for salary programs tracks the salary programs delivered by the SUNY system, Cornell has been



unable to increase the salaries of the contract-college faculty and staff appropriately.

We have been working with the SUNY leadership to maintain fairness in SUNY's approach to resource allocation. Of special concern has been the difficulty of adequately representing Cornell's unique land-grant status in the state, encompassing research and public-service activities that are not shared by other SUNY institutions. We have also encouraged the other public and private institutions of higher education in New York State to present a clear and consistent case for education funding within the state.

### **Investments**

Investments, especially the endowment, provide a source of recurring support for Cornell's academic missions that acts as a stabilizing force, especially in times of economic uncertainty. We must balance the need for an adequate annual flow of funding from these assets against the need to preserve them for future generations.

As of June 30, 1999, Cornell had invested assets of \$3.616 billion, of which \$3.104 billion represented financial capital, including the endowment.

- 89 percent of these assets was invested in two large pools that function as mutual funds—the Long Term Investment Pool (LTIP) and the Short Term Investment Pool (STIP).
- 95 percent of the endowment was invested in the LTIP.
- 71 percent of the endowment represents true endowment, the principal of which must be kept invested in perpetuity. The other 29 percent is in the form of funds that function like endowment. These are monies set aside by the trustees to be invested as though they were endowments. However, as is not the case with true endowments, the trustees have the right to spend the principal of these funds.

The STIP contains Cornell's working capital and other funds that are invested for shorter periods of time, because they will be expended in the near term. The performance of the STIP has been better than market benchmarks. Cornell has a high level of assets invested for the short term (\$430 million as of June 30, 1999). We have been assessing the optimum level of resources that should be invested for short-term liquidity, with an intent to further improve the return on these assets.

### **Research**

External support for organized research results from the initiative of individual faculty members. Maintaining an environment that supports and channels this initiative is central to Cornell's continued preeminence as a top-ranked research university.

## CHAPTER 3: Financial Administration and Resource Management

The Ithaca campus benefits from more than \$274 million per year in externally sponsored support for research and other education activities. (See Table 3-5.)

Most of these revenues come in the form of grants and contracts to undertake specific lines of research. In addition, federal and state appropriations provide \$35 million annually to underwrite the

general research activities of the contract colleges. Together these resources support a vast array of intellectual inquiry.

**Table 3-5**  
**Sponsored Programs as a Percent of Total Budgeted Revenues**  
**Plan for 2000-01**  
**(dollars in thousands)**

	Sponsored Programs	Total Revenues	% of Revenues
Endowed Ithaca	167,495	807,356	20.7%
<i>General Purpose Budget</i>	34,096	344,505	9.9%
Statutory Colleges	106,118	438,708	24%
Total Ithaca Campus	273,613	1,246,064	22%

- In inflation-adjusted terms the level of grant and contract activity has grown dramatically for the Ithaca campus since the 1950s. (See Figure 3-14.) This growth

“leveled off” in the 1990s as

overall federal funding for research

slowed.

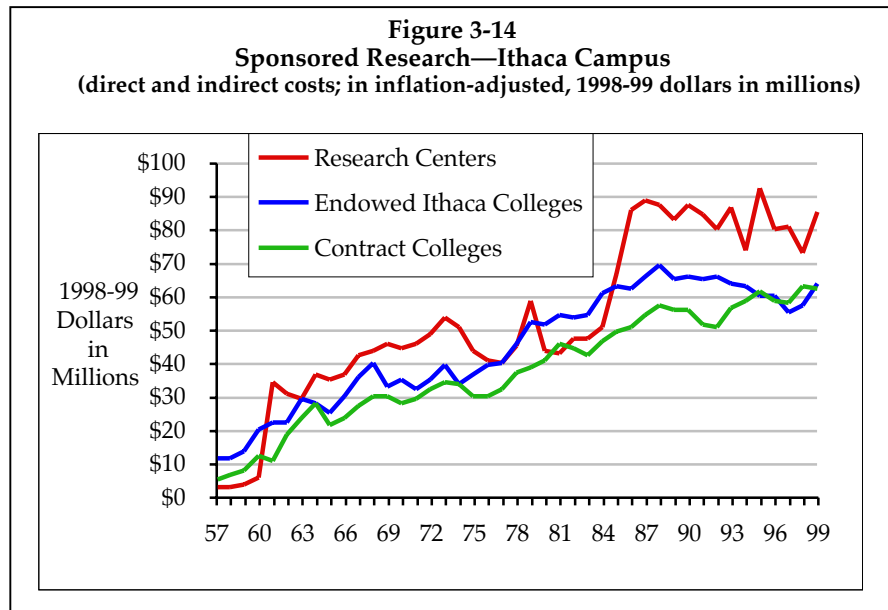
This

resulted in some realignment of research and

program activities on the Ithaca

campus. In

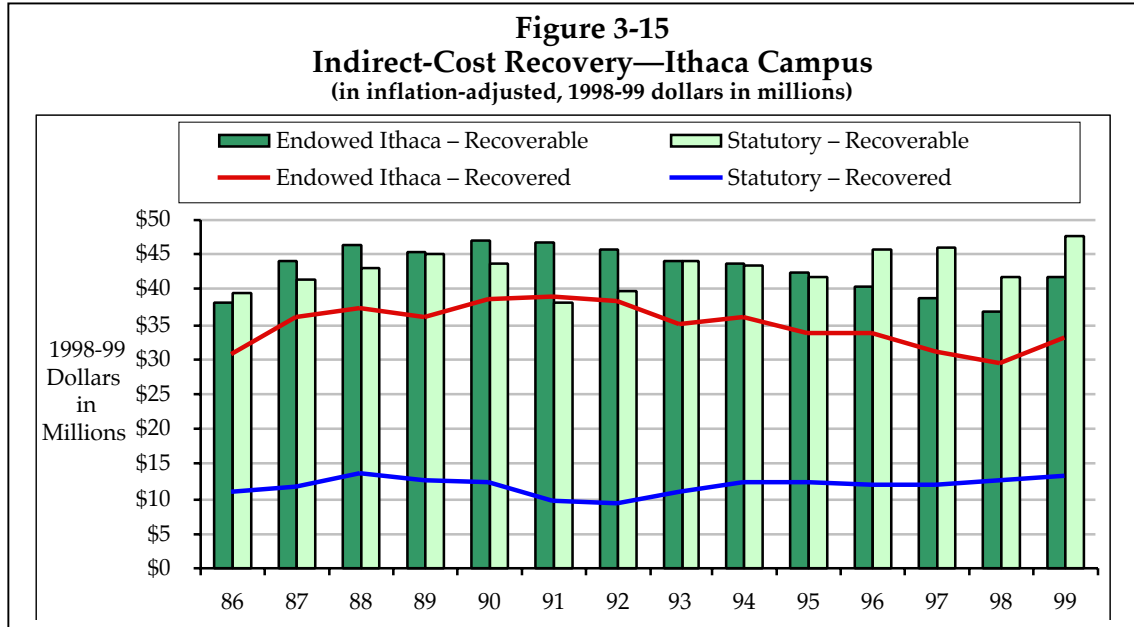
some cases the research was shifted to different sponsors.



- Much of Cornell’s success since the 1950s resulted from the deployment of more than a hundred research centers, institutes, laboratories, and programs. Through the end of the 1980s, the Ithaca campus had succeeded in increasing its market share of federally sponsored research and development funding in science and engineering. As research funding—especially for the endowed Ithaca colleges—declined in inflation-adjusted terms in the 1990s, so too did Cornell’s market share of federal funds. During this period, other large research universities experienced similar losses of market share, as federal funding shifted to hundreds of smaller institutions, many of which circumvent peer-reviewed funding competitions.



- A contributing factor to Cornell’s loss of market share has been a reduction in our ability to recover the full cost of sponsored research. A number of fundamental changes in the methodology by which the indirect costs of research are computed have resulted in reductions in indirect-cost rates and the levels of recovery. (See Figure 3-15.)



We have been engaged in a three-pronged strategy to stabilize and improve Cornell’s research-funding picture.

- We have negotiated the most-favorable indirect-cost recovery rates possible, given the changing pattern of rules and regulations and a shift in the federal agency that deals with Cornell on this issue.
- We have tried to broaden Cornell’s sources of federal research support to avoid being unduly dependent on one agency. Increasing funding-source diversity is a challenge for the endowed Ithaca colleges and research centers, because funding from one federal agency, the National Science Foundation, represents two-thirds of federal research funding for these endowed Ithaca units.
- Most recently, we began a process for setting research priorities and formulating recommendations on the allocation of Cornell resources to better achieve University-wide research goals. An important component of this effort was identification of Cornell “strategic enabling research areas” by a group of faculty members and administrators. These areas (advanced materials science, information sciences, and life sciences) represent broad themes that are likely to influence future scientific research and that Cornell may be uniquely positioned to pursue. Faculty-led initiatives are being

## CHAPTER 3: Financial Administration and Resource Management

developed for each area that will identify the specific human, financial, and physical resources needed to make significant advancements.

The quality of our research facilities remains an important factor in Cornell's ability to attract and support "high-tech" research, and will be critical in the support and development of some strategic enabling areas. Investment in a facility like the \$62 million Duffield Hall for the College of Engineering is an example of the magnitude of the commitment that will be necessary to compete in these areas.

### Gifts

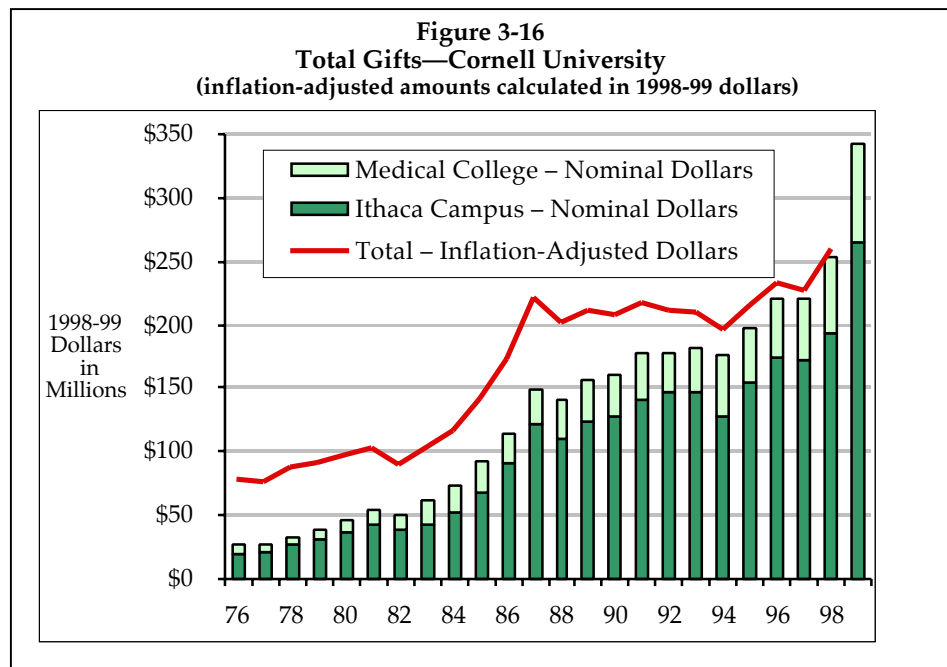
In an era of diminishing government support and market resistance to price increases, maintaining an adequate flow of annual gift support is essential if Cornell is to continue to be a preeminent education institution.

Gifts play several important roles in the financing of higher education by:

- providing support for operating budgets of academic units,
- underwriting the construction of academic and student-service space, and
- helping to build the endowment.

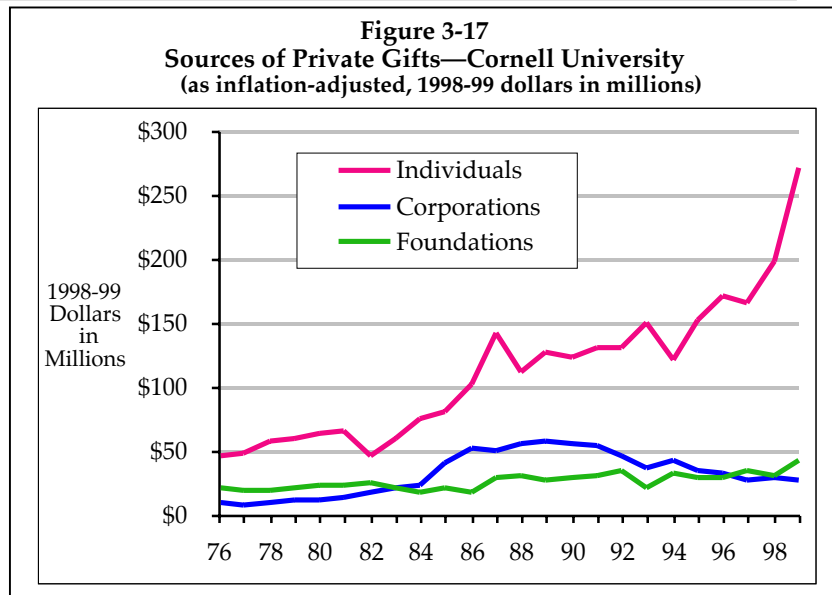
Since the late 1970s, Cornell has increased the level of annual gift support for both the Ithaca campus and the Weill Medical College. (See Figure 3-16.)

- In inflation-adjusted terms, total giving has increased more than fourfold.
- Most of this growth occurred as giving increased from alumni and other individuals, a trend that was enhanced during recent



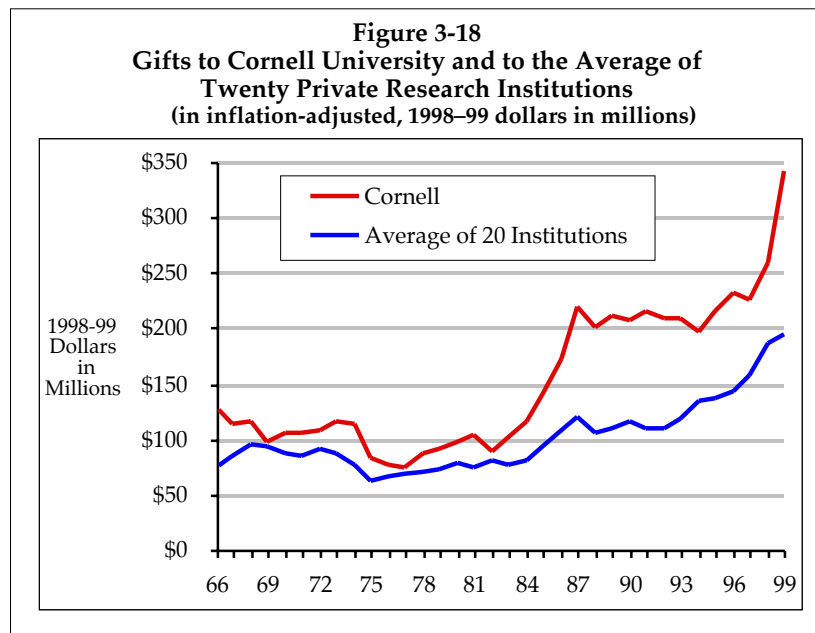
campaigns. (See Figure 3-17.) On the occasion of Cornell's 125<sup>th</sup> anniversary in 1989-90, we launched the \$1.25 billion Cornell Campaign to enhance

endowment and facilities. The campaign concluded in 1995, having raised a total of \$1.5 billion. In the fall of 1997, we embarked on a \$200 million undergraduate financial-aid campaign. Eighteen months later, the campaign closed, having raised a total of \$250 million.



Over the past thirty-four years, the pattern of total giving to Cornell has been remarkably similar to that experienced by peer institutions, with one important exception:

- Cornell managed, through the period of the mini-campaigns and the Cornell Campaign, to elevate the overall level of giving to a plateau that was much higher than the average achieved by its peers. (See Figure 3-18.)



In 1998–99 Cornell ranked second among peer institutions in total giving.

- As is true with most of the top universities in this comparison group, Cornell receives a greater share of support from individuals than from organizations (corporations and foundations).
- The Cornell Campaign targeted nearly half its goal for increasing the endowment, and more than half of annual giving during the campaign was

## CHAPTER 3: Financial Administration and Resource Management

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provided for capital purposes (endowment and physical plant). That pattern has continued since 1995; 49 percent of the 1998–99 cash-gift total of \$341 million was earmarked for capital purposes.

Cornell's current fund-raising strategy is to continue to build on the strengths and momentum of the Cornell Campaign, in which we:

- expanded significantly the number of active and prospective donors;
- increased funding for capital purposes, especially to build the endowment;
- succeeded in focusing attention on strategic initiatives, such as the endowment of positions and the funding of financial aid.

A challenge in all of this is to increase the general understanding that though we continue to be very successful at raising new monies, for the most part those monies come to Cornell as restricted funds. In the majority of cases, these restricted gifts are for projects and programs that we have identified as key areas for investment. This does help to alleviate budgetary pressures, but in a rather narrow fashion.

### Faculty and Staff Salaries

Faculty and staff salaries are the single largest category of operating expense in the Ithaca-campus budget, representing 46 percent of cost. The quality of Cornell's faculty and staff is highly dependent on the level of salaries paid. Maintaining and improving salary levels is necessary if Cornell is to compete effectively for the best possible workforce.

Historically, the Ithaca campus has been able to attract and retain faculty and staff members though paying them less than would be required if they were at peer institutions. This outcome was the result of three factors:

- The Ithaca campus is geographically isolated from main metropolitan centers, and dominates the local economy.
- The cost of living is relatively low in central upstate New York.
- The compensation of contract-college employees is affected by New York State salary programs and SUNY funding allocations.

More recently, this traditional picture has begun to change, forcing the Ithaca campus to compete for faculty and staff members on a more equal footing with peer institutions.

- Not only are faculty members and key administrators hired through nationwide searches, but increasingly the competition for staff members in certain disciplines (e.g., information technologies, fund-raising, financial services) has been broadened to a regional or national focus.

- The cost of living in the immediate vicinity of the Ithaca campus, though still below that of major metropolitan centers on either coast, has risen.
- Increasingly, new faculty and staff members are making employment decisions based not only on their own careers but also on those of their spouses and partners. The immediate vicinity surrounding Ithaca is more limited in opportunities for two-career families than are metropolitan areas.
- The quality of staff members needed to support Cornell's faculty has greatly increased, driven by the ever-expanding nature of technology, the volume of information, and better management practices.

Appendix F in the 2000–01 Financial Plan displays the average salary levels for Cornell endowed Ithaca and contract-college faculty and for the faculty at thirty-seven peer research universities. Cornell's Faculty Senate and academic deans have defined subsets of these institutions against which Cornell's faculty salaries should be tracked. (See Tables 3-6 and 3-7.) Each grouping has been adjusted for Cornell's relative mix of professorial ranks. In addition, contract-college salaries have been converted to a nine-month basis.

- In 1999–2000 the average faculty salary for endowed Ithaca ranked tenth among a peer group of institutions, while the average for the contract colleges ranked eleventh among their peer group.
- Since 1995–96 the endowed Ithaca average faculty salary has remained relatively constant vis-à-vis the peer group, oscillating slightly at about 90 percent of the average excluding Cornell; the endowed Ithaca annual compounded growth rate was slightly greater than the average for the group.
- Over the same period, the contract-colleges average faculty salary has fallen relative to their peer group, from 94 percent in 1995–96 to 88 percent of the average by 1999–2000. The growth rate of the contract-colleges average faculty salary was much less than that of their peers.

Cornell has refocused its efforts to improve faculty compensation.

- Though endowed Ithaca faculty salary programs delivered salary increases that exceeded inflation during the 1990s (when measured by the change in the Consumer Price Index), much of the incremental funding awarded to compensation went to cover spiraling health-care costs. These costs have temporarily stabilized, and Cornell has allocated additional resources for endowed Ithaca salary programs. Continuing endowed Ithaca faculty experienced an overall average salary increase of 6 percent from 1998–99 to 1999–2000. Average salary change was greatest among assistant professors and those who were promoted in rank.

## CHAPTER 3: Financial Administration and Resource Management

**Table 3-6**  
**Endowed Ithaca Faculty Salaries**  
 (all ranks; endowed Ithaca salary base)

	<u>1995-96</u>	<u>1996-97</u>	<u>1997-98</u>	<u>1998-99</u>	<u>1999-00</u>	<u>Compounded Growth Rate</u>
Stanford University	\$87,052	\$88,924	\$92,599	\$97,793	\$100,841	3.7%
Cal Tech	88,827	91,451	93,436	96,887	100,068	3.0%
University of Chicago	81,219	84,777	88,125	93,512	98,607	5.0%
University of Pennsylvania	81,759	84,674	87,890	91,466	97,332	4.5%
Princeton University	82,157	85,494	88,000	92,166	96,103	4.0%
Yale University	80,710	83,387	85,425	89,682	94,201	3.9%
Columbia University	77,821	83,360	84,460	89,237	92,619	4.4%
UCLA	71,684	72,567	77,030	83,766	87,602	5.1%
University of Michigan	73,521	75,635	78,172	81,738	85,558	3.9%
<b>Cornell (Endowed)</b>	<b>70,939</b>	<b>73,891</b>	<b>77,179</b>	<b>80,568</b>	<b>84,700</b>	<b>4.5%</b>
UC-San Diego	69,598	70,478	73,762	80,539	82,869	4.5%
Average Excluding Cornell	79,435	82,075	84,890	89,679	93,580	4.2%
	89.3%	90.0%	90.9%	89.8%	90.5%	

**Table 3-7**  
**Contract-College Faculty Salaries**  
 (all ranks; contract-college salary base)

	<u>1995-96</u>	<u>1996-97</u>	<u>1997-98</u>	<u>1998-99</u>	<u>1999-00</u>	<u>Compounded Growth Rate</u>
University of Pennsylvania	\$78,937	\$82,369	\$86,940	\$91,100	\$96,746	5.2%
UC-Berkeley	70,458	71,427	76,409	85,969	89,013	6.0%
University of North Carolina	63,659	69,228	72,727	76,014	79,630	5.8%
UC-Davis	63,048	64,320	68,560	74,608	77,091	5.2%
University of Minnesota	61,268	62,892	68,583	73,261	75,991	5.5%
Penn State University	63,975	66,195	68,790	71,830	74,586	3.9%
Ohio State University	63,539	66,664	68,434	71,395	74,342	4.0%
University of Wisconsin	60,468	61,588	64,471	68,080	73,881	5.1%
Michigan State University	59,200	61,530	64,148	67,137	69,940	4.3%
Texas A&M University	57,816	58,724	62,496	65,464	68,755	4.4%
<b>Cornell (Contract Colleges)</b>	<b>60,596</b>	<b>60,700</b>	<b>61,497</b>	<b>65,799</b>	<b>68,657</b>	<b>3.2%</b>
Average Excluding Cornell	64,237	66,494	70,156	74,486	77,997	5.0%
<i>Cornell as a Percent of Average</i>	94.3%	91.3%	87.7%	88.3%	88.0%	

- Although Cornell's ability to improve contract-college faculty salaries has been stymied periodically by lack of adequate state funding for salary

increases, the SUNY appropriation for 1999–2000 allowed Cornell to raise continuing contract-college faculty salaries by an average of 5.2 percent. As in the endowed Ithaca program, average salary change was greatest among assistant professors and those who were recently promoted.

