

**School of Arts and Sciences Strategic Plan:
Priorities for the Twenty-First Century
1993-2000**



University of Pennsylvania
School
of
Arts and Sciences

To the University Community:

While the Five-Year Plan for the University that was published two years ago identified a limited set of issues and concerns requiring priority attention and leadership from the University administration, it did not focus on the specific needs and concerns of individual schools and resource centers. Because our vision of the University must necessarily be a collective one, capturing not only a common sense of purpose and resolve but also reflecting the strengths and needs of our individual components, it was agreed by the Deans and the Academic Planning and Budget Committee that each school and resource center should be asked to develop new strategic plans as well. These plans should not only indicate how they intended to meet the goals established in the University's Five-Year Plan but also would describe:

- the challenges facing the school in the 1990s, its goals, and the means for achieving these goals;
- its ability to maintain the quality of its student body and to make critical investments in new faculty and programs;
- its capital needs, including research and library facilities; and
- new ventures along with the substitutions and reallocations necessary to fund them.

In carrying out its planning effort, the schools and resource centers also were asked to examine and compare school administrative costs and academic costs.

The strategic plan for the School of Arts and Sciences that follows is the first in a series of school plans that will be published. Developed by the School's Planning and Priorities Committee and discussed by the SAS faculty, this plan has been considered by the University's Academic Planning and Budget Committee as well.

While the plan put forth by the School of Arts and Sciences is exciting and well thought out, it does raise three major problems that have yet to be resolved. SAS points out that, currently, it cannot afford to cover the growing costs of big science and new capital construction and, increasingly, financial aid, three components critical to the continued excellence of the Arts and Sciences. As the plan notes, "Adequate space, modern equipment and up-to-date facilities go hand-in-hand with the recruitment and retention of first-rate faculty and students and the improvement of research and teaching." Most worrisome, and for all our undergraduate schools, not just Arts and Sciences, is that in order for Penn to attract and retain the quality students it seeks, the undergraduate financial aid budget has had to grow at rates higher than tuition increases to keep pace. Such increases means fewer dollars for academic programs.

These are problems that potentially impact upon the entire University community and cannot be resolved by the School of Arts and Sciences alone. During the coming months, we shall be discussing these issues with the Dean, with the Academic Planning and Budget Committee, and with other administrative and academic offices in the University, in an effort to develop a strategy for trying to resolve them.

— Marvin Lazerson
Interim Provost

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This plan was completed and submitted to the Provost in August 1993. The Executive Summary was published in Almanac on October 12, 1993, and the complete plan is published herewith for the University community.

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Executive Summary

The University of Pennsylvania is one of the great universities in the world. The School of Arts and Sciences (SAS) is the core of its strength, comprising 25% of the University's standing faculty and 43% of all Penn students.

The most complex of all of Penn's schools, SAS has four interrelated missions:

- SAS aspires to provide the best undergraduate education in the world.
- As one of the nation's best graduate schools, SAS has the responsibility for ensuring that the next generation of scientists, scholars and university and college teachers are well-prepared for their future roles.
- SAS will strive to enhance its reputation as one of the nation's primary research centers, with an abiding mission to pursue wisdom and advance knowledge through scholarly research in the humanities and the social and natural sciences.
- SAS will continue to set a standard nationwide for a strong commitment to community service.

The School's overall mission is to optimize its multiple strengths through building, mobilizing, and nurturing a faculty that accepts responsibility in, and brings distinction to, all four of these areas.

I. Faculty

The SAS faculty is the heart and soul of the School, the mainstay of the two, mutually-supportive enterprises in which the School is engaged—research and teaching. The single greatest challenge in the years to come is to enhance the quality and effectiveness of the School's faculty during a period of continued fiscal constraint. The goal is three-fold:

1. To maintain a standing faculty of sufficient size to ensure flexibility in responding to new intellectual opportunities and to increase SAS's competitiveness with other world-class universities. The specific goal is a faculty of 480 members in 1993-94, with a stable faculty size in the range of 480-490 for the remainder of the century. New appointments will focus, where possible, on assistant professors.
2. To support this standing faculty during a period of severe financial constraint without compromising the ability to compensate faculty adequately. Economies will be achieved in support staff, in equipment and in organization.
3. To utilize faculty resources within the School and across schools far more efficiently than in the past.

II. Undergraduate Education

Undergraduate education in the College of Arts and Sciences (CAS) occurs within a research University that is nationally acclaimed for the strength of its graduate programs and professional schools. The goal is to draw on both the strength of the SAS faculty and that of the entire University to create an intellectual culture that will inspire in undergraduates a passion for learning, a capacity for critical thinking, and a seriousness of purpose that will equip them to lead productive and satisfying lives.