We are committed to improving Cornell's faculty salaries relative to those at peer institutions.

- Initiatives include broad-based annual salary-improvement programs as well as targeted efforts to address salary deficiencies in specific disciplines.
- The task of making a substantial change in Cornell's faculty-salary ranking is not inconsequential. For example, a 10 percent step increase in endowed Ithaca faculty salaries would cost about \$8.5 million (including employee-benefits expense). A comparable change in contract-college faculty salaries would total \$7 million. To permanently fund the combined sum would require the investment of \$388 million of new endowment principal or an \$815 increase in the net tuition of every Ithaca campus student. Because financial aid is provided to many students (and to most Ph.D. candidates), an \$815 growth in net tuition would translate to a \$1,120 rise in gross tuition per student (about a 4.5 percent increase for an endowed Ithaca undergraduate and a 10.3 percent increase for a contract-college resident undergraduate).
- In July 2000, President Rawlings and Provost Martin announced a major multi-year program to increase the relative status of faculty compensation. The key element of the plan is the determination to bring the average salary of contract- and endowed-college faculty in line with salaries at the peer groups depicted in Tables 3-6 and 3-7. For contract-college faculty, the goal will be reached over a six-year period, beginning in 2001–02; for endowed faculty, the goal will be achieved over five years. In addition to measuring Cornell against the peer institutions listed in Tables 3-6 and 3-7, individual Cornell colleges will be encouraged to benchmark against additional schools more appropriate for comparative purposes. College-specific pay strategies will incorporate performance criteria and will use discipline-based market data. Implementation of Cornell's comprehensive plan will be based on the college-specific plans.

Staff salary patterns have been similar to those for our faculty, although the main sphere of competition for new staff members historically has been the regional and local economies. A study conducted in July 1997 found that nonacademic staff salaries (for those employees not represented by unions) were 84.5 percent of the relevant external market.

- These results vary by operating unit; the range is 80.1 to 93.8 percent.
- These results are also influenced by the mix of employee positions in each unit and the fact that the contract colleges have lost ground because of the lack of state-funded salary programs.

## **CHAPTER 3: Financial Administration and Resource Management**

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At the time, Cornell established a goal of increasing staff salaries to 90 percent of comparable external job markets. By the 2000–01 fiscal year, this goal had been met within many of the University’s job groups. Nevertheless, in December 2000, President Rawlings outlined a multi-year plan to further improve staff compensation. The plan has five main components:

- Cornell will continue the multi-year overall pay-improvement process for all staff members, to maintain above-market pay pools.
- We will address the issue of a “living wage” assertively by increasing the pay-band minima for jobs in the five lowest pay bands as well as increasing the wages of those already employed in positions in those bands.
- We will target areas that have key national recruitment and retention needs for salary improvement above the multi-year improvement pool over the next five years. Areas currently targeted are information technologies and university development.
- We will continue to evaluate and improve Cornell’s benefits package for all employees. Though we already offer a very fine benefits program—better than many other employers in the region—we are committed to staying ahead of this regional market.
- Cornell will continue to be an institution where quality is recognized and rewarded. Through performance reviews, we will differentiate among staff members in setting salaries and will provide pay for performance. It is understood that these expectations put substantial responsibility on supervisors and department heads to help employees do their best work, to evaluate them carefully, and to reward performance with individual pay increases that are merit-based.

All of these efforts will be affected by some factors outside Cornell’s control:

- growth in the economy and inflation
- availability of state-authorized and state-funded salary programs for contract-college employees
- salary programs of peers and market competitors

### **Administrative Systems**

In 1995 Cornell announced an ambitious plan to replace, over a five-year period, its main administrative systems with a suite of products offered by PeopleSoft, Inc. Titled “Project 2000,” this effort was intended to take advantage of the application integration offered by PeopleSoft to reduce ongoing administrative costs. Such savings were expected to repay over a relatively short period the \$60.6 million cost of system purchase and installation (\$36 million from the reallocation of existing resources and \$24.6 million of incremental resources).



The effort was to include each of the following areas: human resources/payroll; student; sponsored programs; financials; and alumni/development.

Though planning was done for all five modules of the system, only a portion of the first system in the queue—the core human resources/payroll application—was implemented (in December of 1998). By that time, much of the original project budget had been consumed, and the incremental resources needed to carry the implementation had climbed more than \$30 million. Also, the ongoing support and maintenance costs of this project exceeded original estimates. As a result, we placed the implementation of the remaining modules on hold and are currently engaged in a detailed reassessment of the administrative-systems upgrade. This review is focused on:

- institutional capacity to engage in a replacement of another major system;
- availability of resources to pay for the one-time costs of a new system coupled with the incremental, ongoing costs of operating and maintaining that system; and
- desirability of investing institutional resources in other, smaller-scale efforts to improve the functionality of legacy data systems, data quality, ease of data input, and data access and reporting.

The results of this planning effort are anticipated to lead to a series of smaller projects that have a chance of being implemented. To date, several data-warehouse and data-mart projects have begun.

### **Physical Space**

Creating, maintaining, and operating physical space is a major component of Cornell's financial plan.

- In 1998–99, Cornell spent \$263.5 million on physical space (including furniture and equipment), about 19 percent of total expenditures.
- As of June 30, 1999, Cornell owned, controlled, or had use of 17.5 million square feet of space, located on 21,111 acres of land.
- As Table 3-8 shows, 1.4 million gross square feet (GSF) of this space is associated with the Joan and Sanford I. Weill Medical College and Graduate School of Medical Sciences in New York City. The remaining 16.1 million GSF of space is located across the country, though most of it is concentrated on the Ithaca campus.

	<u>Total</u>	<u>Percent of Total</u>
Medical College	1.350	7.7%
Ithaca Campus	14.589	83.5%
Other Locations	1.524	8.7%
Total Gross Square Feet	17.463	100.0%

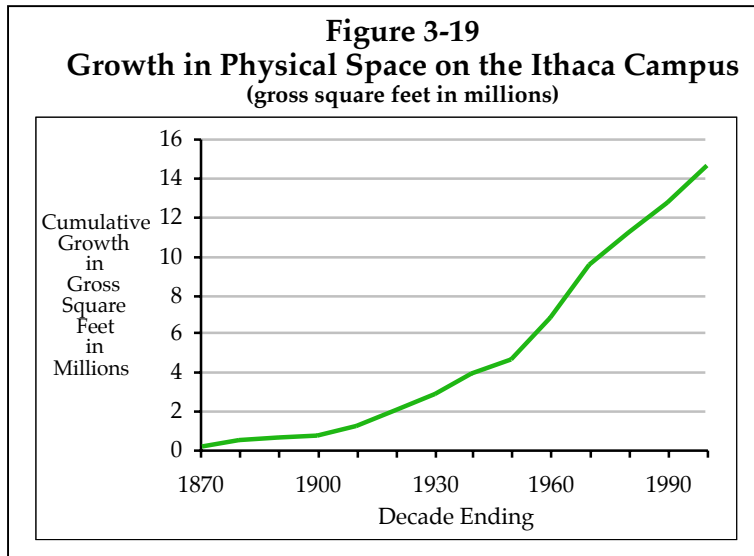
- Of the 16.1 million GSF of space not associated with the medical campus, 2.9 million square feet, or 17.8 percent, is taken up by walls and other structural elements of buildings. In addition, another 20.3 percent is devoted to infrastructure (mechanical rooms, etc.) and public space (foyers, hallways, restrooms, etc.), leaving 61.9 percent assignable for programmatic purposes. (See Table 3-9.) Academic programs occupy 38.3 percent of the 16.1 million GSF, or a little under two-thirds of the net assignable area. Support services, including student residences, occupy the remainder.

**Table 3-9**  
**Total Physical Space Outside the Medical Campus**  
**as of June 1999**  
(square feet in millions)

	Total	Percent of Total
Academic Program	6.169	38.3%
Support Services	3.808	23.6%
Infrastructure/Public	<u>3.265</u>	<u>20.3%</u>
Net Square Feet	13.242	82.2%
Building Structure	<u>2.871</u>	<u>17.8%</u>
Gross Square Feet	16.113	100.0%

Cornell has experienced a dramatic growth in physical space on the Ithaca campus since its founding in 1865. (See Figure 3-19.)

- Space was added slowly through 1900, reaching a total of 699,513 GSF by that year.
- Space grew more rapidly after 1900, expanding at an annual compounded rate of a little under 4 percent through 1970. Much of this early growth was related to the establishment of the contract colleges and the construction of student residences. The latter had been discouraged during the nineteenth century by Cornell’s founders but were seen as necessary to support enrollment expansion after World War I.
- During the post-World War II era, Cornell experienced a major expansion in science and engineering facilities and a second boom in enrollment (and a need for more residential space).
- The growth rate in the addition of new space has slowed



over the past thirty years, to about 1.5 percent per year. That rate, however, yields about 200,000 new GSF annually. In contrast, it took seven years to add that much space to the Ithaca campus in the early 1900s.

Physical space is categorized by its nature (offices, classrooms, laboratories, etc.) and its function (instruction, research, etc.). Gradual shifts have occurred in both classifications.

- Dedicated classroom space represents less than 4 percent of net assignable space, and has decreased slightly as a proportion of the total over the past decade.
- Instruction and research-laboratory space has increased moderately as a percent of the total over the same period, reaching 19 percent by 1999.
- Space for special- and general-use facilities—which include athletic, recreational, assembly, and food-service space as well as meeting and lounge areas—has declined slightly, to about 25 percent of the total.
- Space for office and student study areas has increased over the same period as a proportion of the total, also accounting for 25 percent.
- There is a slightly higher ratio of student residential space and a slightly lower ratio of support space (shop, storage, and data processing) than existed ten years ago.

Shifts have also occurred in the function of space during the past decade.

- The proportion of space devoted directly to the academic activities of instruction, research, and public service has declined from 48 to 45 percent, and the proportion of student-service space, including student residences, has also declined.
- There has been relatively little change in institutional-support space (administration, physical plant, administrative computing, etc.).
- There has been an offsetting growth in academic-support space (libraries, teaching clinics, computing services, etc.). The amount of teaching-clinic space was substantially increased with the recent construction of the Veterinary Medical Center.

Because of the high cost and long-term implications of adding or modifying physical space, several Cornell boards and groups are involved in the review and approval of all major physical-plant projects:

- The Trustee Buildings and Properties Committee reviews all projects that cost \$2 million or more.

## CHAPTER 3: Financial Administration and Resource Management

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- The Capital Funding and Priorities Committee (CF&PC) is an administrative group that reviews all projects that cost \$500,000 or more.
- The vice president for administration and chief financial officer and other administrators review all projects that cost more than \$50,000.
- The Campus Planning Committee, an advisory board with constituent representation, reviews projects in terms of their potential impact on the overall campus environment.

These reviews ensure that capital projects are necessary, properly designed, and coordinated. Some of the groups also provide oversight as construction progresses, providing a forum for the many decisions inherent in such complex tasks. Finally, CF&PC is charged with developing Cornell's capital plan, which is detailed in the 2000–01 Financial Plan. It is CF&PC's responsibility to be sure that capital projects are fully funded and that the ongoing operating costs of each facility are addressed in the University's overall financial plan.

### SYNOPSIS

Cornell remains in a strong financial position and has in place planning and budget structures to monitor and ensure its continued long-term viability.

### SELECTED REFERENCES AND SOURCES

*Financial Plan: Operating and Capital* (published annually in May)

*Financial Report* (published annually in October)

<http://www.univco.cornell.edu/AR.html>

Cornell University Electronic Fact Book

<http://www.ipr.cornell.edu/factbook>

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## CHAPTER 4

### Undergraduate Education

#### OVERVIEW AND CONTEXT

President Rawlings's call for Cornell to become the best research university in the country for undergraduate education has spurred discussions across the campus and within individual departments for the past several years. Those discussions are now resulting in concrete action in several critical areas, including the undergraduate curriculum, advising, and living-learning environment—three areas believed to be essential to achieving such a goal.

Formal review of the curriculum in the seven colleges that teach undergraduates at Cornell has been under way throughout the past decade. These regular reviews are designed to keep the academic programs contemporary to industry and employer expectations (especially in the pre-professional disciplines) while making sure that the fundamental liberal arts education remains coherent and central to the academic experience. They also provide the opportunity for the colleges to incorporate new areas of inquiry, including interdisciplinary studies that are emerging across the campus.

Attention to advising has been a focal point in the past year, especially pre-major and freshman advising. Close interaction between faculty members and students should be an important building block in helping undergraduates experience the best that a research university has to offer, but at Cornell (and at most universities) there is room for improvement on the part of both the faculty and the students. Plans for making progress in this area constitute a significant portion of this chapter.

The undergraduate residential experience has long been an area of concern and attention at Cornell, given the shortage in university housing for undergraduates and the perceived separation between students' living and learning environments. Since arriving at Cornell, President Rawlings has focused intently on this issue, and significant progress toward change is now apparent.

Physical evidence of the University's committed focus on the total freshman-year environment and experience is evidenced by the current extensive Residential Initiative construction project on north campus. These new facilities—two large residence halls, a community commons, and numerous outdoor recreational spaces, and the accompanying new programs, will permit all entering freshmen to live together in a newly structured north-campus community, a crucial component of the Residential Initiative plan for freshman. The entire construction project is on schedule and within budget, and will be finished in time for the arrival of the Class of 2005 in August 2001. Just as significant, Cornell faculty and staff members, and continuing students, are devising strategies and preparing to launch new Residential Initiative programs. Among the goals for such programming is the provision of a shared intellectual experience for all entering freshmen.

In addition, planning and programming are under way for the transformation of west campus into a somewhat-similar post-freshman residential community. Discussions about integrating the Greek system more closely into the overall undergraduate experience continue.

In this chapter, these efforts are described in greater detail.

### CURRICULUM

Central to excellence in the total undergraduate experience at Cornell is a dynamic, complete, and engaging University curriculum. The faculty in each college has the responsibility for determining the college's undergraduate curriculum, and each college has a process of continuous curriculum renewal. During the past decade, all seven undergraduate colleges have carefully examined their curriculum and made many changes while continuing to deliberate others. Efforts have been made to promote greater flexibility for students in meeting the college-specific requirements for graduation. Opportunities for engaging in the study of ethics and ethical decision-making are emerging, as is an emphasis on undergraduate research. Also, students are often afforded the opportunity, and sometimes required, to immerse themselves in a culture that is different from their own. As noted in Chapter 1 in the section on undergraduate education, many of these areas of study are offered to all undergraduate students at Cornell through the College of Arts and Sciences, thus providing some common educational experiences across the colleges. More details on two of these cross-unit initiatives are provided following the brief summaries below of each college's curriculum review and renewal activities.

#### **College of Agriculture and Life Sciences (ALS)**

The College of Agriculture and Life Sciences' distribution requirements of 39 credits provide broad-based education in five areas: biological sciences, physical sciences, humanities, social sciences, and communication. Over the past three years, ALS has asked its entire faculty and all of its undergraduate students, along with a sample group of alumni and employers of students, to complete a comprehensive 16-page survey; members of these constituencies also were invited to participate in focus groups. This consensus-building process set future directions for ALS's academic program.

The ALS College Executive Leadership Team of faculty members and students, along with 15 task forces and departments, issued recommendations based on the survey and focus-group data, consideration of peer-institution programs, and related literature. Among the outcomes was planned development in four areas: curriculum, instruction, the teaching and learning environment, and support systems. Resulting enhancements include incorporating or focusing on quantitative literacy, writing across the curriculum, ethics, computing and teaching skills in the majors, human diversity, and cross-cultural education. There also will be increased opportunities for undergraduate research, experiential learning, electronic-assisted learning, pre-college programs, library

services, faculty development, counseling and advising, and career development. The ALS faculty has outlined expectations for academic gains by all undergraduate students in the college and will use those defined outcomes to guide the development of the undergraduate curriculum and education programs for ALS students.

### **College of Architecture, Art, and Planning (AAP)**

Changes to the curriculum in the College of Architecture, Art, and Planning occur separately in AAP's three departments, each of which offers a different undergraduate degree. As a result of their ongoing reviews, all three departments have moved aggressively during the latter half of the past decade to enhance their curriculum in the area of digital offerings. The Department of Architecture expanded and strengthened its courses in computer-aided design; the Department of City and Regional Planning created a new area, geographic information systems—complete with a high-end computer laboratory; and the Department of Art focused on digital media. All three also expanded their academic offerings in the college's study-abroad program in Rome, Italy. In addition, the Department of Architecture developed courses linked to issues important to the profession, and interdisciplinary links with other related professions; the Department of City and Regional Planning increased its focus on environmental land-use planning; and the Department of Art developed a new printmaking curriculum.

### **College of Arts and Sciences (A&S)**

The faculty of the College of Arts and Sciences reviews its curriculum and degree requirements every 10 to 12 years. In 1990, A&S distribution requirements were modified in two significant ways. First, the mathematics requirement was replaced by a more capacious quantitative-reasoning requirement, and the required number of courses in science and quantitative reasoning was raised from four to five. Second, requirements for cultural breadth (a course focusing on an area other than North America or Europe) and historical breadth (a course on a pre-twentieth-century topic) were introduced.

In 1999–2000, the A&S faculty committee appointed to conduct another full-scale curriculum review determined that A&S faculty members, graduates of the 1990s, and current students were very satisfied with the requirements established in 1990 and with the commitment to liberal education that those requirements embody. This committee, however, did recommend three discrete modifications in those requirements, which the A&S faculty is currently considering.

- The first proposal is to reconstitute the A&S distribution groups 3 and 4 (social sciences and history; literature and the arts) into thematic rather than department categories, though the number of courses (five) required in these areas would remain the same. The proposed new themes include literature and the arts; historical analysis; cultural analysis; social and behavioral analysis; and knowledge, cognition, and moral reasoning. The

last category identifies ethics as one way of satisfying this requirement, but does not make it mandatory.

- The second proposal is to simplify the A&S foreign-language requirement in order to encourage proficiency, although students would still be allowed to fulfill the requirement by beginning a new foreign language. Under this system, every A&S student would take at least one course in a foreign language, but no one would be required to take more than three language courses (at the passing level).
- The third proposal is to drop the A&S 34-course requirement for graduation, while retaining the 120-credit requirement. All other requirements, including the number of courses or credits needed for each area (science and quantitative reasoning, thematic areas of study, the freshman writing seminars, chronologic and geographic breadth, electives, the major, physical education, and the 120 credit hours for graduation) would remain the same.

The A&S dean announced a schedule of forums and meetings for the 2000–01 academic year that aims to have the A&S faculty complete deliberations on these changes by the end of the spring term.

### College of Engineering

In 1993–94, the College of Engineering revised its common curriculum by reducing the total number of credits needed to graduate; rearranging the electives and field courses required; decreasing the number of engineering distribution credits; and adding a required course, Introduction to Engineering. Additionally, students in the Class of 1998 and beyond were expected to affiliate with a field (major) by the end of the first semester of their sophomore year, one semester earlier than before. These changes enabled most freshmen in the college to take a reduced load (four courses instead of five) in their first semester at Cornell.

Subsequent to that 1993–94 package of changes, many iterative improvements have been made to the engineering curriculum. During the last five years, the college has expanded and improved collaborative interactive-learning sessions facilitated by upperclass students. These Academic Excellence Workshops run parallel to core courses in mathematics, chemistry, computer science, and electrical engineering and are built into physics courses. Students study material in a collaborative setting at or above the level of the parallel core course. Participation in the workshops has grown from approximately 100 students in the mid 1990s to about 1,700 students in the most recent academic year.

Several changes were made to the engineering mathematics sequence. For the fall 2000 semester, the college revised the mathematics-sequence content to match the knowledge that is prerequisite to core engineering courses. Also starting in the fall 2000 semester, the college developed two versions of the required computer science course CS 100. One version focuses on an



introduction to programming in MATLAB for the first seven weeks and in Java for the second seven weeks. The second version is a standard introduction to the Java programming language.

The college also developed a required one-credit seminar for entering students and their advisors, Engineering 150. Details of that course are provided below in the section on advising.

Three major areas continue to be discussed by the college faculty. The first is how to infuse biology into the undergraduate curriculum. Second, a committee has been convened to develop and fill a faculty position with a focus on ethics. Third, the college is using the new ABET 2000 outcomes-based criteria to prepare for its next Accreditation Board for Engineering and Technology review. This process will require an extensive review of the college's curricular goals and objectives (at the program and course levels) and will also challenge the college to develop new methods of evaluation and assessment.

### **School of Hotel Administration**

Beginning in the fall of 1995, the School of Hotel Administration conducted an extensive review of its curriculum, which is intended to prepare students for modern management in the global hospitality industry. During the two-year review process, more than 1,000 alumni were surveyed, exit interviews were collected from two graduating senior classes, focus-group discussions were held with the school faculty, more than 300 current and prospective employers were surveyed, and roundtable discussions were held with two industry-expert panels.

As a result of that review, by the fall of 1997 the school had implemented changes in its core curriculum, which includes courses in management, food and beverage operations, marketing, tourism, property-asset management, communications, and law. Two course blocks for freshmen—"the Rooms Division" and "Food and Beverage"—were created, and the faculty also redesigned the freshman course Information Technology (IT). For seniors, the school added a new required IT course and revised a capstone course, Strategic Management, to require a team project judged by a panel of industry experts. The course Quantitative Methods was revised and moved to the junior year. Work practice credit requirements were made more stringent, and numerous pedagogical refinements were implemented. During the 2000–01 academic year, the school is undertaking additional initiatives to strengthen capabilities in information technology and to enhance coverage of the global business environment.

### **College of Human Ecology**

The curriculum of the College of Human Ecology is divided into two major components. The first includes the college distribution requirements, intended to expose students to a broad range of fields and disciplines covering a strong liberal arts foundation and an introduction to more-applied disciplines. The

second component includes the academic major and accompanying requirements, designed to ensure that fundamental material in the specific topics becomes part of a student's academic experience. Majors are also allowed to impose specific course requirements within the broader college distribution requirements.

Four years ago, the college revised its distribution requirements. That revision included a general statement of social-science course requirements, an affirmation of a physical- and biological-science requirement, the addition of a quantitative-understanding requirement that can be met with either mathematics or statistics, and a humanities requirement. Most of the college's departments use these requirements to suggest or require specific courses for students in their major. For example, students majoring in policy analysis and management (PAM) are required to take ethics as a way of meeting the humanities requirement. During the 1999–2000 academic year, the college discussed adding an ethics requirement to the array of distribution requirements for all its students. After careful consideration, it was decided not to impose such a college-wide requirement. Most departments incorporate ethics into courses required for their majors, or they follow the example of PAM and mandate ethics as one of the college distribution requirements.

For the past two or three years, there has been considerable discussion about the possibility of developing a required course that has a multicultural focus. Although there is general agreement that students should be exposed to multicultural ideas, there is little college-wide agreement about the specific content of such a course. Most departments have included aspects of cultural differences in ways appropriate to the specific subject matter of their majors.

Because the major fields of study are very important in the College of Human Ecology, much curricular discussion is focused in the departments and among those affiliated with each major. Most majors have undergone recent revision, and two—human biology, health, and society (in the Division of Nutritional Sciences), and policy analysis and management—have been added in the past three years. Also three majors—human service studies, consumer economics and housing, and policy analysis—have been retired. Several majors have added concentrations or “tracks” to enhance their programs. The college will continue to make those sorts of curricular changes.

### **School of Industrial and Labor Relations (ILR School)**

In the early 1990s, the School of Industrial and Labor Relations completed a comprehensive review of its undergraduate curriculum. (There is only one undergraduate major in the ILR School.) Overall, the resulting modifications made the curriculum more “international,” more concentrated in the liberal arts, and somewhat more flexible for ILR students. The following major changes were implemented:

- Adding a Western-intellectual-tradition distribution requirement and a cultural-perspectives distribution requirement (the latter focusing on

cultures different from one's own). These two requirements replaced a single humanities requirement—and drew a sharper distinction between “Western” and “non-Western” cultures.

- Encouraging the study of foreign languages by (a) leaving space for an elective in the freshman year and (b) allowing students who take foreign languages to count those courses as ILR electives. Many ILR students want to continue taking a language started in high school, but the old curriculum was so loaded on the “front end” that they could not do this, and prior to these changes, such courses could only count as general electives.
- Requiring that one of the ILR elective courses taken must be offered by the International and Comparative Labor Relations Department (again, a focus on international issues).
- Mandating a science/technology distribution requirement (there was none before) and requiring that all ILR students pass a mathematics competency exam.
- Requiring a one-credit Freshman Colloquium. The purpose of this course is to connect incoming ILR students to a faculty advisor, to each other, and to the ILR School and Cornell as a place to live and learn, and to introduce the subject matter of the ILR School. The course entails a site visit to a nearby manufacturing facility, and it also is a part of the ILR School's program to discuss the issue and merits of diversity.
- Eliminating required courses in introductory psychology, accounting, and upper-division organizational behavior. The ILR School now encourages accounting by allowing students to take such a course as an ILR elective. The other courses were deemed redundant.

### **Ethics**

As evidenced by many of the references in the Cornell college-curricula reviews, the study of ethical reasoning has emerged as an important component in many education programs. In some cases—e.g., in the College of Engineering—study in ethics is required by outside accrediting bodies. In other cases, the college faculties have determined that such study is important, and have built it into distribution requirements. Exposure to ethics and ethical reasoning is also embedded in some established courses. Such widespread agreement and focus on a field of study is a good way to enable students in all of Cornell's undergraduate colleges to share an intellectual experience.

To provide support for the development of such courses and to draw together faculty members engaged in the teaching of ethics, Cornell has strengthened the Program on Ethics and Public Life (EPL). This program, based in the College of Arts and Sciences, serves the entire University and is designed to bring systematic thinking to the ethical dimensions of specific public issues and to offer

interdisciplinary courses in ethics. It also provides support for curriculum discussion across the colleges.

With a new endowment in place, and support from the Pew Foundation, the faculty of the EPL program has been expanded. The full-time faculty now numbers two and a half, including a new director, Michele Moody-Adams, the Wyn and William Y. Hutchinson Professor at Cornell. More than a dozen other faculty members from across the colleges are associated with the program. Together they are exploring the following possibilities or proposals:

- Courses in ethical reasoning. These courses would be aimed at engaging students in a discussion of significant and recurring questions of choice and value that arise in human experience, and introducing them to the important traditions of thought that have informed such choices in the past. The goal would be to enlarge students' awareness and understanding of the nature of ethical thought and practice. Courses would likely be offered within discipline-based departments to encourage ethical inquiry across the curriculum.
- Courses or seminars focusing on individual and social responsibility. The goal would be to help prepare students for their roles and responsibilities as individuals, as citizens in a democratic society, and as citizens of a world community, as well as to continue to sharpen and refine their moral perception.
- Courses in practical ethics relating to students' interests and/or fields. A number of areas of emphasis for integrating ethics into applied fields of study exist at Cornell. Students in the sciences and engineering might elect a course on the ethical challenges of technological changes. Students in biology might elect a course on bioethics. Students in environmental science or natural resources might elect a course on environmental ethics and responsibility. Students in hotel administration might elect a course on business ethics.

To accomplish these goals, a number of Cornell departments will seek support for professorships that include ethics, resulting in appointments to the relevant departments and in affiliations to the Program on Ethics and Public Life. The recent establishment of the Harry and Sue Bovay Professorship in the History of Ethics and Professional Engineering has resulted in a national search for a bioethicist for this new position. Other possibilities are professorships in ethics and information sciences or in ethics and government. In addition, discussions are under way about developing summer workshops or seminars for faculty members who want to incorporate ethical inquiry and discussion of ethical problems into existing courses.

There also has been considerable discussion about introducing all new Cornell students to ethical reasoning. The committee examining the programmatic focus of the new Residential Initiative for freshmen proposed offering a mini-course on ethical reasoning at the start of the freshman year (see the section "Living-

Learning Environment” below). That proposal was jettisoned primarily because offering a mini-course during the first part of the freshman fall semester was deemed unlikely to encourage sustained intellectually rigorous ethical reflection. A more expansive discussion has since ensued, focusing on how to develop lasting and more-substantive instruction in ethics courses across the curriculum and throughout the undergraduate experience. As plans are being discussed for the living-learning houses on west campus for sophomores and upperclass students, ethics as a theme in sophomore writing seminars is under consideration by the director of the John S. Knight Institute for Writing in the Disciplines, the dean of the College of Arts and Sciences, and the provost. It is apparent that ethical reasoning can serve as an integrating theme for students across the campus.

### Undergraduate Research

Making Cornell the best research university for undergraduates sets an expectation that undergraduate students engage directly in the research enterprise, either through their own work or through participation in a faculty research project. As discussed in Chapter 1 in the section on undergraduate education, undergraduates *are* involved in such efforts at an accelerating pace at Cornell.

One means of spurring and supporting such involvement is the Cornell Presidential Research Scholars Program. These student scholars are selected as entering freshmen on the basis of their prior independent work in research or in the creative process. As freshmen, they are paired with a faculty member in a field of study that is of interest to them, and they begin participating in the research process. Many of these students publish papers on their findings while they are still undergraduates.

Similar opportunities for intensive research experience exist in materials science, in the biological sciences through the Hughes Scholars Program and Undergraduate Research Program, and through summer research experiences for undergraduates (REUs) supported by the National Science Foundation. Together with the efforts of the Cornell Undergraduate Research Board, these programs extend opportunities for undergraduate research across the academic disciplines.

### ADVISING

One challenge facing a large and decentralized university like Cornell is how best to help students, especially first-year students, connect to the faculty and the intellectual life of the campus. Programs that encourage student contact with faculty members outside the classroom can positively affect students’ attitudes toward college; academic motivation, aspirations, and achievements; and intellectual and personal development. The academic-advising relationship offers an excellent opportunity for out-of-class contact for faculty members and

students, and is often the only systematic way to engage new students in discussions about exploring fields of study and career goals.

As described in more detail in Chapter 2—in the section on recent surveys of Cornell students—freshmen, sophomores, and graduating seniors express more satisfaction with their academic-advising experiences at Cornell than do students at peer institutions, yet they are less than satisfied with pre-major advising. Therefore, Cornell’s Academic Advising Committee, appointed as part of the University’s review of undergraduate education, focused its study on first-year and pre-major advising.

The committee’s fundamental premise was that all Cornell students should have an advising relationship that promotes their academic integration into the intellectual community of Cornell, into their specific college, and, in some cases, into a specific academic department. Such connections should occur in an atmosphere of mutual interest and concern for the students. This relationship is the standard for advising that is recommended across the campus.

The challenge for making this a reality at Cornell has at least three dimensions. First-time undergraduates are often unsure of what to expect of the advising relationship, and the faculty advisors often do not know what to provide. For students, the relationship is often understood to be one that exists only for course approval, and for that reason, students engage little with faculty advisors beyond seeking signatures. For the faculty members, the role of academic advisor is but one of many, and it carries all of the difficulties associated with inter-generational relationships.

Another dimension of the challenge is the difficulty entailed in matching a student with a faculty member in the area the student identifies as a prospective major. In two of Cornell’s largest undergraduate colleges—the College of Arts and Sciences and the College of Engineering—students do not declare a major until sometime in their sophomore year. Additionally, even students who indicate an intended major at the time of application early in their senior year in high school often change their minds by the time they matriculate. Thus, a common ground of intellectual interest may not exist.

Moreover, students are assigned to faculty advisors whom they have not previously met, and there are obviously instances in which the “chemistry” between the two parties just does not work.

The Academic Advising Committee focused on several areas that were identified as critical to creating a successful advising program and student-advisor relationship:

- advisor selection and training
- information for students and advisors
- orientation programs and first-semester courses
- student-support services and early-warning programs
- incentives and rewards
- assessment

Each of those components is believed to be important to the fundamental goal of achieving advising relationships in which the students and faculty members involved can establish, and benefit from, an atmosphere of effective mutual interest and concern.

Provided below is a synthesis of best practices and current initiatives in each of those critical areas across Cornell's seven undergraduate colleges, along with recommendations for further enhancements.

### **Faculty-Advisor Selection and Training**

Each of Cornell's seven undergraduate colleges involves faculty members, professional staff members, and continuing students in advising first-year students. Professional staff members often are responsible for coordinating student-orientation programs and the faculty-advising program (e.g., preparation of advising materials for students and advisors, advisor training, etc.). In some colleges, professional advisors also assume primary advising responsibilities for new students during orientation. In other colleges, faculty advisors and professional advisors have complementary roles.

Typically, faculty advisors assist students with course planning for the major, exploration of emphases within the major, and preparation for graduate school or career options. They spend less time advising students on academic or personal problems, instead referring them to the appropriate campus offices for help, such as the college advising offices, Counseling and Psychological Services, and Cornell United Religious Work affiliated chaplains. Moreover, where complicated exceptions to college requirements are sought, faculty advisors also tend to refer students to the college offices for guidance. In that way, the staff in the college advising offices can consistently apply policies and procedures.

Student advisors, if appropriately trained, can be significant assets to colleges in integrating new students into the culture and academic life of the college. They generally are enthusiastic and committed to the college, and bring a valuable student perspective to the advising role. Student advisors are involved in many different ways across the colleges. For example, in engineering they assist the faculty in Engineering 150 classes, and in biological sciences they are trained to function as advisors for students interested in biology.

Faculty members who are genuinely curious about, and interested in, the lives and transitions of students of this age make the best first-year advisors. Ideally, faculty members who are advisors would also teach a course in which their student advisees are enrolled. That shared experience and interest can enhance the success of the advising relationship.

Unfortunately, at most institutions of higher education, faculty members receive little formal training as advisors, despite their need to acquire information and skills to become effective advisors for first-year students. Effective training programs can provide faculty members with information that is important for advising first-year students, including college and department requirements,

course-placement guidelines, common problems that new students encounter, college rules, and student-support services. However, rarely do they include a discussion of the affective or relational aspects of advising, such as questioning and listening skills, referral skills, and development theories that describe and explain the intellectual, ethical, and social changes that typical students experience during the college years. Faculty awareness of student-development issues is important, because those issues can affect students' academic performance and progress.

At Cornell, there are several examples of "best practices" in faculty-advisor training already under way:

- The College of Agriculture and Life Sciences has a faculty-advisor training program that is conducted by staff members in the advising office each fall. New faculty advisors are given a book on advising and mentoring: *Advisor, Teacher, Role Model, Friend*, produced by the National Academy of Sciences.
- The College of Engineering offers a workshop prior to the beginning of each fall semester for faculty members involved in first-year advising. All faculty members who teach in the Engineering 150 first-year seminar are required to attend the training program. The advising office coordinates this program and prepares training and resource materials.
- The College of Arts and Sciences conducts an optional training program for faculty advisors each fall. The college implemented several initiatives during the 1999–2000 academic year to improve freshman advising. An advisory committee consisting of experienced and successful faculty advisors was established to help shape the faculty-advisor program. The goal of the committee was to recruit a cadre of interested and committed faculty advisors for first-year students, to increase attendance at the faculty training program, and to revise the existing faculty-advising manual and training program to incorporate the goals for effective first-year advising outlined by the Academic Advising Committee. Outreach efforts were also started to build collaborative relationships between the academic departments and the central advising office in the college.
- The Office of Undergraduate Biology conducts training sessions for new faculty advisors and for all student advisors working with first-year students interested in majoring in biology. The program pairs a selected and trained junior or senior biology major as a student advisor with a biology faculty member. The student advisor does much of the informational advising. The faculty member provides backup and is available for the kinds of questions that the student advisors are not able to answer. This approach makes a virtue of necessity. Since there are so many undergraduates interested in biology at Cornell, there are not enough qualified faculty members available to advise these first-year "prospective" majors.



- The Division of Nutritional Sciences offers advising workshops to faculty members who advise students in that division.

The Academic Advising Committee recommended that all colleges implement an effective training program for everyone (faculty and professional staff members, and continuing students) who is involved in advising first-year students. This training would provide all advisors with adequate resources and information to carry out their advising responsibilities (e.g., advising manual, information updates, referral sources, etc.). Participation in the training would be voluntary, but administrators would work with and through departments and department chairs to encourage attendance. The training program would make explicit the responsibilities of faculty members *and* students in the advising relationship, and would be guided by the colleges' goals for academic advising.

### **Information Provided to Students and Advisors**

Clear and accurate information about requirements and academic offerings is essential to advisors and advisees. The College of Engineering, the College of Human Ecology, the School of Hotel Administration, and the Division of Nutritional Sciences publish their own student handbook, which provides first-year students with comprehensive information they will need throughout their college years. The College of Arts and Sciences and the School of Industrial and Labor Relations include this information in the University's *Student Handbook* published by the Office of the Dean of Students. The College of Agriculture and Life Sciences distributes a set of handouts to its new students during orientation. These materials typically describe academic programs in the college, graduation requirements, course-registration and student-records issues, special programs (such as independent research, the honors program, and study abroad), academic advising and student services, opportunities for career and professional development, and, in some cases, responsibilities of the advisor and advisee.

Since most students now consult the Web for information, almost all colleges also publish the materials contained in student handbooks on their Web site, and all are encouraged to do so. Ongoing access to this information is crucial for students and advisors, because requirements change and questions emerge long after the initial information is provided. What remains to be done is linking the information about degree and major requirements to the electronic course-registration process, to help both student and advisor with timely access to accurate and complete data. It is hoped that the initiation of the student-administration-system project, which will work first with student records, will address this need.

### **Orientation and First-Semester Advisor/Advisee "Courses"**

All colleges offer orientation programs that introduce students and their parents to the Cornell academic experience. Though the content and format of these orientations vary depending on the size, structure, and characteristics of each college, most orientation programs present general college and department

## CHAPTER 4: Undergraduate Education

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information in large-group sessions. Students then meet individually with their academic advisors to discuss first-semester course plans as well as academic interests and goals. In addition, most colleges have student advisors meet with first-year students during orientation and provide yet another source of support and guidance.

One-week orientation programs are important, but they are inadequate in helping new students make a successful transition from high school to college. Consequently, orientation activities are often extended throughout the first semester or first year. These programs can range from a mini-course that covers information on academic and student-life issues, to more-complex programs that extend throughout the semester.

The College of Engineering, the School of Industrial and Labor Relations, the College of Agriculture and Life Sciences, the Division of Nutritional Sciences, and the College of Human Ecology's Department of Human Development have established first-year courses to facilitate new students' integration into the University. These classes are credit-bearing and meet once a week. The faculty members who teach these courses also function as advisors to the freshmen enrolled in them.

Engineering 150 is a one-credit course in which all engineering freshmen enroll. A group of first-year students meets each week with a faculty advisor and one or two peer advisors who are usually juniors or seniors in the college. The most significant aspect of this class is the natural way in which faculty members and new students come together for a desirable institutional goal: to help new engineering students become members of the college community and learn about the various engineering fields, program requirements, research opportunities, and student-support services. In addition, from the outset of their college careers, engineering students have an opportunity to get to know a faculty member. Thus the possibility for the development of a strong faculty-mentoring relationship is greatly increased.

The School of Industrial and Labor Relations' one-credit orientation/advising course meets once a week for the first six or seven weeks of the semester. All freshmen enroll; faculty members serve as the academic advisor to a group of first-year students in the course. Through this experience, ILR students also are introduced to the field of industrial and labor relations through site visits to nearby manufacturing plants.

The College of Agriculture and Life Sciences established a course for its new students, *Transition and Success at Cornell*, several years ago. The course is an elective, carries one credit, and is team-taught by a faculty member and by the director of career services in the college.

In 1998–99, the Department of Human Development in the College of Human Ecology implemented a one-credit course for first-year students. It is an elective and gives new students an opportunity to meet with a faculty member in small-group sessions. The Division of Nutritional Sciences offers a similar one-credit

course, which serves as an introduction to nutritional sciences and provides information on career opportunities in the field.

In years past, the College of Arts and Sciences experimented with a freshman colloquium in an attempt to meet these same objectives. For a variety of reasons, the colloquium never made it beyond the experimental stages. The college is now contemplating a pilot program in which students will be placed in a freshman seminar and then advised by the instructor of that seminar.

The opening of the new north-campus residential community for freshmen in fall 2001 will provide special opportunities for faculty members to develop advising and mentoring relationships in “living-learning” environments, where academic activities and discussions can flourish alongside social and recreational pursuits. Recommended incentives and rewards to encourage faculty members to participate in these living-learning programs are set out below.

### **Student-Support Services and Early-Warning Programs**

A range of services on campus provide academic, personal, and career support to Cornell undergraduates throughout the academic year and throughout the students’ time at Cornell; some begin operating even before the students formally matriculate. Many of these programs complement the work of individual advisors or advising offices.

Through the Pre-Freshman Summer Program, 175 entering Cornell freshmen are given a six-week start on their academic careers. Students admitted through the Higher Education Opportunity Program (HEOP) and the Educational Opportunity Program (EOP) of New York State are required to attend this program. All participating students are given funding for tuition, room, board, and personal expenses. During their time on campus, the students complete at least one course they otherwise would have taken in the fall of their freshman year and are introduced to other course offerings through the Learning Strategies Center. This program is co-sponsored by Cornell’s Office of Minority Educational Affairs (OMEA) and Center for Learning and Teaching (CLT). OMEA also has staff members in each of the colleges who provide specialized advising services and referrals to underrepresented students who seek such assistance. Many colleges also assign successful upperclass minority students as peer advisors to incoming students.

All colleges have “early warning” programs for first-year students. Staff members in the college advising offices contact instructors of freshman-level courses and ask them to identify students who are experiencing academic difficulties in their classes. Targeted students are then asked to meet with their advisors and may be referred to any one of a number of offices that can provide extra assistance.

The Learning Strategies Center in the Center for Learning and Teaching extends its academic support beyond the summer program in a wide array of offerings during the academic year, including supplemental-instruction courses, especially

## CHAPTER 4: Undergraduate Education

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in mathematics, science, economics, and statistics; learning-strategies and study-skill sessions; and tutorial programs. Recently, the Student Disability Services unit was added to the Center for Learning and Teaching, thus integrating that unit's work with hundreds of students who have physical, learning, and temporary disabilities and the work of the CLT. Student Disability Services also helps students advocate for their own needs, working with their instructors to provide the accommodations that will allow them to reach their full potential.

Academic support for students extends well beyond the Center for Learning and Teaching. The Department of English offers a widely used writing workshop for all students; the Office of Undergraduate Biology maintains a well-equipped support-services center, as does the Department of Mathematics. All of these are accessible to students who want to use these services. The College of Engineering offers the Academic Excellence Workshops series and also sponsors the Women's Program in Engineering, established in July 1991 to recruit, enroll, and retain an increasing percentage of women both in Cornell engineering programs and in the engineering profession. In addition to specialized advising services, the program offers free tutoring to help women engineering students keep up and get ahead in key freshman and sophomore courses.

For students who are struggling to find their way through Cornell's complex of undergraduate schools and colleges, the Internal Transfer Division (ITD) offers extensive guidance and support. It is not unusual for hundreds of students to seek advice from that unit, and every year about 100 eventually enroll in the division while preparing to transfer from one Cornell college to another. (About the same number of students every year transfer directly from one college to another, when their course selection and academic performance qualify them to do so.)