Taking pride in its significant accomplishments in undergraduate education since the last five-year plan, SAS will accelerate its efforts in the following areas:

1. **Advising.** CAS will increase faculty participation in advising at all levels and insure that all first year students have a faculty advisor, a peer advisor and access to Assistant Deans for Advising.
2. **Mathematics and Science Education.** In the Fall of 1993, a major revision of the calculus curriculum will go into effect. SAS will also organize a council of science and mathematics chairs and undergraduate chairs to coordinate changes in content, presentation, demonstrations, and laboratory activities for basic mathematics and science instruction.
3. **The Major.** SAS will simplify the process of selecting a major by extending faculty advising through the sophomore year. The School will also encourage departments to create or enhance research opportunities for as many of their undergraduate majors as possible.
4. **Interdisciplinary Majors and Minors.** SAS will continue to join with other schools in offering innovative, inter-school and interdisciplinary majors. It will nurture its ongoing programs in the Biological Basis of Behavior, Cognitive Science, Communications, and Design of the Environment and, with the launching of the joint Wharton/College

program in International Studies, will create an integrated curriculum joining the strengths of those two schools.

5. **Teaching.** Excellence in teaching lies at the very heart of our mission. SAS will establish a Teaching Resource Center which, in conjunction with the mentoring activities in individual departments, will buttress the School's ongoing commitment to improving the teaching skills of all of its faculty and teaching assistants.

III. Graduate Education

Graduate education is essential to the intellectual vitality of a research University, preparing scholars and scientists to make original contributions to the development of their disciplines and to be the next generation of faculty. Planning for graduate education in SAS through the remainder of this century occurs in an atmosphere of significant uncertainty. The quality of graduate programs across the School—and the quality of students applying to those programs—has never been higher. On a more troubling note, academic employment opportunities for many recent Ph.D's have in the last few years been unusually constrained. Within this context, SAS will proceed selectively to recruit outstanding students and to strengthen its graduate programs.

1. **Recruiting Outstanding Students.** The School of Arts and Sciences plans to increase the number of multi-year fellowships while maintaining the ability to provide adequate student stipends. The School will also work toward increased graduate student support through University sources as well as outside corporate and government foundations. SAS will continue its efforts to increase the proportion of women and minorities within its graduate student body.

2. **Strengthening Graduate Programs.** Each graduate group in SAS will be required to develop its own clearly articulated statement of its mission and methods for achieving that mission. Financial support for graduate groups will be closely tied to their ability to achieve the goals embodied in those statements.

In pursuit of excellence in graduate education, SAS will endeavor to:

- increase the interaction between graduate students and faculty by establishing workshops and colloquia in cross-disciplinary fields and exposing graduate students to research early in their careers,
- expand the availability of seed money for dissertation projects,
- enhance programs for the training, monitoring, and mentoring of graduate students to be effective and stimulating teachers,
- develop an integrated program to evaluate the progress of students to help shorten the time to degree,
- and provide each student from year one with realistic career planning information.

IV. Lifelong Education

The School of Arts and Sciences, through its College of General Studies (CGS), is committed to the enduring significance of the liberal arts and sciences for citizens of all ages.

1. CGS students earning bachelors degrees are at the core of the School's lifelong education programs. We intend by the year 2000 to increase the number of CGS students working on undergraduate degrees by at least 10% from the current base of 600 students.

2. The School will expand its offering of graduate programs that serve the educational needs of mid-career students. The School will develop a Faculty Council for Graduate Continuing Studies to oversee and promote self-contained masters degrees and other graduate level programs.

3. SAS will continue to nourish the highly-successful language education programs offered by the Penn Language Center and the English Language Program.

4. CGS will work with the Development Office and the Office of Alumni Relations to develop innovative educational programs that create and maintain good connections with Penn alumni through "weekend colleges," travel/study programs, and special seminars on or off campus.

5. The School of Arts and Sciences has traditionally administered a full program of Summer Sessions, and assists other Schools with marketing of campus credit courses that are given between May and August. Our goal is to dramatically increase the enrollments in a wide variety of credit and non-credit summer programs.

(continued)

V. International Studies

One of our primary tasks as teachers and scholars is to prepare ourselves and our students to live and work effectively, knowledgeably, and sensitively in a world characterized by increasing interdependence among the cultures and nations of the world. Toward that end, the School will be especially active in creating new opportunities in international education.

1. SAS intends not only to maintain but indeed increase the cultural diversity of its student body by increasing modestly the number of undergraduates studying at Penn from abroad.

2. SAS endorses the University's goals of increasing the number of Penn undergraduates participating in study-abroad programs and plans to increase the number of Penn undergraduates studying abroad to 35%. SAS will accomplish this by creating new programs of its own and by evaluating and certifying the programs of others. Toward that end, SAS will create an office of off-campus study that will evaluate and certify the academic quality of all work undertaken by SAS undergraduates abroad.

3. SAS will enhance its strengths in Area Studies by authorizing appointments in important world areas. In 1992-93, inter-departmental searches are underway in South Asian Studies and East Asian Studies and we anticipate additional targeted searches in African Studies, Middle Eastern Studies, and Latin American Studies in the near future.

4. The School will, using as models its newly-established French Institute for Culture and Technology and its Center for the Advanced Study of India, expand even further its efforts at promoting faculty exchange and collaborative research across cultures.

VI. Facilities

Adequate space, modern equipment and up-to-date facilities go hand-in-hand with the recruitment and retention of first-rate faculty and students, and the improvement of research and teaching. SAS is committed to modernizing its teaching and research laboratories, to improving its office and classroom space, to providing state-of-the-art computational and information technologies, and to maintaining a safe and secure working environment.

1. **SAS Precinct.** SAS developed a long-range Campus Master Plan. The goal of this plan is to bring together academic departments in the School in more effective and efficient configurations, with shared administrative services, and to create an important center for the School which underscores SAS as the core of the University. Logan Hall, Houston Hall, Williams Hall and College Hall will form this physical precinct. We intend to provide vastly-improved quarters for our internationally-renowned Music Department within the precinct. The Feasibility Study is underway and the project will be completed within the lifetime of this plan.

2. **Jaffe Building.** Thanks to the generosity of SAS alumnus Eliot Jaffe and his wife Roslyn, the History of Art Department will be moving into the distinctive building near the library on the south-west corner of 34th and Walnut Streets. Renovations, which will include the construction of a new wing, are now underway.

3. **IAST.** Phase I of the Institute for Advanced Science and Technology will provide substantial additional laboratory space for the Chemistry Department. The facility is in the advanced planning stage. Construction should begin later this year and be complete in two years.

4. **Longstanding Capital Needs.** Longstanding capital needs include the construction of a new building to house our outstanding Psychology Department, the renovation of Bennett Hall, the home of our excellent English Department, and the upgrading of science laboratories throughout the School.

VII. Technology Support

The School of Arts and Sciences is committed to promoting, enhancing, and integrating the use of informational and related technologies to help SAS achieve its educational, research and administrative goals.

1. **Instruction.** SAS will help faculty to develop programs or to use programs developed elsewhere to enhance the learning process.

2. **Research Computing.** SAS is developing a robust distributed computing environment that supports the research needs of the School. This will occur using workstations and through the installation of an ethernet network for every appropriate room in SAS buildings.

3. **Administrative Computing.** SAS will establish an administrative computing advisory committee and produce a general set of guide-

lines for information access, for the development of applications, and for helping staff derive more benefit from client server technology.

4. **Multi-Media Services.** The School's Multi-Media and Educational & Technology Services (MMETS) will accelerate its impressive efforts at providing front-line support for multi-media classrooms and for faculty who wish to make use of this rapidly-developing technology in their teaching.

VIII. Operating Needs and Budgetary Prospects

Implementation of this far-reaching plan depends upon the availability of both operating and capital funds, and on vigilant resource management within the School. Two major issues must be resolved before SAS is able to maintain a stabilized budget. These issues are: undergraduate financial aid and level of subvention from central University sources.

Undergraduate Financial Aid. Historically, financial aid costs have remained at about 28% of undergraduate tuition income. Recent increases in demand for financial aid require additional support from other sources. We must raise additional revenues for SAS of \$4.128 million per year over the course of the next four years in order to meet the projected total subsidy for undergraduate financial aid by FY 1997. Ideally, these revenues should come from earmarked or unrestricted endowment. SAS does not at present have this endowment, but is urgently seeking such funds. To cover these additional costs from current income would dangerously reduce the School's unrestricted resources for academic programs or throw the School into serious deficit.

Subvention. University subvention to SAS reached its highest level in FY 1991, at \$27.130 million. It has steadily declined since then, to a projected \$24.221 million in FY 1994. Accomplishing the goals presented in this plan depends, in large part, on achieving a stabilized budget. In particular, the level of subvention must stabilize in order for the School to plan rationally on a multi-year basis.

Enrollment. SAS will begin FY 1994 with an undergraduate enrollment of approximately 5830 students. The School plans to increase its undergraduate enrollment modestly each year, until it reaches a total of 6000 students in FY 1998.