Cornell Career Services is available to students in all colleges, including the Graduate School, and can help clarify interests, identify suitable academic programs, and prepare career paths. Each of the undergraduate colleges has career-services programs that provide advice, counseling, and links with appropriate faculty members and alumni. These connections are made both in person and through an advanced and expanded set of Web-based information services. There also are specialized support services such as the Health Careers Evaluation Program and pre-law advising programs.

In addition to supporting students' academic and career development, Cornell provides personal health and wellness support through a number of venues. Students themselves run several peer-support programs through the Office of the Dean of Students. The Empathy, Assistance, and Referral Service (EARS) provides personal and telephone counseling and referral. A number of peer-support programs dealing with lesbian, gay, bisexual, and transgender issues are offered through HAVEN. Students and professional staff members living in the residence halls provide front-line support for student residents on a variety of issues.

Gannett: Cornell University Health Services—the University’s comprehensive student-health center—recently received a full three-year accreditation (with the highest rating possible in all seventeen categories) from the Accreditation Association of Ambulatory Health Care. During the 1999–2000 academic year, Gannett received more than 74,000 visits to its medical and psychological clinical programs from 72 percent of the student population. In addition, Gannett has an extensive health-promotion program that targets such issues as reducing alcohol and drug abuse and eating disorders.

In fall 2000, planning began for a new support service, the Student Assistance Program. This program is designed to strengthen Cornell’s ability to reach out to students who are not accessing the services they may need, and to actively connect them with such services. Through the development of training modules, consultation protocols, and innovative administrative procedures, the Student Assistance Program will develop expanded networks of faculty and staff members and students who are capable of identifying and intervening with students in distress.

### **Incentives and Rewards for Faculty Advising, Mentoring, and Teaching**

Most of Cornell’s undergraduate colleges give some consideration to their faculty members’ advising activities when making tenure and promotion decisions, a practice that Cornell strongly encourages. In addition, several of the colleges regularly evaluate faculty advising and use the results in the annual review process and in determining recipients for prizes and other rewards. The Academic Advising Committee found ample evidence that many faculty members derive great satisfaction from advising, but concluded that more could be done to recognize the efforts of those devoted to advising and to working with students outside the formality of the classroom.

At the University level, incentives for improving faculty-student interactions include the Faculty-in-Residence Program, whose participating faculty members receive room and board in residence halls in exchange for their direct involvement with the student residents; and the Faculty Fellows Program, whose participating faculty members have dining privileges in residence halls and Cornell Dining facilities in exchange for their involvement in living-learning programs and activities with student residents. The Stephen H. Weiss Fellowships—established in the fall of 1992 by the then-chairman of Cornell’s Board of Trustees Stephen H. Weiss—recognize sustained contributions of tenured faculty members to undergraduate teaching and advising at Cornell. Weiss Fellows receive \$5,000 each year for five years and hold the title as long as they remain at Cornell.

The College of Agriculture and Life Sciences, the College of Arts and Sciences, the College of Engineering, and the College of Human Ecology each give annual awards to faculty members who provide exemplary advising services to students. The College of Arts and Sciences also recognizes faculty members in the humanities and social sciences who demonstrate excellence in teaching and show great promise as scholars. The Robert and Helen Appel Fellowships for

## **CHAPTER 4: Undergraduate Education**

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Humanists and Social Scientists are awarded to the most outstanding faculty members in those fields upon their promotion to associate professor or reappointment to a second three-year term as assistant professor. The Appel Fellowships enable the recipients to take a year's sabbatical at full salary. The School of Industrial and Labor Relations offers its faculty members \$1,000 for teaching a colloquium and serving as advisors for first-year students.

The Academic Advising Committee recommended that additional incentives and awards for faculty members be put in place and that these be aimed specifically at improving first-year and pre-major advising in the colleges as well as in the new north-campus residential community. Their recommendations include:

- Incorporating academic advising as a separate item in each faculty member's yearly review.
- Establishing a University fund to promote the creation of innovative first-year advising and mentoring programs and to assist colleges and departments with piloting those programs.
- Providing additional advising awards that include both financial rewards and public recognition. (A major step in accomplishing this goal came in May 2000 with a generous gift from Cornell trustee Stephen Ashley in honor of Professor Kendall Carpenter. This gift will make possible a total of fifteen \$2,000 awards each year to faculty members who provided exemplary advising to freshmen.)

### **Assessment of Academic-Advising Programs**

Evaluating academic-advising programs is essential. Assessment of academic-advising programs for first-year students allows colleges to:

- identify strengths and weaknesses of advising programs and gather information on how they can be improved;
- provide important feedback to college and advising administrators that can be used to justify maintaining or improving current programs or seeking additional funding to develop new programs;
- use this information for strategic-planning purposes to ensure that academic advising is central to undergraduate education; and
- relate advising programs to desired student and institutional outcomes (e.g., student academic success, choosing a major, student satisfaction).

Evaluation of individual advisors is equally important and enables colleges to provide helpful feedback to faculty and professional advisors ("formative" evaluation). In addition this practice makes it possible to include this information in other faculty evaluation procedures (promotion, tenure, annual reviews) or for purposes of making advising awards.

The assessment of advising programs needs to be carried out on a regular basis to ensure that advising goals are being met and that problems in advising are identified early. At the institutional level, the survey research program described in Chapter 2 provides to individual colleges useful but limited data on students' overall satisfaction with advising programs. Some examples of more-detailed assessment at the college or department level are described below.

- The College of Engineering annually has students complete surveys to assist in the evaluation of freshman advisors; upperclass students evaluate field advisors every three years. In addition, evaluations of Engineering 150 are carried out each year both by faculty advisors and by students enrolled in the course.
- Students in the School of Industrial and Labor Relations evaluate the freshman colloquium (ILR 150) annually, and their comments are used in planning next year's program.
- The College of Agriculture and Life Sciences recently completed a comprehensive assessment of its undergraduate program, including academic advising, and published a report that identified the strengths and weaknesses of its advising services, together with recommendations for improvements. The college regularly seeks student input on advising.
- In 1998, a student organization in the School of Hotel Administration surveyed students to evaluate the school's advising services. Students were asked to rate both the importance and the actual performance of advising. The results were presented to college administrators and used to strengthen advising services.
- The College of Arts and Sciences surveyed sophomores and juniors in 1996 to identify their degree of satisfaction with academic advising in the college.
- The College of Human Ecology conducted a survey of students during spring 2000 to evaluate student satisfaction with the quality and effectiveness of advising across the college.
- In 1999–2000, the Office of Undergraduate Biology's Advising Center developed its own evaluation instrument to assess student satisfaction with advising and to elicit suggestions for enhancing advising.

The Academic Advising Committee recommended that each college establish a procedure for periodically evaluating advising programs and advisors, to determine the extent to which the advising goals outlined by the college are met at the department or college level. The committee further recommended that the results of these assessments, including proposals and initiatives for improving first-year advising, should become part of the annual report of the college submitted to the provost.

As Cornell moves forward with its intent to provide the best possible undergraduate education at a research university, we must continue to enhance first-year and pre-major advising. Given the decentralized nature of the Cornell undergraduate experience, such work must be done at the college level. Though each college faculty will need to determine how best to accomplish its specific advising goals within the nature and structure of its academic program, the Academic Advising Committee cites the following elements as essential to a successful program.

- Develop a clear statement of college goals for advising.
- Establish guidelines for the advising relationship for students and faculty members.
- Create an advising structure and opportunities to foster regular interaction between students and faculty members.
- Provide adequate training and resources.
- Evaluate advising performance (both for individual advisors and as a system) on a regular basis.
- Include an assessment of advising in the faculty tenure and promotion process.

The work of the Academic Advising Committee clearly demonstrates that there are pockets of advising success at Cornell. More needs to be done to share those advising best practices across the campus. The committee suggests that each college faculty review and discuss its advising services for all first-year students in light of the information gained in this review.

### **THE LIVING-LEARNING ENVIRONMENT RESIDENTIAL INITIATIVE**

One of the key sources of support for Cornell's effort to become the best research university for undergraduate education in the nation is the Residential Initiative plan for creating living-learning environments for undergraduates. This initiative seeks to make the residential experience a fundamental introduction to the University and a cohesive combination of student life inside and outside the classroom.

When it opened in 1868, Cornell University provided no residences for students, as its founders believed that they would be better prepared (and behaved) if they lived in private homes in the community. A few beds were available to students in the buildings that housed classrooms and faculty residents, but it was not until Sage College for Women was built in the 1870s that any student housing of significance appeared on the campus. No men's residences were built until 1919, more than 50 years after the university's opening. Today, fewer than half of



## CHAPTER 4: Undergraduate Education

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Cornell undergraduates reside in campus residence halls, and only freshmen are guaranteed housing on campus. More than a score of reports have been written in the last few decades addressing the style, content, and structure of the student residential experience at Cornell. In May 1996, the Board of Trustees defined a goal for that residential experience:

*Cornell University will provide supportive residential communities that contribute to an intellectually engaged and socially responsible campus environment.*

In recognition of the importance of the residential experience and its link to the academic mission of the University, the board established seven principles:

- *Cornell will continue to provide undergraduates a broad range of housing alternatives, including cooperatives, fraternities and sororities, program houses, and both single-sex and co-educational residence halls.*
- *On-campus housing will be guaranteed to freshmen, sophomores, and transfer students who wish to live on campus. Upper-division students will be encouraged to remain in the full range of university-affiliated housing as long as possible.*
- *Residents will serve as active participants in the design and creation of programs offered through the residential communities and play an active role in the governance of those communities.*
- *Faculty will be actively engaged in the life of residential communities, both as faculty-in-residence and as faculty fellows.*
- *Residential communities will include sufficient numbers of upper-division students to serve as mentors to newer students and to help provide a sense of continuity for the community.*
- *Residential communities will be small enough to create a supportive environment and appealing enough to attract more upper-division students than currently live on campus.*
- *The exercise of individual choice from among a wide range of housing alternatives remains an important principle in the provision of residential opportunities. Since the university has an important interest in assuring that freshmen have the widest possible exposure to the full range of intellectual, cultural, and social opportunities available at Cornell, it will provide options for these students accordingly.*

These principles set the direction for Cornell's current focus on the living-learning environment. To implement this policy and to create a residential experience that increases faculty-student interactions and reinforces the values for which the University stands, President Rawlings outlined a plan of action in October 1997. This plan called for:

## CHAPTER 4: Undergraduate Education

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- moving all the freshmen to north campus and reserving the other residential areas for sophomores, juniors, and seniors
- constructing new residential facilities on north campus to fulfill the guarantee of housing for freshmen, sophomores, and transfer students
- improving the living and learning environment on west campus by making it architecturally and programmatically attractive to upper-level students
- requiring all residences on north campus to have a substantial proportion of freshmen in them
- implementing fully the Fraternity and Sorority Strategic Plan
- implementing this residential initiative by 2001, and
- requiring that the resources to implement the comprehensive plan not come from other sectors of the University.

This plan finally concluded the years of study on the topic of student housing by setting a clear, well-defined direction for the University. Moreover, it created a focus for staff and faculty members, and students, who are devoting their time and attention to improving the undergraduate experience.

### North Campus

Thus, in October 1997 the Residential Initiative was inaugurated. To guide its implementation, an executive group involving staff members from the areas of student and academic services, facilities, and finance was appointed, along with full-time staff members assigned specifically to lead the Residential Initiative. In addition, the trustees created a task force on student residential communities to oversee the transformation of the residential experience at Cornell.

The deadline of fall 2001 was set for housing all freshmen on north campus, and the immediate focus of the Residential Initiative was on the site plan and design for the new residential and community spaces, a \$65 million project. At the core of the project are two new residence halls with 558 beds for students and four apartments for faculty members in residence and residence-hall directors, and a community commons with a marketplace-style dining facility capable of serving more than 600, a fitness center, and extensive program space. In addition, several existing north-campus residence halls have been renovated, and two new faculty-in-residence apartments have been added to accommodate program houses that have moved to north campus so they could continue to have freshmen residents.

Housing all freshmen in one part of the campus will help reduce the barriers that separate students from each other, and enable each freshman class to develop its own sense of identity and community. It will also allow Cornell to improve the

effectiveness of programming for the entire class and expose the freshmen to the full intellectual and cultural richness of the University and of their classmates. To support those goals, several program initiatives and reviews were launched.

During the 1997–98 academic year, a committee of faculty and staff members, and students, identified Residential Initiative programs that could be put in place in the short term. The existing Faculty-in-Residence and Faculty Fellow Programs were expanded, a special academic focus was developed for Mary Donlon Hall, and new efforts involving emeritus faculty members were planned. Other initiatives established important connections for the freshmen through orientation activities, alumni involvement, and expanded interactions with the existing faculty programs in the residential communities. What was lacking, still, was a coherent structure for providing a shared intellectual experience for first-year students. Creating such a program was the focus of the north-campus academic-issues subcommittee, chaired by David Powers, professor of Near Eastern Studies.

### *Evening Examinations*

One of the early findings of that subcommittee was the impact that students' academic schedules had on their ability to engage in intellectual activities beyond what was required for their course of study. Stresses commonly emerge in a student's first semester caused by making the academic transition from high school to college, and Cornell's practice of holding evening preliminary examinations exacerbates that situation. In a study conducted to quantify the extent of such exams, the committee learned that more than 550 evening exams were given during the academic year, predominantly in October-November and March-April. The exams are concentrated in the sciences, engineering, mathematics and economics, though many other departments use them as well. More than half are in courses that are typically taken by freshmen and sophomores. A comparable number of review sessions also are held in the evening, further limiting time available for students to interact informally with faculty members or with other students.

The rationale for holding such exams includes gaining additional class time to cover more material, having the opportunity to give longer exams than the typical 50-minute class period permits, and scheduling different sections of the same course for a single exam. Though some of these goals are worthwhile, the subcommittee concluded that the increased stress they placed on first-year students and their interference with meaningful interactions were of greater concern. As a result, the subcommittee recommended that evening exams given simply to gain more class time or to allow longer exams should be eliminated for first- and second-year students. It also suggested that departments that give evening exams in courses with multiple sections reduce or eliminate that practice as well. Ideally, such changes could be in place by fall 2001. The subcommittee concluded that with less-structured and restrictive schedules, students would have opportunities to participate in more informal academic or intellectual activities with fellow students and faculty members.

### *Ethics and Student Life*

The subcommittee also developed a proposal to introduce all new students to ethical reasoning through a mini-course experience at the start of the freshman year. The intent was to use assigned readings and lectures, and theatrical presentations and films, to raise the students' level of awareness of ethics, deepen their understanding of ethical dilemmas they may face, and introduce them to ethical principles and frameworks that could play a role in their undergraduate education. It was hoped that such a program, beginning during orientation and extending through the first half of the fall semester, would give an increased academic focus to orientation as well as provide a shared academic experience in an area of study that many students might pursue beyond their freshman year.

Though the program was designed to be a key component of the new living-learning environment for undergraduates, several concerns emerged about the structure and content of the course as it was discussed across campus. The proposed course was deemed unlikely to encourage serious inquiry and discussion of the difficult and often controversial ethical challenges of contemporary student life. Moreover, there was some concern that combining discussion of ethical frameworks with issues of student life had the potential to reduce one set of discussions to the detriment of the other. Instead, several other plans to bolster faculty-student interaction are being considered.

### *Academic Connections*

The Freshman Writing Seminar program plans to offer several of its classes in seminar rooms and other spaces on north campus beginning in fall 2001. Discussions also are under way with several colleges about offering evening review sessions on north campus and, as noted in the advising section of this report, using the new facilities for faculty advisors' sessions with students. The intent is to bring appropriate academic experiences to the physical space where freshmen live, thus linking the learning environment with the living environment and providing greater opportunities for faculty members and students to interact informally beyond course offerings. It is hoped that a new space dedicated as a freshman resource center will facilitate such interactions.

Another focus for academic programming is the broad topic of "learning across differences," intended to encourage students to take full advantage of the diversity represented on campus. One way this might be accomplished is through a new initiative sponsored by the provost and the academic deans. They are selecting a reading that all new students will complete prior to enrolling. Students then will be assigned to small discussion groups led by a faculty member and including an upperclass student. The reading will introduce students to the excitement of academic life at the University and to the challenges and rewards of intellectual exchange in a diverse community. The Johnson Museum of Art, the Cornell Council for the Arts, and Campus Life also are collaborating on a number of Residential Initiative academic projects.

Planning is under way to involve Cornell's residential program houses more fully in the north-campus Residential Initiative. The eight program houses now located on north campus have chosen to continue to include freshmen as residents along with upperclass students. These program houses focus on curricular or co-curricular themes such as music, the arts, the environment, the African diaspora, Latino culture, American Indian culture, international cultures, and multiculturalism. The goal is to strengthen cross-residential-unit programming among all north-campus (i.e., freshman) residence halls and to provide a resource for co-curricular experiences for new students.

### **West Campus**

Discussion about west-campus residential communities for upperclass students began about eighteen months after President Rawlings announced the Residential Initiative. By fall 1999, a committee chaired by the then dean of students, John Ford, called for the transformation of west campus into a living-learning environment focusing especially on sophomores, with faculty leadership, staff support, student self-governance, and graduate-student participation. This idea built on earlier work done by Professor Isaac Kramnick in the mid 1980s.

When this proposal for a broad new direction in housing for upperclass students was accepted, the vice president for student and academic services appointed a second committee, the West Campus Program Planning Group, to translate the vision into a workable plan. The work of this committee, chaired by Professor Kramnick, was strengthened greatly by the announcement of a \$100 million commitment to the west-campus initiative in late fall 1999. In the spring of 2000, the group issued its report and recommendations, *A Vision for Residential Life*. The goal of the initiative is to create a residential community of students and faculty and staff members that will foster personal discovery and growth, and nurture scholarship and creativity, in an environment of collegiality, civility, and responsible stewardship.

The planning group's report is based on the following presuppositions:

- Learning that occurs outside the classroom is as important in college life as the knowledge acquired in courses.
- Students can learn as much from each other as they can from the faculty.
- Learning in college happens everywhere: in class, at dinner, in the residence halls. (Cornell University's founders, Ezra Cornell and A. D. White—borrowing from the Oxford-Cambridge model of residential colleges that assumed a seamless continuum between formal and informal learning and mentoring—established just such an environment at their new university by combining, in Morrill Hall, classroom and residential quarters for faculty members and students.)

## CHAPTER 4: Undergraduate Education

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- Faculty members affiliated with a living-learning house for upperclass undergraduates will benefit enormously by acquiring a deeper understanding of and involvement with the young men and women they teach.
- Students, in turn, through interaction with faculty members in an informal setting will come to view the faculty in a more encompassing and multi-dimensional light.
- Most importantly, the living-learning houses will help Cornell fulfill its primary mission: producing intelligent and thoughtful graduates who will become leaders in the community of the United States and the wider world beyond.

The West Campus Program Planning Group expanded on the recommendations of the Ford committee and focused on program structure, leadership, and content rather than on the design, construction, or reconstruction of physical facilities. They assumed that Cornell students should live in a community that is both residential and intellectual, one that presents an opportunity for close daily contact with faculty members and graduate/professional students. The group's specific recommendations are listed and expanded upon below.

- Develop a council to guide the program.
- Expand linkages with the colleges and other academic areas.
- Embed dining in the house system.
- Provide for strong house governance.
- Include graduate tutors and undergraduate peer counselors.
- Provide recreation and community opportunities to engage the whole west-campus neighborhood.

### *West Campus Living/Learning Council*

The West Campus Living/Learning Council consists of faculty and staff members and students associated with the west-campus program. The principal tasks of the council will be to create new opportunities for faculty members to engage as mentors, teachers, and leaders in the intellectual life of the west campus through its residential communities. The council will provide both the structural and procedural focus for nurturing the gradual and progressive implementation of the living-learning experience for Cornell's post-freshman undergraduates.

In early fall 2000, President Rawlings appointed the first West Campus Living/Learning Council. Its initial composition mirrored the proportional membership suggested by the planning group, but as the house structure is not yet operational, not all of the tenets for appointment to the council could be

followed. When the west-campus house system is fully operational, the council will be drawn from:

- ten faculty members with a faculty leader (house dean) and a faculty associate for each house (the president will designate a council chair from among the ten faculty members—the intent is to have each of the undergraduate colleges represented);
- five undergraduate students, with a representative from each house, chosen by the students of each house through the house governance structure;
- one graduate student chosen from among the graduate tutors working in the houses, who will represent all the houses;
- five staff members who will be the administrators (house directors) of each house; and
- at least three ex-officio members: the dean of students, the assistant vice president for student and academic services responsible for campus life, and a student liaison appointed by the Student Assembly.

The predominance of faculty members on the West Campus Living/Learning Council does not suggest an unequal partnership among faculty and staff members and students. It reflects the particular goals of the council to create new opportunities for faculty members to serve as mentors, teachers, and leaders in the development of the intellectual scope and fervor of the living-learning communities. It also reflects the renewed commitment of the faculty to form a partnership with the students and the staff to help fulfill those goals.

The council has been charged with the oversight and direction of the living-learning units on west campus. It currently has four committees focusing on academic programs, house administration, student services and house operations, and transitioning. Particularly in these early stages, the council will be an active partner with Campus Life in the transition planning for west campus. At present, it is presumed there will be five living-learning houses encompassing the 1,800 students who will reside on west campus.

### *Academic Programming*

One of the principal and early responsibilities of the West Campus Living/Learning Council is to develop diverse models for formal and informal academic programs. Important elements will include establishing collaborative relationships in the houses between faculty members and students, and determining the appropriate balance between social and academic life.

There are a variety of programs that will serve as models. The University of Pennsylvania has created a “preceptorial” system, in which students define a topic or theme they want to explore and then identify a faculty member or

members to offer one, two, or several sessions related to that topic. Stanford University has a well-defined sophomore seminar program. Options closer to home, such as the Cornell faculty-in-residence series of talks and mini-courses developed by Professor Andrew Bass (known as “brainstorms”), provide other examples. One already-defined initiative is a result of funding from the John S. and James L. Knight Foundation. The foundation endowed the new Sophomore Writing Seminar Program that will ultimately provide twenty-eight such seminars per year, dealing with a broad range of topics that are to reflect the faculty’s scholarly interests. It is hoped that some of the seminars will be based in the west-campus living-learning houses.

The West Campus Living/Learning Council will explore other academic-programming options as well, including recitation sections of large classes, informal seminars by faculty fellows, service learning courses, student-requested seminars by specific faculty members, and seminars and talks by distinguished visitors, including A. D. White Professors-at-Large. An atmosphere conducive to informal, more-spontaneous activities should be fostered as well. For example, offerings could include forums on contemporary affairs, discussions of burning issues of the day, film series, theater and music performances, and literary and poetry readings.

In addition, each house will have at least one apartment for campus visitors—such as A. D. White professors, artists, public figures, and alumni—who will reside in the house for a period of time and informally interact with students.

### *Dining*

Essential to building a student, faculty, and staff community in each house is a dining hall where informal interaction is encouraged in a natural setting. Efforts are already under way by Cornell Dining to explore strategies for efficient delivery of dining services to the houses. Suggestions include:

- Establishing a minimum mandatory meal-plan requirement (e.g., five meals a week). The mandatory-meal recommendation is rooted in the conviction that community is enhanced through mealtime interactions and discussions. In addition, such a requirement would make the program more feasible financially.
- Providing late-night dining in at least one house, especially Monday through Thursday nights, and late-evening snack options in all houses.

### *House Governance*

Key to the success of the house system is a model of self-governance that will enable the undergraduate house residents to develop a greater sense of ownership for their living environment as well as to experience leadership opportunities and take active roles in the programming for each house. A strong intra-house structure will foster interaction among the faculty, student, and staff



members relating to house policy and the establishment of rules and enforcement, thus reinforcing the ideal of partnership and community representation.

Each house will elect a house council composed of faculty, student, and staff members that is responsible for intra-house programming, policies, and rules. The senior member of the house council will be the faculty house dean, who will reside in the house and be accessible to all of its members. The dean will help focus the intellectual and social activities within the house and will work with and through the house council to provide engaging opportunities for full participation by all house members. The house council will include committees for charter and constitution, budget and finance, elections, community standards, programming (e.g., music, sports, dining, speakers), resident recruitment, and facilities. The chairs of the house committees will represent their committees on the house council.

### *Graduate Resident Tutors and Undergraduate Peer Counselors*

The planning group was nearly unanimous in believing that replacing undergraduate resident advisors with graduate- and professional-student resident tutors would best facilitate the integration of living and learning for upperclass undergraduates. Graduate resident tutors will link the undergraduates with the faculty and contribute through their academic specialties to the general learning community. The graduate- and professional-student tutors are to receive the same training presently required of undergraduate resident advisors.

In addition, house peer counselors will be in residence. The model for these positions will be the Office of the Dean of Students program for educating and training the peer counselors of the Empathy, Assistance, and Referral Service (EARS). This student training and education program will provide further student leadership-development opportunities and will align philosophically with the house council structure already discussed. Additional development of the peer-support program, including peer services such as in-house math tutoring, computer support, and library assistance, will emerge as planning continues.

### *Recreation*

A recreational facility would draw students from around the neighborhood and provide a center for program activities during the many years of construction required to transform west campus into the living-learning environment envisioned. The committee recommended that the construction of such a recreational facility should be the first step in the redevelopment of west campus. The recreational center should contain multi-purpose space to accommodate program delivery and social and community interaction.

The planning group also recommended that construction of the first living-learning house begin simultaneously with construction of the recreational facility

to signal the vitality of the west-campus program and to provide the impetus to fulfill the goals of the new community. Though the opening dates of the two facilities may not coincide closely, a tangible sign of the emerging new community will be critical to the initial recognition of the program as reality.

### *West-Campus Neighborhood*

Though the west-campus program is directed toward the development of five living-learning houses for approximately 1,800 upperclass students (primarily sophomores), it exists in a setting surrounded by other upperclass students living in fraternities, sororities, cooperatives, and apartments. The planning group sought to define the designated “neighborhood” and the goals of programs and services for students living near the living-learning houses. One objective is to help living-learning house members recognize that they are part of the greater University community. Literature on the formulation of college house environments cautions program developers to maintain a balance between the internal activities of a house and the “external” activities provided in the surrounding community. The planning group realized that the intellectual and social growth gained by interaction among the house members can be enhanced by interaction with others living in the neighborhood. The committee concluded that a natural way to forge living-learning houses’ connections with their neighborhood is the establishment of a recreation center, recommended above.

### **Fraternities and Sororities**

A third part of the president’s Residential Initiative focused on the full implementation of the strategic plan, created in 1997, for fraternities and sororities. Currently, there are sixty-five fraternities and sororities at Cornell; fifty-four have chapter houses. The strategic plan, developed by students, faculty, staff, and alumni, sets forth the vision, values, mission, and goals of the Greek system. It states that “the Greek system of Cornell University exist(s) to cultivate the intellectual, social and ethical development of our members in an environment of freedom with responsibility.” After delineating eight values, it defines the mission of the Greek system:

- Build a framework for the personal growth of its members by encouraging a commitment to social development, personal responsibility, and respect for others.
- Foster a sense of community within each chapter, the system, and the extended Cornell community.
- Nurture a view that the Greek system is a place for scholarship, leadership, and self-discovery.
- Provide a self-governing structure that both anticipates and responds to changing contemporary needs.

## CHAPTER 4: Undergraduate Education

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- Strive to make the Greek system a source of pride for the Cornell community, something that can be respected and accepted.
- Demonstrate a strong service ethic through ongoing support of the local community.

To achieve these goals, twenty objectives were defined in the areas of self-governance, social responsibility, facilities and financial management, perceptions, membership development, leadership development, and assessment. These objectives now serve as the basis for annual goal setting for each Greek chapter and an annual assessment of the chapter's effectiveness. Recognition and financial incentives are awarded to those that exceed the expectations, and consequences are in place for those not meeting them.

This plan has been highly effective in focusing the attention of the fraternities and sororities on the changes that are needed in several areas, and it also has given attention to the positive aspects that already exist. Several chapters now have faculty fellows associated with them, and each year a faculty-recognition event is sponsored in the fall. Extensive involvement in philanthropy and community service also is part of the Greek system. However, the system recognizes that the University's considerable investment in the development of west campus as a living-learning environment means that the system must reevaluate and refocus its activities. Therefore, beginning in spring 2001, a work group of faculty, staff, students and alumni is reviewing the strategic plan for fraternities and sororities in light of the Residential Initiative and will recommend appropriate modifications in the Greek system. Particular areas of focus will be strengthening the system's links with faculty advisors and its members' fiscal and facility management.

### SYNOPSIS

The attention being directed toward the Cornell undergraduate experience pervades the campus, involving faculty curriculum committees, staff planning, and student initiatives. In many areas, these groups are collaborating to help shape the University in the 21<sup>st</sup> century, modeling a planning process that may define our way of operating in the future. Though Cornell also is preparing to be competitive in the emerging world of technology-assisted education (see the special focus in Chapter 5), we are devoting even more attention to shaping the on-campus residential environment of our undergraduates. These efforts are spurred in part by increased competition with other research universities that also are investing in residential, student-life, and curriculum initiatives. More fundamentally, they are part of our response to the challenge issued by the president to become the best research university for undergraduate education in the nation.

**SELECTED REFERENCES AND SOURCES**

*A Vision for Residential Life*. Report of the West Campus Program Planning Group (May 9, 2000)

<http://ri.campuslife.cornell.edu/vision.html>

*Final Report of the Residential Communities Implementation Plan Steering Committee* (September 29, 1997)

[http://www.campuslife.cornell.edu/Residential\\_Initiative/final.report](http://www.campuslife.cornell.edu/Residential_Initiative/final.report)

*Final Report of the Residential Initiative North Campus Program Committee* (October 1999)

<http://ri.campuslife.cornell.edu/final.north/html>

*The Fraternity and Sorority Advisory Council Annual Report, 1999-2000* (August 31, 2000)

*Improving First-Year and Pre-Major Advising*. Preliminary Report of the Academic Advising Committee (September 2000)

*President's Report on Residential Housing at Cornell University* (October 8, 1997)

[http://www.campuslife.cornell.edu/Residential\\_Initiative/president.report.html](http://www.campuslife.cornell.edu/Residential_Initiative/president.report.html)

*Report of the North Campus Academic Issues Subcommittee* (Spring 2001)

*Transforming West Campus* (September 23, 1998)

[http://www.campuslife.cornell.edu/Residential\\_Initiative/west.html](http://www.campuslife.cornell.edu/Residential_Initiative/west.html)

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## CHAPTER 5

### Distributed and Distance Learning

#### OVERVIEW AND CONTEXT

Cornell has made a firm commitment to be a major participant in technology-mediated education. This chapter summarizes what Cornell has been doing with distance-learning technologies to prepare for a time when various forms of distributed learning will be the norm. This is a broad effort that is still very much in its nascent stage.

In October 2000, the Middle States Association Commission on Higher Education released a set of Draft Guidelines for the Evaluation of Electronically Offered Degree and Certificate Programs. The proposed guidelines focus on “technologically-mediated instruction offered at a distance” heavily weighted toward degree or certificate granting enterprises. We have tried to keep those guidelines in mind while writing this chapter, but Cornell is much more concerned with capitalizing on distributed- and distance-learning technologies that will enrich our existing programs.

Granted, the development of eCornell, the University’s new distance-learning subsidiary, has received considerable coverage in the national press. Yet eCornell is but one component of our efforts in this field, and its focus is rather narrowly defined. In addition, eCornell has undergone significant evolution since it was first discussed publicly more than a year ago, and at least initially will focus on relatively short-course, executive-education programs as well as certificate courses and programs for post-baccalaureate working professionals.

Cornell’s broader goal is to develop and deploy these technologies for the express purpose of supporting our mission. We intend to use distributed and distance learning as vehicles to enhance and expand Cornell’s continuing commitment to carry out in the 21<sup>st</sup> century its founders’ vision, as a “research university that aims to serve society by educating responsible citizens and extending the frontiers of knowledge.”

This means that distributed- and distance-learning technologies will help us accomplish the following objectives.

- First and foremost, enhance the total education experience of our resident undergraduate and graduate students.
- Second, develop life-long learning opportunities for Cornell alumni.
- Third, develop niche-based programs aimed at meeting the needs of post-baccalaureate non-resident students already in the workplace. This type of involvement in what is most commonly understood as “distance learning” will be carried out by eCornell for large-scale programming, and by other units within the University.

- Fourth, expand and enhance our service-outreach activities for general- or popular-audience consumption.

Our methodical positioning of Cornell as a leading participant in technology-mediated education began in the mid 1990s. In 1997, we created the Office of Distance Learning to coordinate and support the development of distance-learning programs and to serve as the central resource of knowledge and expertise in distance-learning techniques and technology for the Cornell community. In 1998, the advisory committee to that office prepared a report to the provost entitled *Distance Learning at Cornell University* that succinctly articulated the scope of the challenge facing us:

*As the only Ivy League university with a land grant mission, Cornell has already achieved distinction with its rich tradition of high-quality, research-driven outreach programs. Just as the discrete functions of the home, the school, and the workplace are now converging, so too must the university's discrete functions of research, teaching, and outreach now converge to address the new demands for distance learning from our students, alumni, corporate partners, and potential students throughout the world.*

The remainder of this chapter is organized around discussion of the following five main activities—recommended in the committee's report—on which we have decided to focus first:

- enriching the education experiences of on-campus students;
- making distance-learning courses available for Cornell students while they are away from campus;
- offering distance-learning opportunities to our alumni and friends;
- using distance-learning programs for external constituencies in the workplace; and
- developing popular programming using distributed-learning technologies.

### USING DISTRIBUTED-LEARNING TECHNOLOGIES ON CAMPUS

Technologies that make full-fledged distance learning possible can also be used to enrich traditional on-campus course offerings. Cornell students already are interacting with experts thousands of miles away in real-time discussion, in some instances joined (via “virtual reality”) by other students and faculty members throughout the world.

The same distance-learning technologies also allow the functional aggregation of geographically separated Cornell students (for example, small groups in Ithaca joining with other small groups at the Weill Cornell Medical College, the Cornell-in-Washington Program, or on internships or abroad) in “virtual classrooms” to participate in courses originating from the Ithaca campus. Such courses might

not be offered at all without the ability to expand the number of participants through distributed-learning technologies.

Some additional examples might best suggest the range of possibilities. Since 1998, the Weill Cornell Medical College has been producing a program called Grand Rounds for the 4,500 doctors at hospitals affiliated with the college and for the college's medical students. Grand Rounds uses streaming-video techniques on the Internet for a series of presentations by specialists that help keep these busy professionals and students up-to-date with the latest developments in their field. The participants can view a specific presentation on any computer with a connection to the Internet, either at the time of the presentation, or by downloading later from an archive. Each Grand Round uses two windows on the computer screen: one shows the video of the presenter, while the other displays the graphic images that the presenter projected during the presentation.

In the spring of 1999 Professor George Milkovich began offering the ILR course International Human Resource Management to nearly 100 graduate students, only about a quarter of whom were on the Ithaca campus. The first year the course was offered, the off-campus graduate-student participants were in Shanghai, Caracas, and Ljubljana, Slovenia. What's more, a quarter of them were not full-time students at all but rather human-resource executives at one of ten supporting companies. Even more essential than the virtual-classroom contact among these students was their communication via the class's Web site, where assignments, a class roster, and relevant articles were posted, and where animated discussions took place entirely on-line. The Web site also was where classmates in different countries but on the same "virtual" team communicated with each other on group projects.

Fueled by a \$1 million grant from Corning Inc, the Johnson Graduate School of Management, in partnership with Cornell's Faculty of Computing and Information Science, has developed a total-immersion curriculum in "e-business," along with other components of an extensive electronic-business program. Offered for the first time in the spring 2001 semester, this course will involve students and faculty members in units across the Cornell campus, as well as executives at Corning and other leading-edge companies. The program will introduce students to "real world" applications for e-business occurring at Corning and at other companies. For Corning, the benefit of this partnership comes from using the vast resources of an entire research university in an area critical to its business. For Cornell, it represents a vehicle for creatively merging academic theory with sound business practice. For both, it becomes an effective way to exchange knowledge in the burgeoning area of e-business.

To most effectively use distance-learning technology in instruction, we understand that we must provide a reliable information-technology infrastructure in our residence halls, libraries, and classrooms; easy access to Cornell's academic services for students who live off campus; and assistance for faculty members and graduate students in designing courses and materials that use such technologies. The Faculty Advisory Board on Information Technology (FABIT) advises the provost and the vice president for information technologies

on issues related to information technology, and has played a lead role in guiding decision-making in these areas.

### **Distributed-Learning Infrastructure**

Since 1995, the use of information technologies to reach beyond the classroom and enhance curricular offerings has accelerated at institutions of higher education around the world. Though Cornell has kept pace with this trend, the increase in demand for such offerings is taxing our existing infrastructure's capability to offer technology-enhanced instruction. Cornell Information Technologies (CIT) has been chartered to develop this infrastructure and the services needed to support faculty use of information technology in the *traditional* undergraduate and graduate curriculum for both residential and distance-learning students.

An up-to-date infrastructure for technology-enhanced learning requires communication networks to move text, images, sound, and video to and from locations on campus and off campus; a control center to manage the connection of campus sites with one another and with outside locations for interactive sessions; facilities to store and serve course materials on demand and in real time; and campus classrooms equipped for a range of instructional support options, including data/video projection, audio/video streaming, and live interactive video in classrooms throughout the world.

CIT is taking a lead role in developing a distributed-learning infrastructure for Cornell that will perform these functions. At the core of this infrastructure is a Video Fiber Network connecting distance-learning rooms, and other technology-enhanced classrooms and meeting spaces—via an audio/video distribution and control center—to similar facilities on campus and around the world.

### **Distance-Learning Facilities**

Since the spring of 1996, teaching and learning space has been created or developed at Cornell, and many classroom technology-improvement projects have been funded, through a faculty-proposal process managed by FABIT, with technical consultation and project-management support from CIT's Classroom Technologies group. In its first three years, FABIT focused on providing a level of presentation technologies in as many campus classrooms as possible. In the 1999–2000 academic year, FABIT expanded its agenda and worked with CIT's Classroom Technologies group to achieve the goal of improving public computing facilities on campus and installing technology upgrades in several classrooms.

Currently there are a number of rooms at Cornell equipped for distance learning. Some examples:

- the School of Industrial and Labor Relations' recently constructed Ives Hall addition, which has two (34-seat and 68-seat) amphitheater classrooms that



employ the highest level of teaching technologies and automation designed specifically for distance learning;

- 124 Stocking Hall, in the College of Agriculture and Life Sciences: a traditional-seating classroom that includes a Picture Tel Concorde 4500 videoconferencing system with ISDN lines that allow participation in Ithaca-campus courses by students at the New York State Agricultural Experiment Station in Geneva, and at other off-campus sites;
- Room G90 of Myron Taylor Hall in the Law School: recently renovated to make it a fully equipped distance-learning classroom; and
- the Education Center and the Weill Amphitheater at the Weill Cornell Medical College and Graduate School of Medical Sciences in New York City, which are also equipped with the Picture Tel technologies.

Plans and proposals for the upgrading and creation of similar facilities in each of Cornell's colleges and schools, and within the University's residential communities, are being considered by FABIT in the current academic year.

### **Library Support for Distributed Learning**

One of the challenges of distributed learning is finding ways to incorporate a rich mix of information resources into the curriculum. Cornell University Library (CUL) is contributing to faculty development of courses as well as supporting the student learning experience.

Well-designed courses using distributed-learning technologies often weave primary and secondary resources into the narrative of instruction, and the electronic-delivery medium lends itself well to the introduction of multimedia materials. CUL's Cornell Institute for Digital Collections (CIDC) has been engaged with faculty members in the design and creation of a number of Web sites and databases that can serve as useful adjuncts to teaching on and off campus. These Web sites draw on library collections and expertise in the management of digital resources, and become a kind of dynamic, but enduring, publication and teaching tool. For example, Karen Brazell, Cornell's Goldwin Smith Professor of Japanese Literature, has with the assistance of CIDC staff members created a resource known as GLOPAC, a global performing-arts database. GLOPAC features pictorial and textual information on theater, including Japanese Noh productions. The interactive site offers streaming video and audio. It is multilingual and multinational, and has collaborators in Moscow, New York, and Japan. Professor Brazell has taught students remotely and has promoted the creation of the database as a teaching resource, an adjunct to distance learning, and a reference for performing-arts troupes on past productions of theatre and dance.

CUL will be an active partner in the creation of courses that deliver digitized content from the University's and the library system's unique holdings, from licensed electronic resources, and from links to other digital materials. Faculty

members can design either a self-contained course in which students have access to digitized materials through a proxy server managed by the library in the manner of electronic reserves, or a course in which students are expected to conduct independent research by using a wide variety of sources. In such cases, CUL will offer a suite of services, including authorized access to proprietary databases, an online tutorial in evaluating information resources, digital and telephone reference service, and document delivery. CUL curators, subject-knowledge experts, and system designers and integrators have worked with faculty members to shape products that contain a variety of materials identified collaboratively by the faculty-librarian partners.

### **Other Technology-Support Services**

As mentioned earlier, Cornell Information Technologies has been charged with developing the infrastructure and services needed to help faculty members use information technologies in the traditional undergraduate and graduate curriculum for both residential and distance-learning students. To do this, CIT's Academic Technology Center (ATC) and Classroom Technologies group collaborate with other campus organizations that also support faculty and student use of information technologies. Those other groups include the Center for Learning and Teaching, the Human Computer Interaction Group, Media and Technology Services, the Office of the University Registrar, and the School of Continuing Education and Summer Sessions.

ATC provides year-round consultation and assistance to all Cornell faculty members, such as hands-on workshops and training in the use of various software and hardware tools. ATC's core instructional-technology services include course and student-project Web-site hosting; access to the CourseInfo™ template and Web-related applications; communication tools; instructional-lab scheduling; and on-line student-project resources.

Throughout the 1999–2000 academic year, ATC staff members helped many Cornell faculty members and graduate students integrate instructional technologies—such as streaming media, CD-ROM/Web hybrids, and Web interfaces for databases—into their courses and course materials. Many faculty members are aggressively using technology in these more innovative ways throughout the curriculum, and still more faculty members are using technology to offset basic communication and administrative tasks. For example, more than 800 course Web sites have been created using CourseInfo™—a Web template supported by ATC. With CourseInfo™ a faculty member or graduate student can create a course Web site quickly that include quizzes, communication, and group-collaboration tools such as discussion boards.

### **DEVELOPMENT OF DISTANCE-LEARNING COURSES FOR CORNELL STUDENTS IN WINTER AND SUMMER SESSIONS**

With leadership from Cornell's School of Continuing Education and Summer Sessions, we have begun to offer via distance-learning technologies a small

number of credit-bearing courses to our own undergraduates. Our purpose is to make it possible for the students to continue to make progress toward their degree requirements when they have a temporary need to be away from the Ithaca campus for internships, to work for pay, or under other circumstances. Credit-bearing distance-learning courses offered through the School of Continuing Education and Summer Sessions are not intended for students concurrently enrolled and in residence on the Cornell campus. Seven such courses were offered in the summer of 2000; five were offered during winter term 2001; and fourteen are planned for the summer of 2001. Enrollments so far have indicated that these are a popular option, on a very small scale.

A special effort is made in each of these courses to create student-to-student and student-to-faculty dialogue and discussion through electronic means to mirror, and at times even expand, what happens in on-campus discussion sessions of similar courses. Each of them—even though substantively the same as their precursors that have been offered on campus for years—were reviewed by the appropriate department, college, and University education-policies committees to verify their “credit-worthiness.” All credit-bearing distance-learning offerings will navigate the same Cornell decision-making structure as do our traditional on-campus offerings, to determine whether they are indeed worthy of carrying Cornell credit. In short, “the faculty” will make those decisions.

#### **DISTANCE LEARNING FOR ALUMNI AND FRIENDS: CYBERTOWER**

CyberTower is a program of Cornell’s Adult University (a department of the School of Continuing Education and Summer Sessions) produced in collaboration with Cornell Information Technologies. Containing many rooms but not a single brick, Cornell’s CyberTower is scheduled to open in spring 2001. Entered through subscribers’ computers, this newest “building” at Cornell will be an instant portal to fine teaching, extensive learning resources, and easy contact with the Cornell faculty. Primary audiences for CyberTower will be Cornell alumni and students applying to Cornell.

CyberTower will contain two program series. First will be a growing suite of study rooms (six or eight to start, and more coming on-line every month indefinitely) designed by leading members of the Cornell faculty. Each study room will feature video-streamed lectures to introduce the topic, links to an array of Web sites selected by the faculty as excellent and appropriate resources for further exploration, annotated reading lists prepared by the faculty, and a contact system to make it easy for users to “talk” with faculty members and with other CyberTower “classmates.”

CyberTower will also feature monthly Faculty Forums moderated by Glenn C. Altschuler, Cornell’s Thomas and Dorothy Litwin Professor of American Studies and the dean of the School of Continuing Education and Summer Sessions. Each month during the academic year, he will bring together leading members of the faculty to discuss current issues and topics. Subscribers will be able to access the

forums at their convenience and relay questions and comments to the faculty members.

### DISTANCE LEARNING FOR EXTERNAL CONSTITUENCIES

The bulk of the market for distance learning is not with the traditional 18-to-21-year-old undergraduate cohort of students, but rather with adult learners who will come to the table with specific needs and expectations. Accordingly, Cornell and a host of other institutions have identified and are responding to a growing need for executive-education, short-course, not-for-credit, and certificate programs for working professionals that can be delivered via distance-learning technologies.

As one means of addressing the market for this type of instruction, the Cornell University Board of Trustees created eCornell on September 18, 2000. It is a wholly owned and financed distance-learning subsidiary focused initially on offering continuing- and executive-education certificate programs to adults.

eCornell brings to this endeavor the University's strengths in the quality, depth, and breadth of the professional- and executive-education programs offered by our many professional schools and colleges (the School of Hotel Administration, the School of Industrial and Labor Relations, the College of Veterinary Medicine, the Weill Cornell Medical College, the College of Engineering, the Johnson Graduate School of Management, the College of Agriculture and Life Sciences, the Law School, the College of Human Ecology, and the College of Architecture, Art, and Planning) and a number of our research units, such as the Cornell Theory Center. Many of these units have very strong existing executive- and continuing-education or cooperative-extension programs. Through eCornell we have the ability to offer a wide variety of programs to corporations and other external organizations, and to develop unique programs that integrate the strengths of several disciplines. Additionally, the stature of Cornell's name and international reputation, particularly in Asia, is an important advantage because of the large demand coming from Asia for on-line programs.

The initial programs likely to be developed by eCornell will include offerings by the Cornell Weill Hospital for Special Surgery, the School of Industrial and Labor Relations, the School of Hotel Administration, the College of Engineering, and the College of Veterinary Medicine.

Cornell University Library has been preparing for the opportunities and challenges presented by eCornell. CUL's planning committee has realized that if it addresses the challenges of providing on-line services for Cornell students, it would at the same time meet the challenges of providing services for eCornell's on-line students. A percentage of revenue from each distance-learning program will flow to CUL to support the development of digital reference services for eCornell students, and this will simultaneously benefit Cornell's on-campus students.

It is anticipated that these and other programs that will offer credit-bearing course work may well be used as building blocks toward fulfilling specific degree requirements at other institutions. Whether Cornell will ever get into the market for electronic degree programs is still a matter of debate, and understandably, one of great and continuing importance to the Cornell faculty. A key sticking point is the issue of offering a Cornell “degree” to someone who has never set foot on campus. Deliberations to date suggest that Cornell electronic degree programs might be a practical option for professional master’s degrees such as the Master of Engineering, Master of Industrial and Labor Relations, or Master of Professional Studies, because older students and working professionals don’t necessarily need the direct interactions that are fundamental to the residential living-learning environment for undergraduates that Cornell is committed to. Nor would technologically mediated instruction offered at a distance provide the type of close interactions necessary for most doctoral-degree study.

In any case, given Cornell’s tuition cost structure, the most-likely consumers of these possible distance-learning degree programs will be employees whose employers are willing to pay tuition and other program costs as an investment in professional development that might yield a direct return eventually.

Another avenue for involvement in distance learning, particularly for faculty members in Cornell’s contract colleges, is the State University of New York Learning Network (SLN). The SLN was established as a partnership of SUNY campuses and SUNY’s Office of Advanced Learning and Information Services, first offering courses in fall 1995. Student course registrations will exceed 20,000 during the 2000-01 academic year, making it one of the three largest on-line programs in the country. Cornell’s participation with SLN is in the formative stages. Courses are under development in horticulture, including plant-propagation modules, funded through a grant from the USDA Agricultural Telecommunications program. In developing these courses, Cornell is working in collaboration with the horticulture faculties at the SUNY Morrisville, Alfred, and Delhi Colleges of Technology.

### **POPULAR PROGRAMMING USING DISTRIBUTED-LEARNING TECHNOLOGIES**

We are committed to expanding and enhancing Cornell’s service and outreach activities to the general public through distributed-learning technologies. This will take a variety of forms, but one particular example should serve to illustrate the range of possibilities.

The Cornell Laboratory of Ornithology has become internationally recognized as a leader in a newly emerging distance-learning enterprise known as “citizen science.” The lab organizes projects enabling thousands of laypersons across North America to collect real data that help answer genuine scientific questions. The goal is both to accomplish valuable scientific research and to educate the data-gathering participants, and the lab’s efforts are demonstrably successful in

both arenas. The lab has a built-in advantage, because birds are easy to observe, and have enormous power to captivate humans of all ages and interests—from total novices to avid hobbyists.

The lab currently is engaged in significantly expanding the educational value of citizen-science projects by making creative use of the Internet. Data are now collected, archived, and displayed back to participants in near-real time through sophisticated software and database tools developed at the lab (several patents are pending) and archived in Rhodes Hall on the main Cornell campus. The program provides interactive ways for participants to view their data, to compare their own data with those gathered by others, and to ask and answer their own questions. Thus, it encourages citizens to become self-paced scientists with their own data, while simultaneously contributing to their understanding of population biology, and long-term conservation practices. In addition, the lab is developing an interactive, media-rich general educational environment on the Internet in order to reach an ever-broader segment of the general public.

Current lab initiatives emphasize five components:

- Software, user interfaces, and background resources are being developed for broadly flexible, Internet-based projects in which birds (or any other organisms) can be monitored at any location, during any time of year, through a major national data archive.
- A dozen existing citizen-science projects at the lab serve as large-scale “test-beds” for making on-line data entry accurate and user-friendly, and for facilitating feedback of results to participants and the public.
- An extensive “digital library” of on-line support materials and educational tutorials is being developed to accompany the lab’s suite of citizen-science projects. Materials include audio and video clips from the lab’s world-famous Macaulay Library of Natural Sounds, life-history information, range maps, “cool facts,” and data-visualization modules to enrich the educational experiences for all citizen-science participants. Ultimately, these materials will be distributed more broadly across the Internet through non-profit partners and commercial clients.
- Internet-based projects and information will be integrated via a comprehensive Web portal—“Citizen Science Online”—providing access to a wide variety of ornithological resources, citizen-science, and related educational opportunities on the Web.
- Through partnerships with other organizations, the lab’s citizen-science and interactive database tools are being tested and modified to achieve maximum flexibility for use in any context in which citizens help monitor natural systems. Ultimately, these tools are intended for wide distribution to help accomplish a multitude of missions in research, education, and conservation.

## SYNOPSIS

Much attention has been paid, in the press and on the campus, to our creation of eCornell as a for-profit distance-learning provider. Nevertheless, eCornell is only one element of a much more diverse effort to exploit distance-learning technologies for the benefit of Cornell as a whole. This chapter has provided a brief explication of our efforts and plans to use distributed-learning technologies for the benefit of our resident undergraduate and graduate students, our alumni, and other relevant constituencies.

It bears repeating that Cornell's primary interest in distributed and distance learning is to use such technologies as a means of advancing our fundamental mission as a "research university that aims to serve society by educating responsible citizens and extending the frontiers of knowledge."

Our commitment is first to identify significant opportunities for supporting the core mission of the University—providing the very best education experience possible for our resident undergraduate and graduate students. This ranges from supporting Web-based course syllabi, to moderated electronic discussion lists, to interactive electronic laboratory experiments, to real-time consortia courses that bring together students at multiple sites for simultaneous lectures and discussion.

Second, we are committed to providing meaningful life-long learning opportunities for our alumni. Cornell's CyberTower is the current major means for reaching this audience.

Third, we are committed to initiatives that expand educational opportunities and continuing education for non-resident students in the workplace. eCornell will be used to build most larger-scale market-niche programming in this vein, but other programs will also be developed within the University.

Fourth, we are committed to seeing that distributed- and distance-learning technologies are brought to bear on our service and outreach activities. Ezra Cornell's dream of an institution where "any person can find instruction in any study" may seem an impracticable dream in the 21<sup>st</sup> century, but it does find a significant point of fulfillment in the realm of distributed and distance learning.

## REFERENCES AND SOURCES

*Alumni-Trustee Report on Distance Learning (1999)*

<http://asc-www.dayadmin.cornell.edu/Provost.DistanceLearning/99alumni/framestart.htm>

*Distance Learning at Cornell: Report to the Provost (May 28, 1998)*

<http://asc-www.dayadmin.cornell.edu/Provost.DistanceLearning/98report/framestart.htm>

## CHAPTER 5: Distributed and Distance Learning

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*Planning for Learning Technologies Services* (1995), Faculty Advisory Board on Information Technologies  
<http://www.cit.cornell.edu/computer/instruct/classtech/fabit/>

*Report on Non-Degree Programs by the Provost's Advisory Committee on Distance Learning* (July 11, 2000)  
<http://asc-www.dayadmin.cornell.edu/Provost.DistanceLearning/DL-PrelimReport-final.html>

*Update on eCornell* (November 2000).



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## APPENDIX

### University Organizational Charts

#### Ithaca Campus

President  
Provost  
Vice Provost and Dean of the Graduate School  
Vice Provost for Research  
Vice Provost for Life Sciences  
Vice President for Planning and Budget  
Vice President for Information Technologies  
Vice President for Administration and Chief Financial Officer  
Vice President for Financial Affairs and University Controller  
Vice President for Alumni Affairs and Development  
Vice President for Human Resources  
Vice President for Student and Academic Services  
Vice President for University Relations  
University Counsel and Secretary of the Corporation

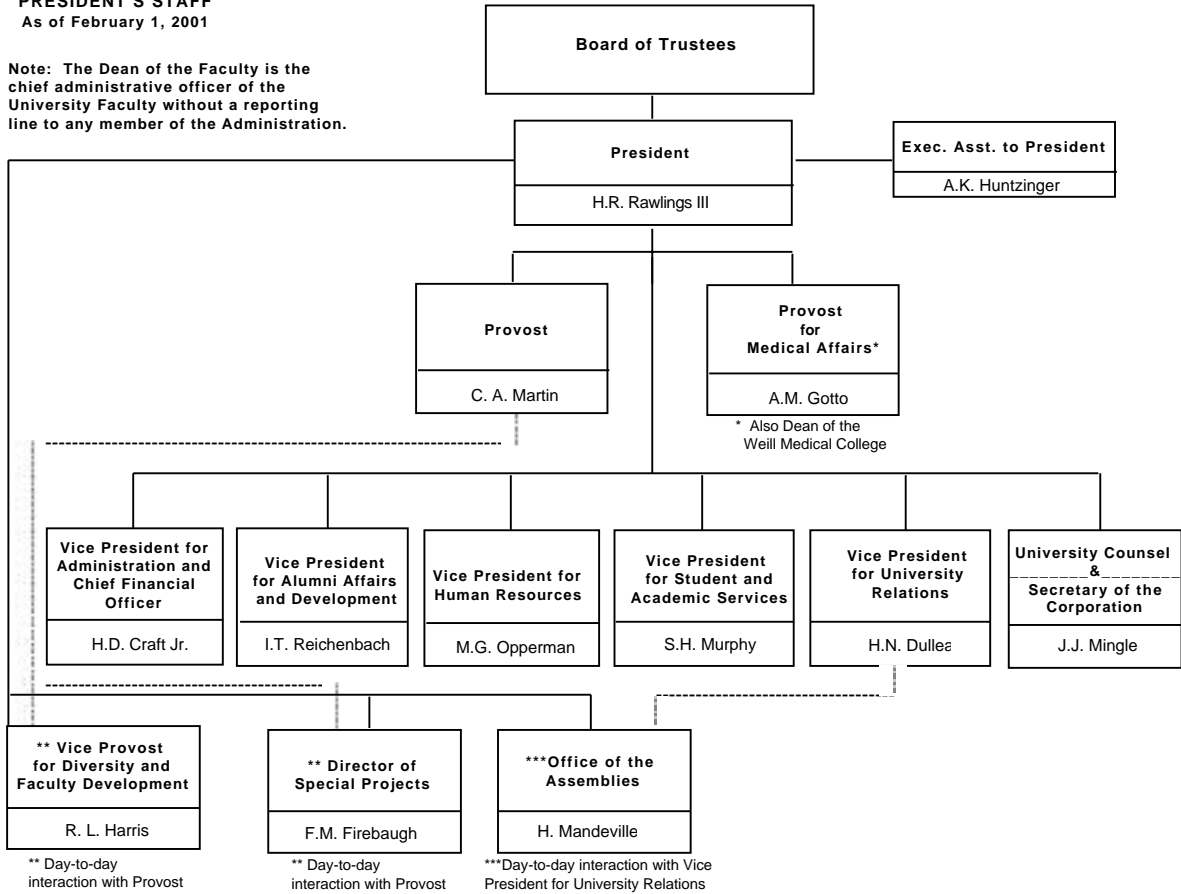
#### Medical Campus

Provost for Medical Affairs  
Dean Graduate School of Medical Sciences  
Senior Associate Dean for Education  
Senior Associate Dean for Clinical Affairs  
Senior Associate Dean for Research  
Associate Provost  
Vice Provost for Development  
Vice Provost for Public Affairs

# APPENDIX: University Organizational Charts – Ithaca Campus

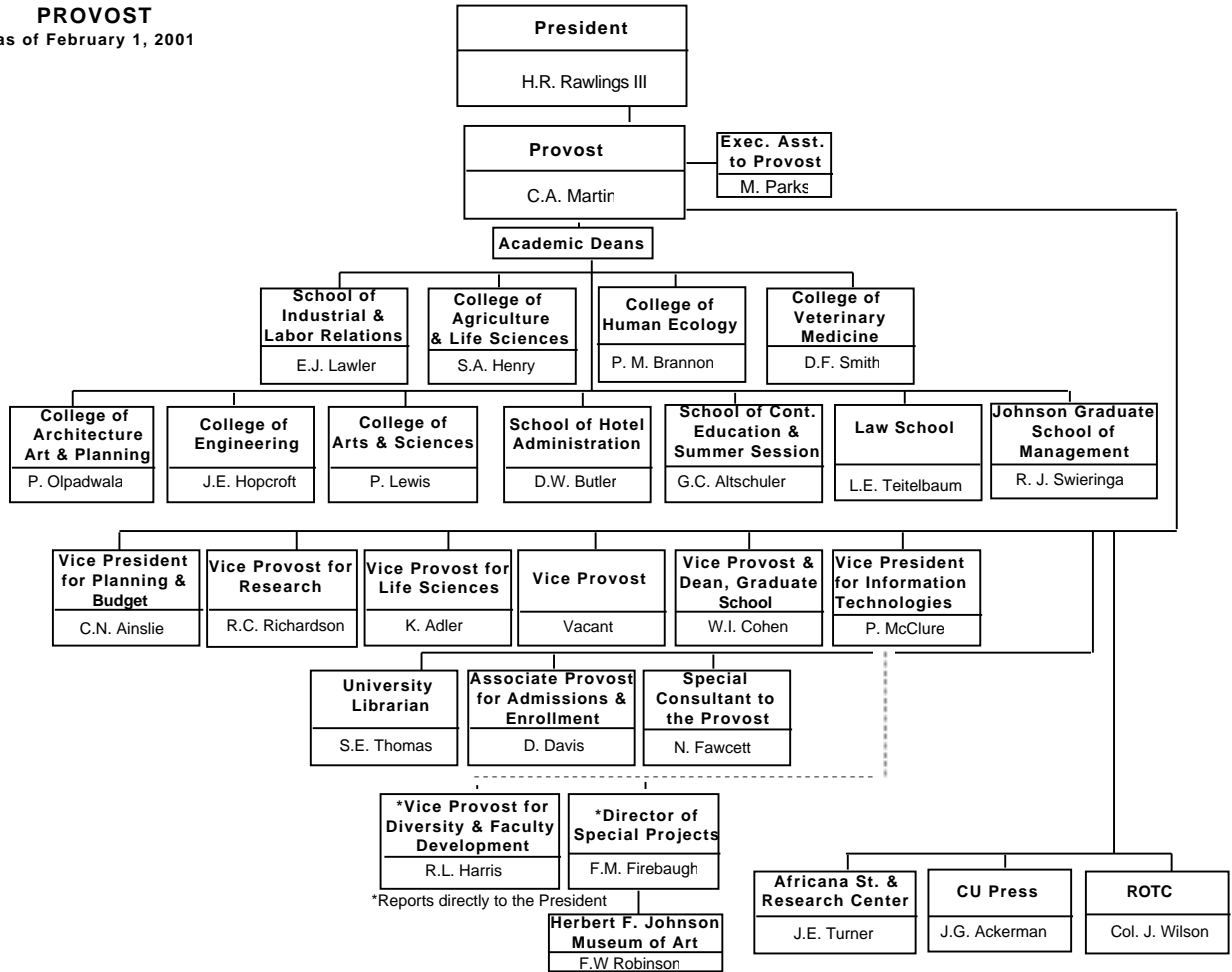
**PRESIDENT'S STAFF**  
As of February 1, 2001

Note: The Dean of the Faculty is the chief administrative officer of the University Faculty without a reporting line to any member of the Administration.



## APPENDIX: University Organizational Charts – Ithaca Campus

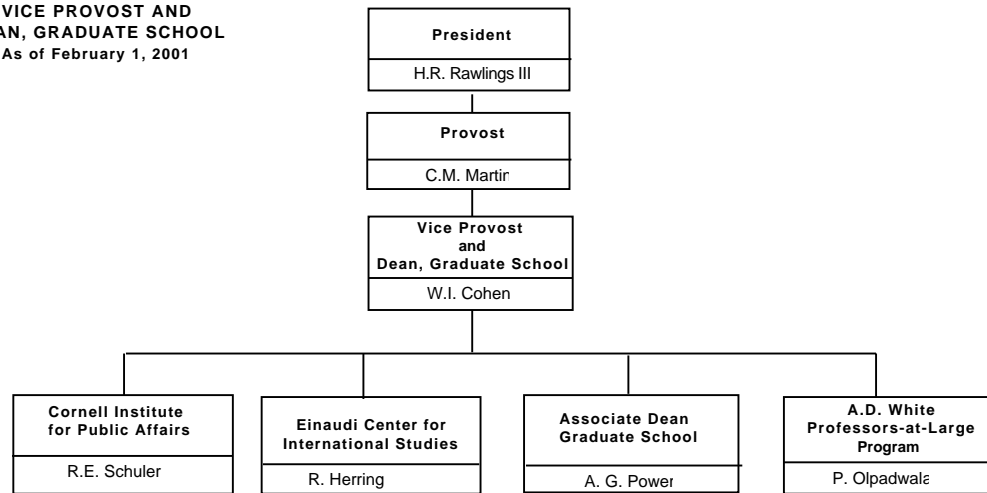
**PROVOST**  
as of February 1, 2001



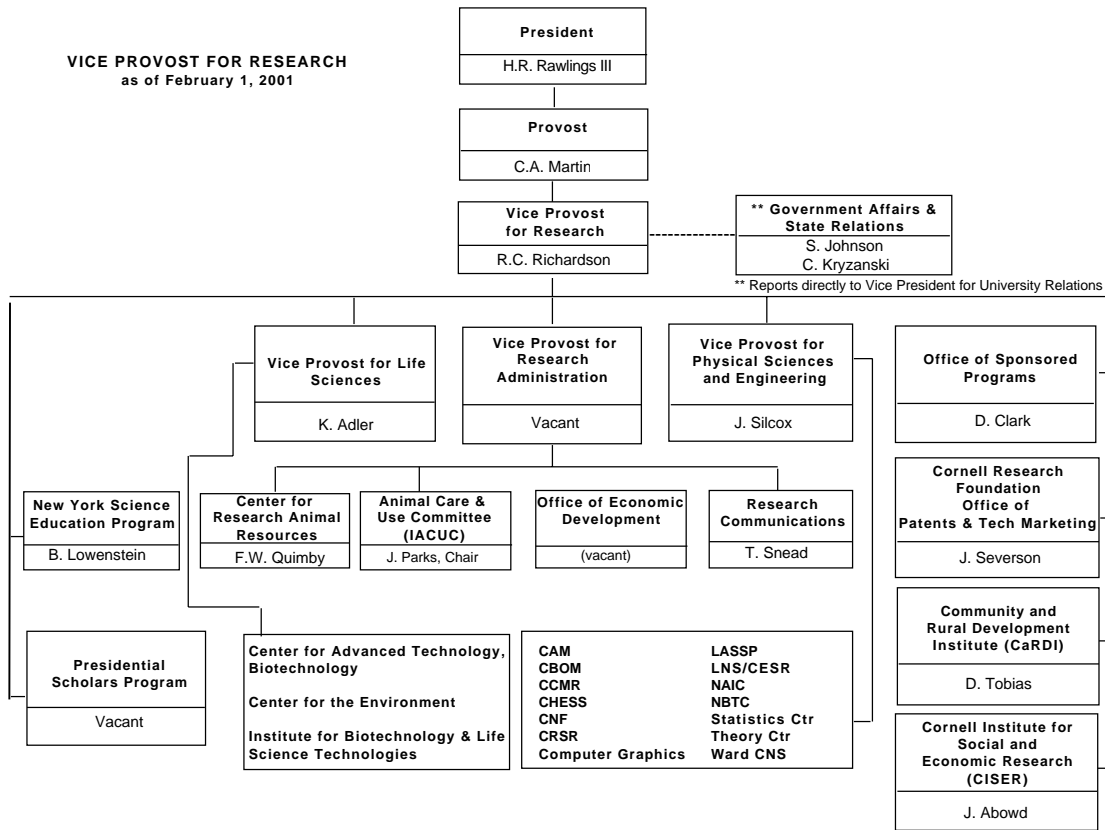
## APPENDIX: University Organizational Charts – Ithaca Campus

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**VICE PROVOST AND  
DEAN, GRADUATE SCHOOL**  
As of February 1, 2001



**APPENDIX: University Organizational Charts – Ithaca Campus**

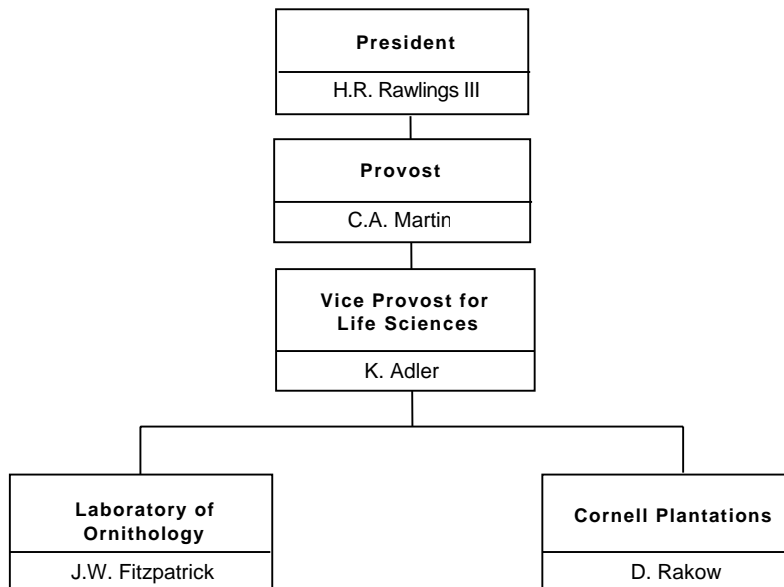


## APPENDIX: University Organizational Charts – Ithaca Campus

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### VICE PROVOST FOR LIFE SCIENCES

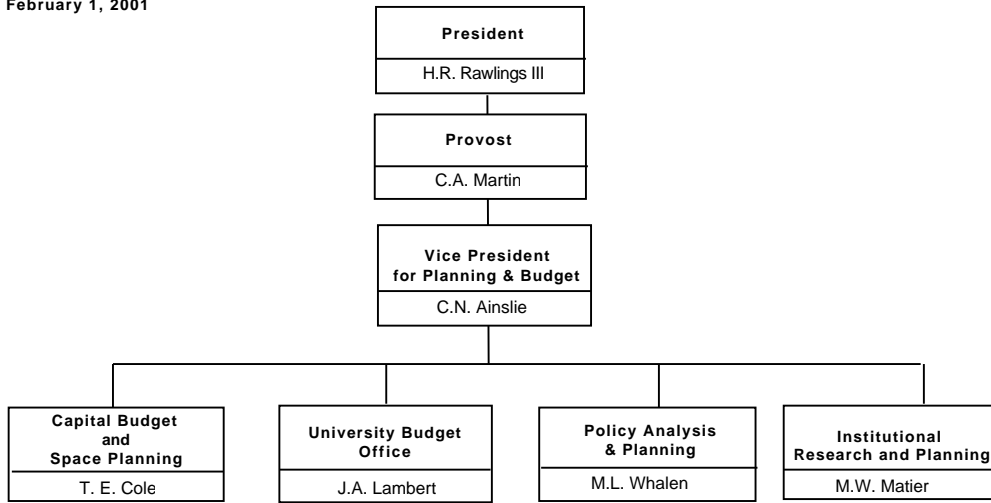
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**APPENDIX: University Organizational Charts – Ithaca Campus**

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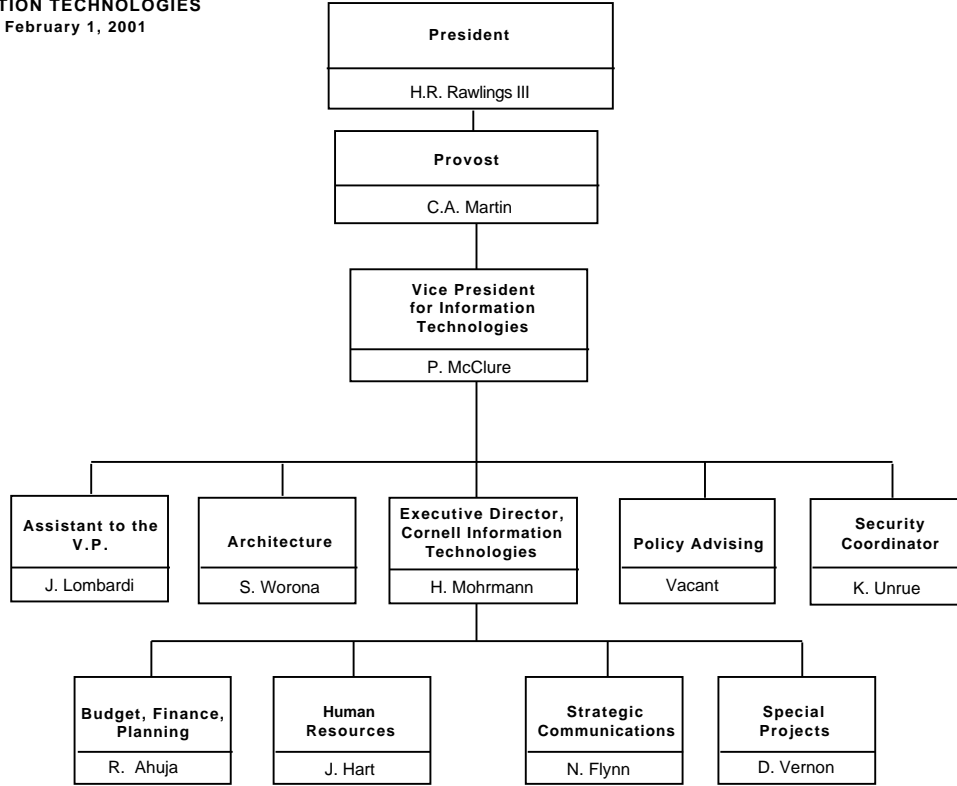
**VICE PRESIDENT  
FOR PLANNING AND BUDGET**  
As of February 1, 2001



## APPENDIX: University Organizational Charts – Ithaca Campus

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**VICE PRESIDENT,  
INFORMATION TECHNOLOGIES**  
as of February 1, 2001

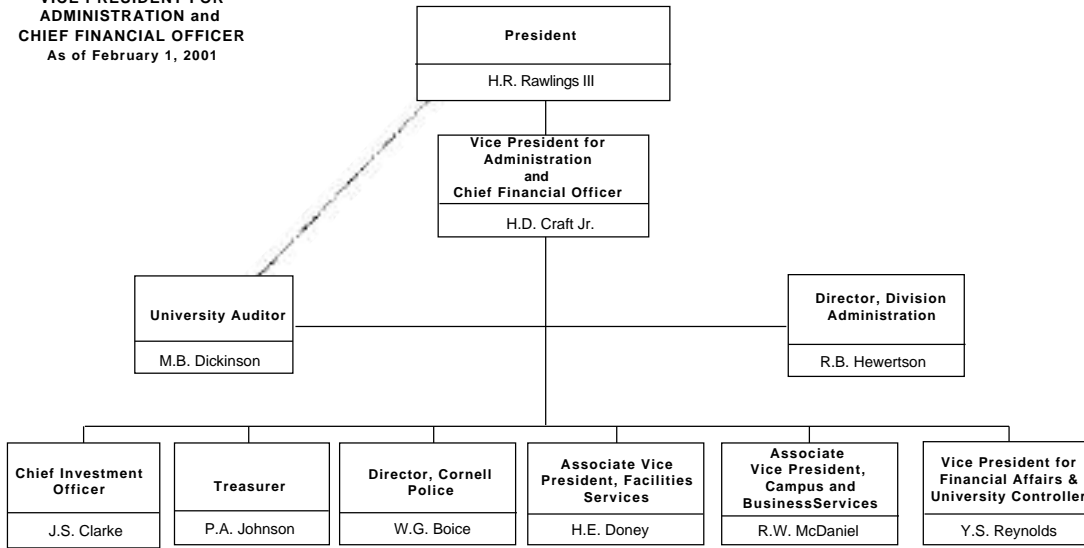




**APPENDIX: University Organizational Charts – Ithaca Campus**

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**VICE PRESIDENT FOR  
ADMINISTRATION and  
CHIEF FINANCIAL OFFICER**  
As of February 1, 2001

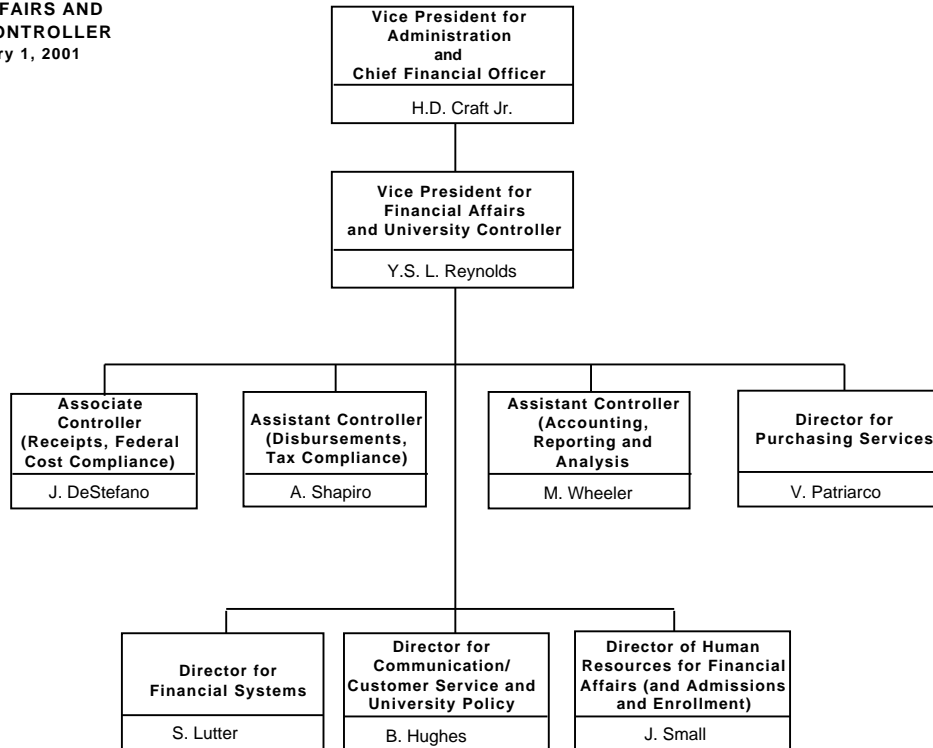


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**APPENDIX: University Organizational Charts – Ithaca Campus**

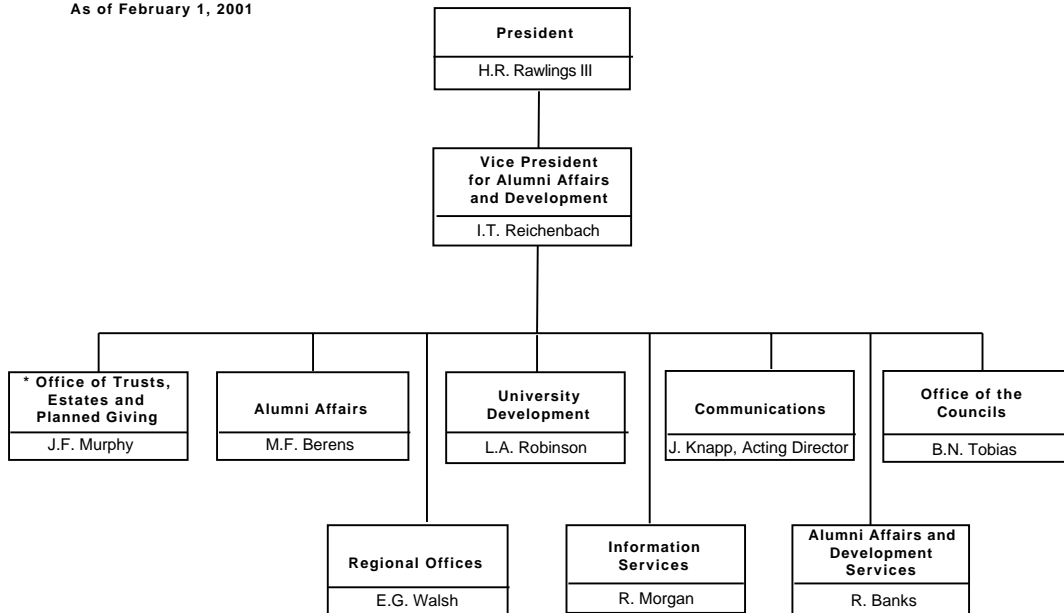
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**VICE PRESIDENT FOR  
FINANCIAL AFFAIRS AND  
UNIVERSITY CONTROLLER**  
As of February 1, 2001



## APPENDIX: University Organizational Charts – Ithaca Campus

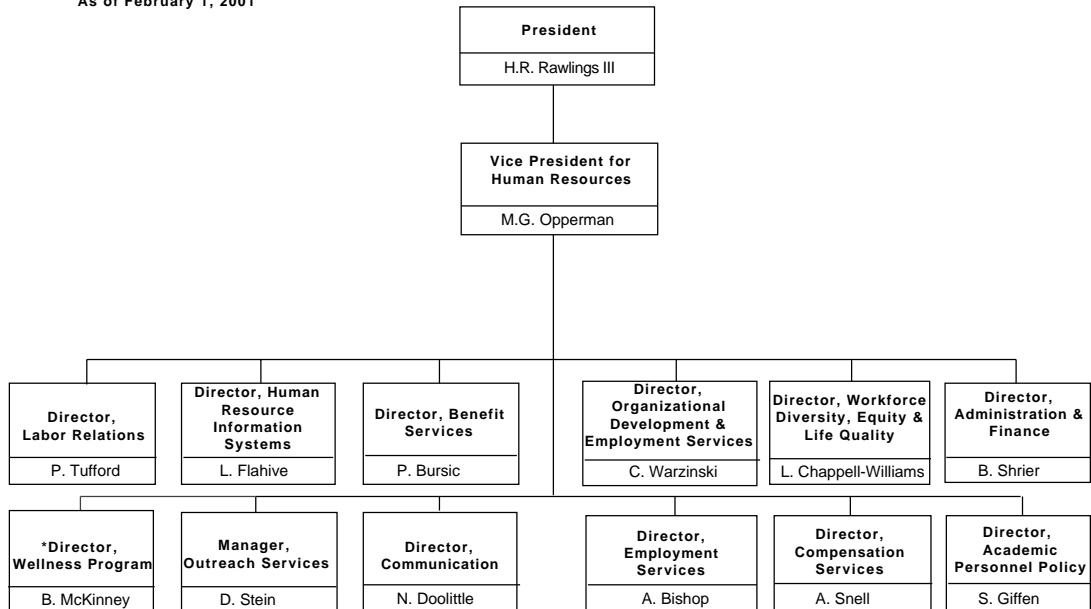
**VICE PRESIDENT FOR  
ALUMNI AFFAIRS AND DEVELOPMENT**  
As of February 1, 2001



\* Also reporting relationship to VP for Administration & CFO

# APPENDIX: University Organizational Charts – Ithaca Campus

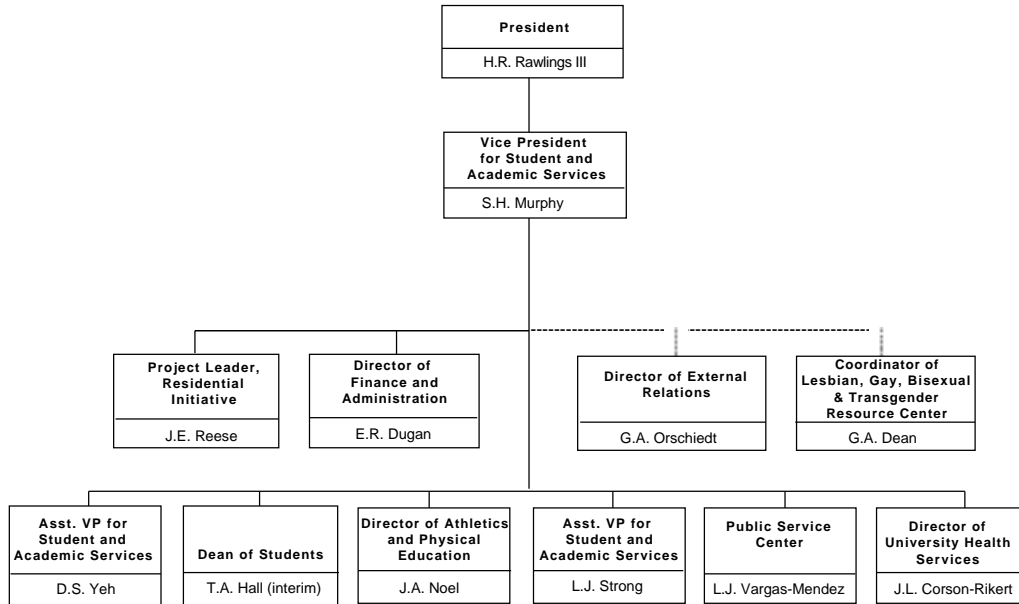
**VICE PRESIDENT  
FOR HUMAN RESOURCES**  
As of February 1, 2001



\* Direct report to  
Director of Recreational  
Services, Department of  
Athletics & Physical Education

## APPENDIX: University Organizational Charts – Ithaca Campus

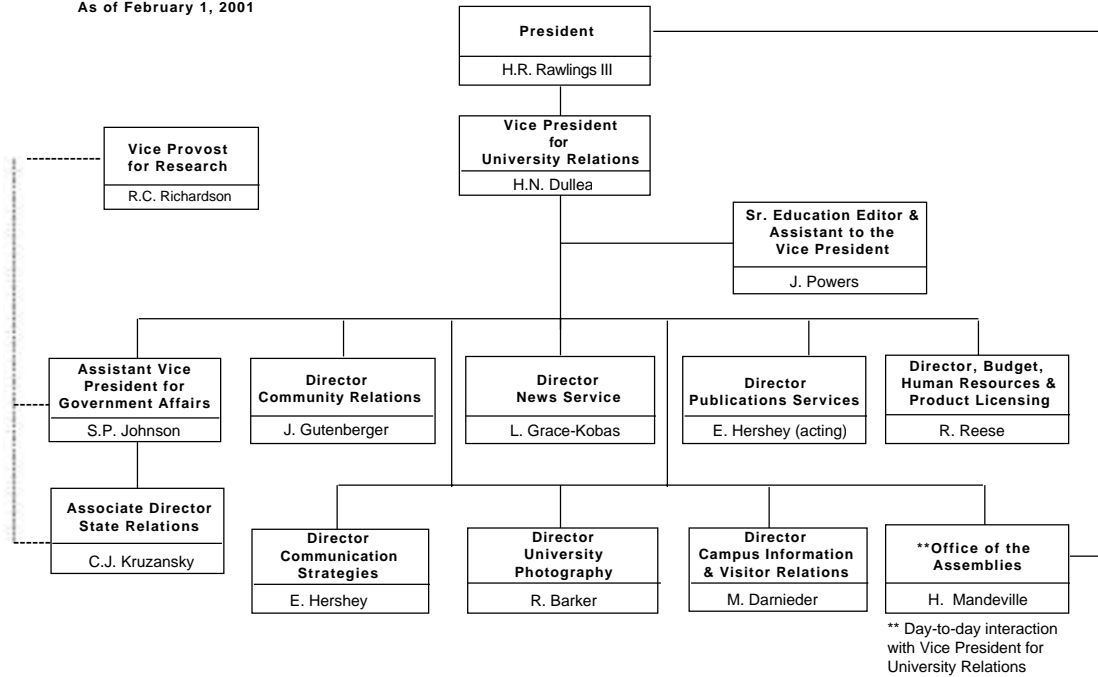
**VICE PRESIDENT  
FOR STUDENT AND ACADEMIC SERVICES  
as of February 1, 2001**



— dashed line signifies dual reporting relationship

# APPENDIX: University Organizational Charts – Ithaca Campus

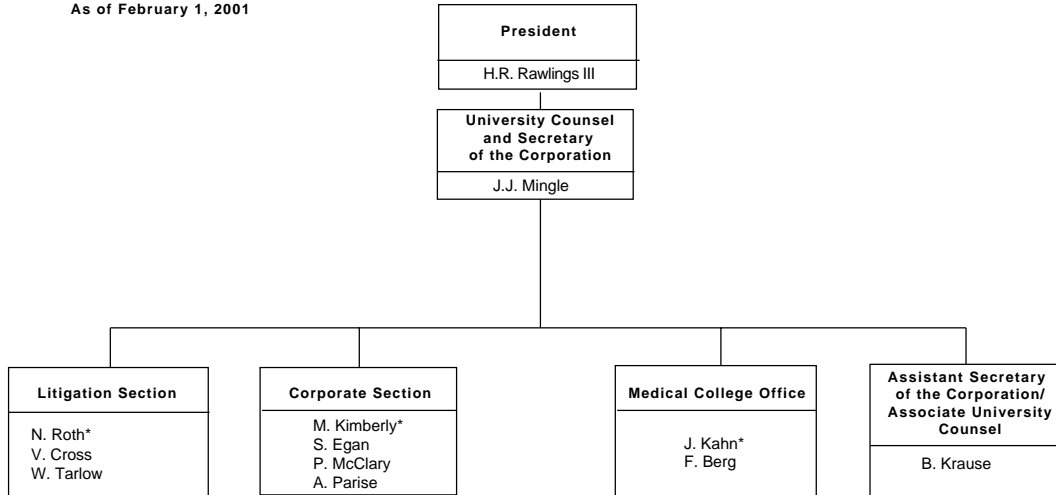
**VICE PRESIDENT  
FOR UNIVERSITY RELATIONS**  
As of February 1, 2001



## APPENDIX: University Organizational Charts – Ithaca Campus

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**UNIVERSITY COUNSEL  
AND SECRETARY OF THE CORPORATION**  
As of February 1, 2001

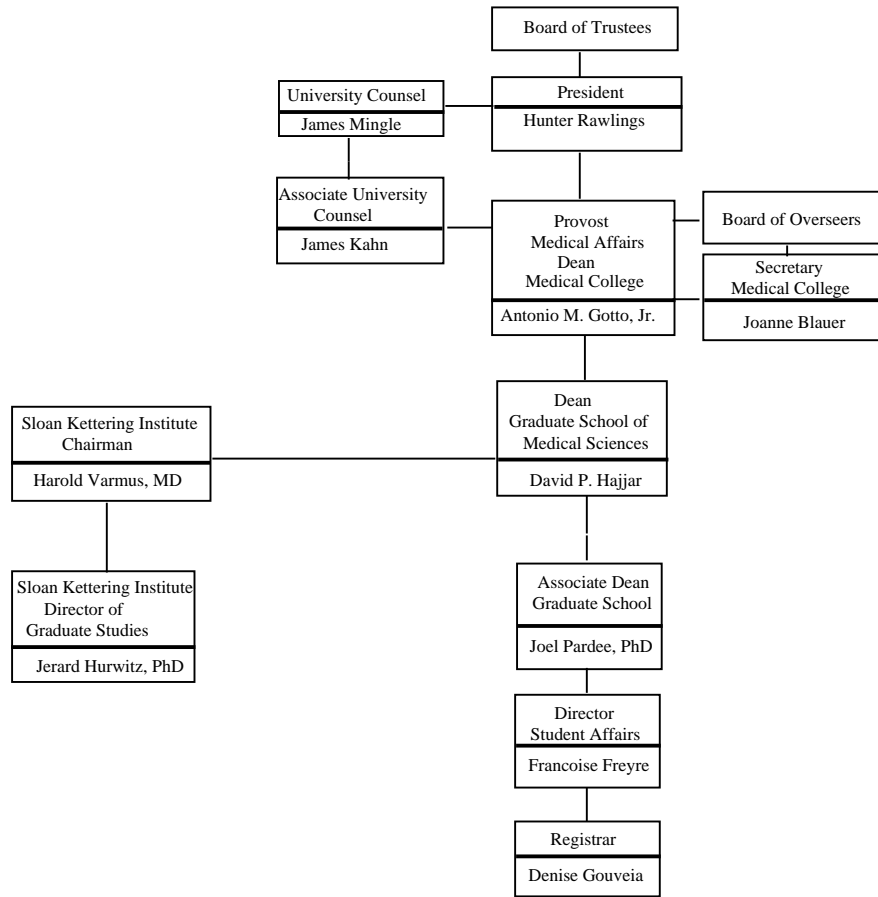


\*section chief



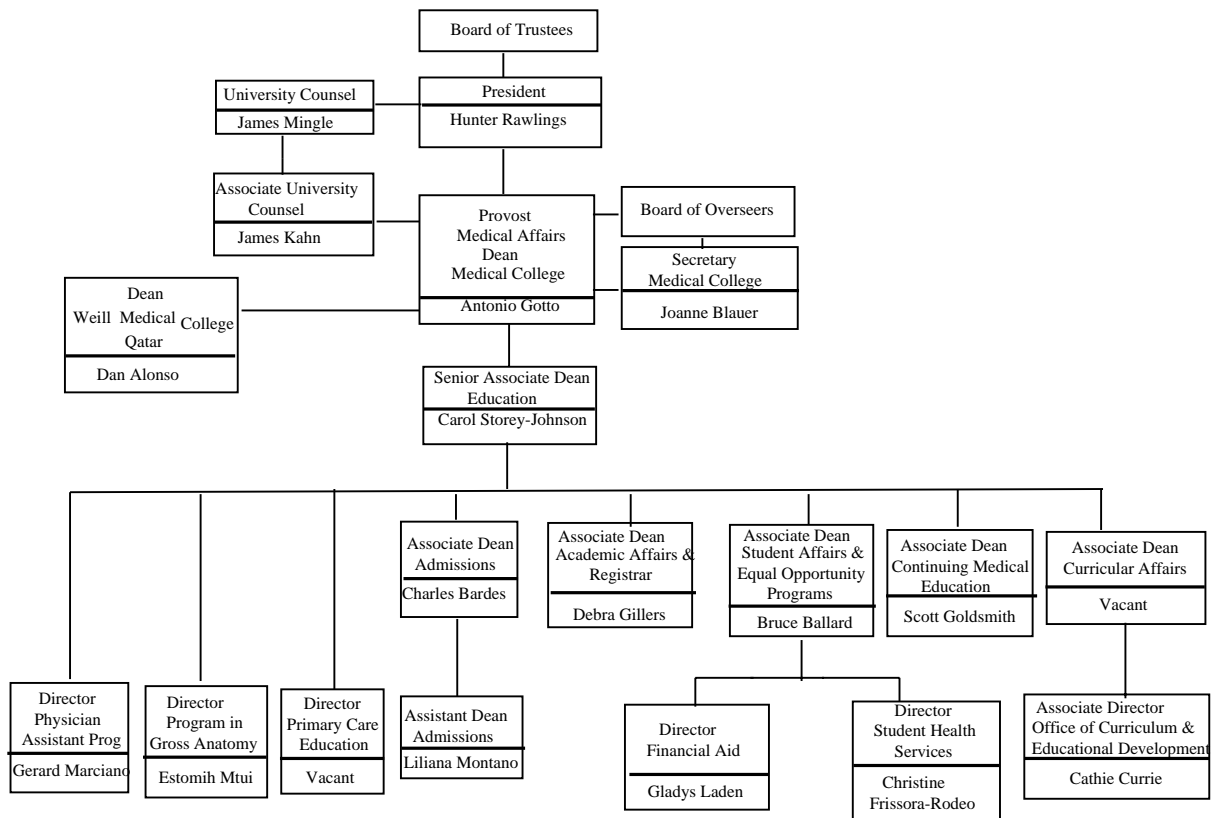


DEAN  
WEILL GRADUATE SCHOOL OF MEDICAL SCIENCES  
(as of February 1, 2001)



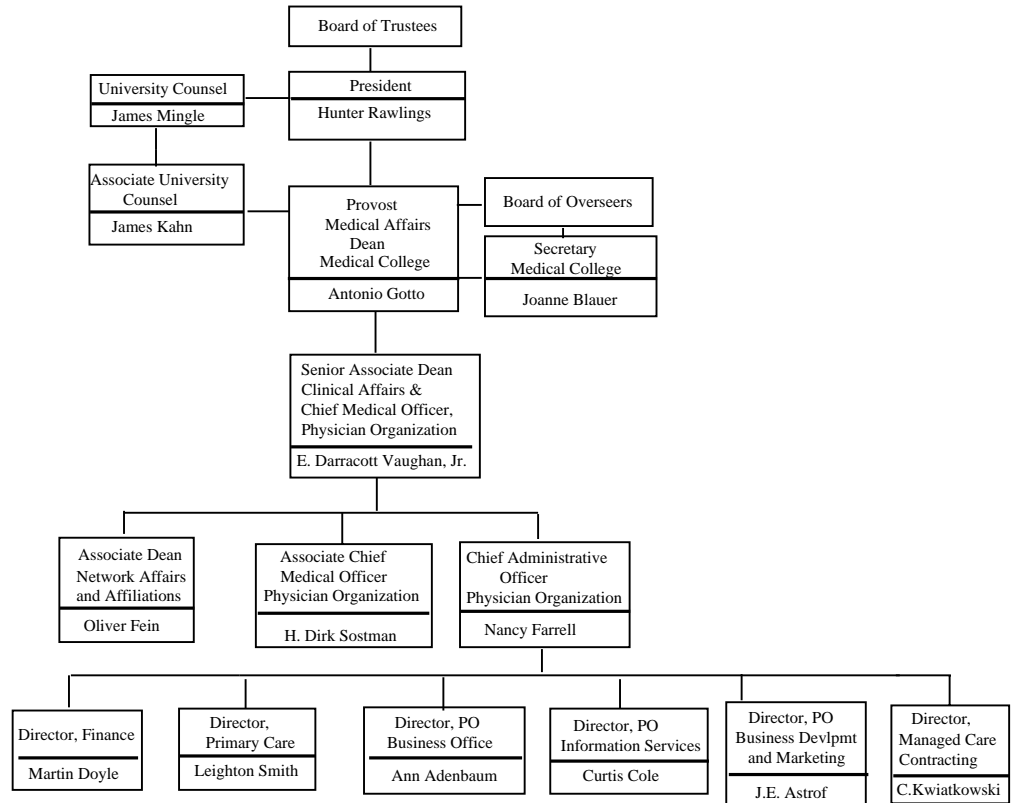
**APPENDIX: University Organizational Charts – Medical Campus**

**WEILL MEDICAL COLLEGE  
SENIOR ASSOCIATE DEAN  
EDUCATION  
(as of February 1, 2001)**

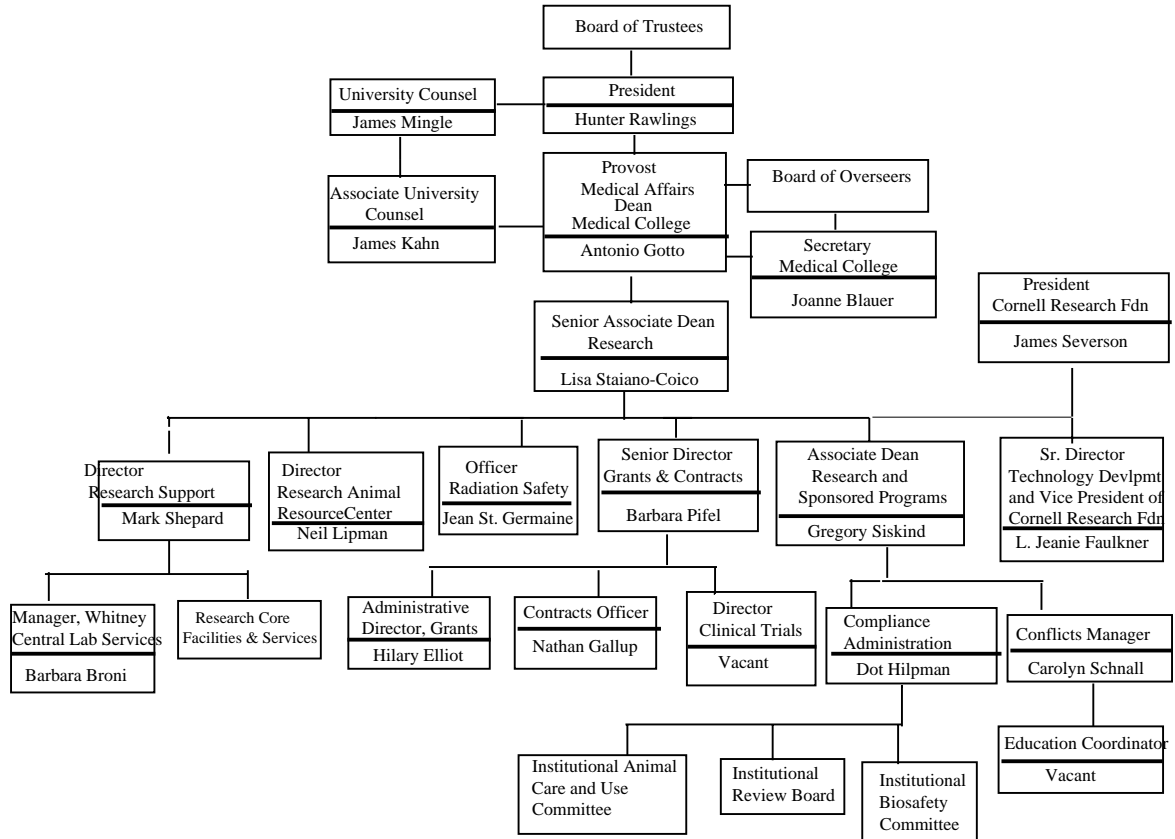


**APPENDIX: University Organizational Charts – Medical Campus**

**WEILL MEDICAL COLLEGE  
 SENIOR ASSOCIATE DEAN  
 CLINICAL AFFAIRS  
 (as of February 1, 2001)**

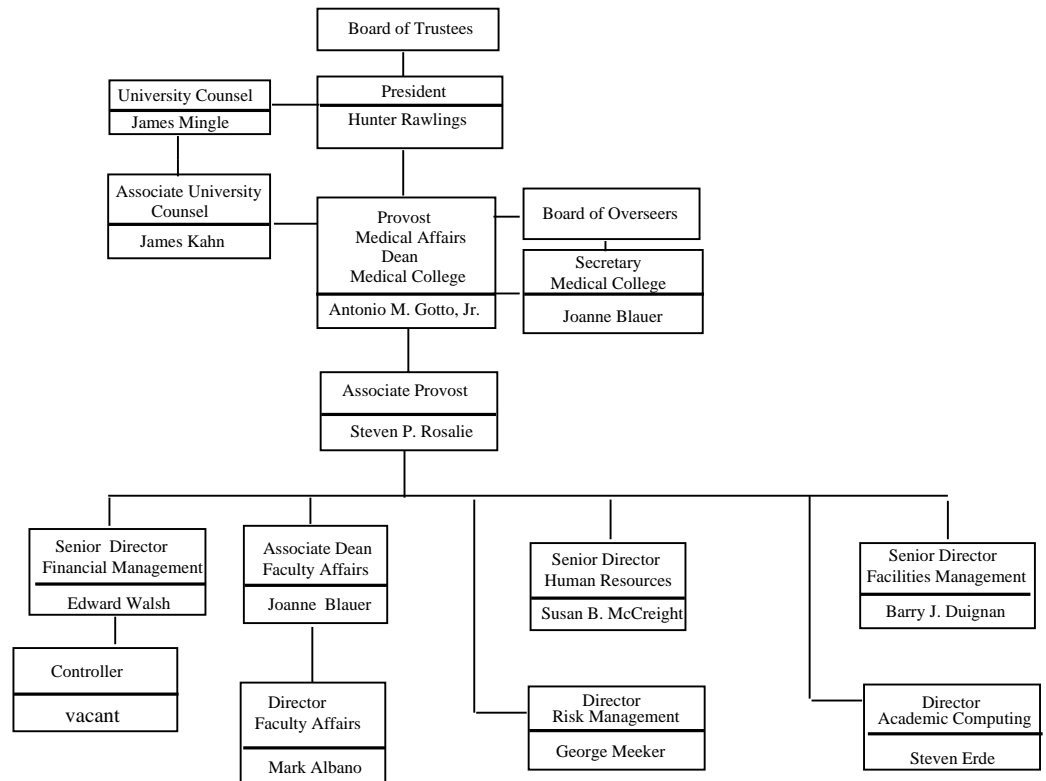


WEILL MEDICAL COLLEGE  
 SENIOR ASSOCIATE DEAN  
RESEARCH  
 (as of February 1, 2001)



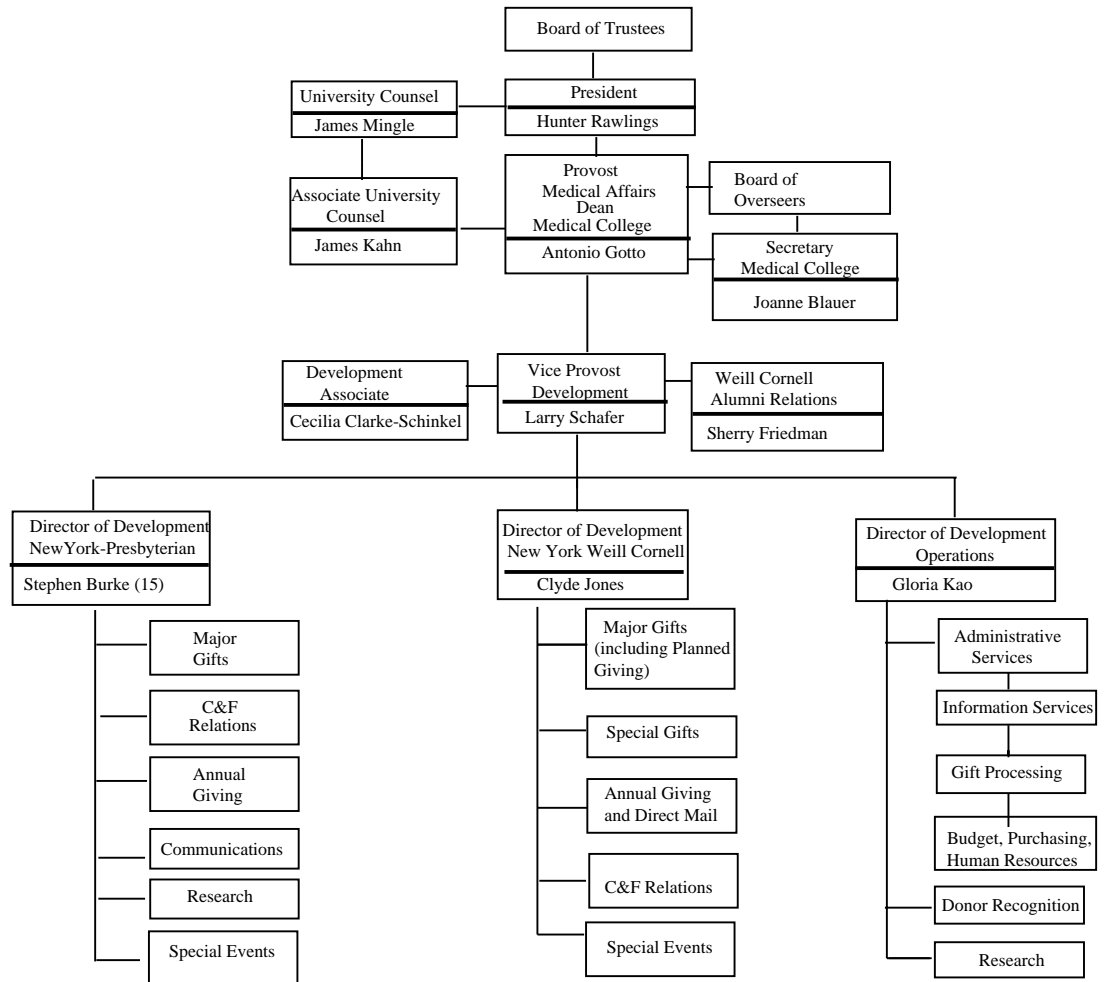
APPENDIX: University Organizational Charts – Medical Campus

WEILL MEDICAL COLLEGE  
ASSOCIATE PROVOST  
(as of February 1, 2001)



**APPENDIX: University Organizational Charts – Medical Campus**

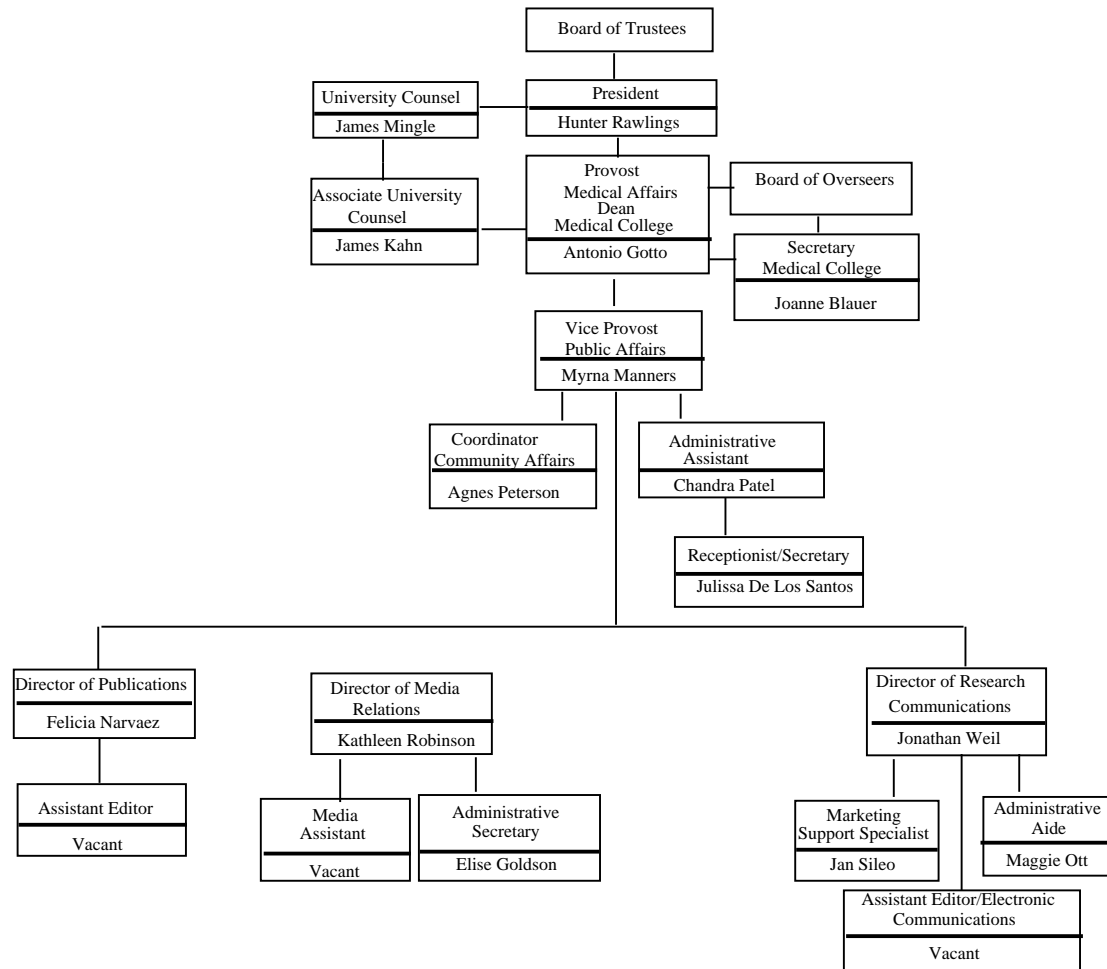
**WEILL MEDICAL COLLEGE  
OFFICE OF DEVELOPMENT\***  
(as of February 1, 2001)



\* Jointly funded with New York-Presbyterian Hospital

**APPENDIX: University Organizational Charts – Medical Campus**

**WEILL MEDICAL COLLEGE  
OFFICE OF PUBLIC AFFAIRS\***  
(as of February 1, 2001)



\* Jointly funded with New York-Presbyterian Hospital