Faculty. After halting faculty searches in FY 1992 because of budget constraints, SAS made its top priority in FY 1993 a modest increase in standing faculty size from 475 to about 480. This will be achieved primarily through the recruitment of extraordinarily talented junior faculty. Emphasis on junior faculty hiring will continue.

Financial Projections. In calculating the financial projections from FY 1994 through to FY 2000, SAS is assuming that the current economic environment consisting of tight fiscal conditions and low inflation will continue. SAS also assumes that the issue of additional financial aid costs is resolved. Given these assumptions, the budget shows a deficit of \$1.5 million in FY 1995, a near break-even condition in fiscal years 1995 through 1999, and a surplus of \$0.5 million in FY 2000.

IX. Conclusion

The next decade is likely to be one of severe budgetary constraint for higher education in the United States. The School's Strategic Plan has been developed in this context. Primary aims are to achieve:

- growth in quality and program within no-growth budgetary projections;
- an organization that is flexible, intellectually entrepreneurial, responsive to faculty initiatives, and able to take advantage of unexpected opportunities.

The School's major focus will be on undergraduate education, providing the leadership for Penn to achieve its goal of offering the best undergraduate education in any research university.

The single most important priority toward achieving that goal is to maintain, nurture and support an excellent standing faculty.

The most important financial goal is a rapid increase in unrestricted endowment for the School, which would allow for multi-year investment by the School in faculty, technology, facilities, and undergraduate financial aid.

For Penn to maintain its excellent academic position in a period of increased competition, a premier School of Arts and Sciences is essential. The School is well-poised to meet the demands of an uncertain environment and to respond quickly to changing intellectual trends.

School of Arts and Sciences Strategic Plan: Priorities for the Twenty-First Century 1993-2000

I. Mission, Challenges, and Goals

The University of Pennsylvania is one of the world's great universities. The School of Arts and Sciences (SAS) is the core of its strength. SAS constitutes 25 percent of the University's standing faculty and 43 percent of all Penn students. The most complex of all Penn's schools, SAS has four interrelated—sometimes conflicting—missions.

- SAS aspires to provide the best undergraduate education in the world. In this mission, SAS competes with four-year colleges such as Amherst, Haverford, and Williams, as well as with research universities such as Stanford, Columbia, and Yale. About 6,000 undergraduates are registered in the College of Arts and Sciences. In addition, the College is responsible for providing excellent education in the liberal arts and the sciences for all Penn undergraduates. SAS faculty work with faculty in other schools to enhance the University's offerings beyond individual schools, both for college students and for students in other undergraduate programs at Penn.

- SAS has the responsibility for ensuring that the next generation of scientists, scholars, and university and college teachers are well-prepared for their future roles. SAS is one of the nation's top graduate schools with nearly 2,000 students registered for the Ph.D. degree and many others in Master's degree programs.

- SAS is a research center, with an abiding mission to pursue wisdom and advance knowledge through scholarly research in the humanities, and the social and natural sciences. As the core of a multi-school research university, SAS provides the intellectual glue that holds the University together. In turn, SAS is responsive to research missions that transcend a single school. Examples are the Institute for Research in Cognitive Science, the Laboratory for Research on the Structure of Matter, the new Institute for Environmental Studies, the Leonard Davis Institute for Health Economics, and the links between the Department of Chemistry (SAS) and Engineering represented in the first phase of the new Institute for Advanced Science and Technology.

- SAS has a strong community service mission. This mission is represented, primarily, in the multiple programs of the School's College of General Studies and in other lifelong educational programs in SAS. It is also reflected in the School's sponsorship of academic-based community service programs and in the large commitment to volunteer work by SAS faculty and students.

The School's overall mission is to optimize its multiple strengths through building, mobilizing, and nurturing a faculty that accepts responsibility in, and brings distinction to, all four of these areas.

The essential question is how far, and how well, this central mission, with its multiple parts, can be successfully prosecuted in the 1990s, and beyond. We believe that SAS will succeed where other schools may fail because we are at a position of great intellectual strength; we have a clear vision of the current and emerging world of higher education, and we have what it takes to succeed in each; and we have the commitment, leadership, and staying power to succeed.

Higher education is volatile and changing in the 1990s because several forces are converging. First, the structure of learning is changing. Traditional academic departments and the disciplines they represent are not a sufficient map for scholarly innovation, much of which occurs across the boundaries of disciplines. The organization of knowledge may, indeed, be experiencing as profound a set of transformations at this turn of the century

as that of a hundred years ago, when today's disciplinary boundaries were largely set. Although it is too early to make such a large, historical claim, it is fair to say that schools of arts and sciences cannot be understood by simply thinking of them as sets of departments. In managing a major school of arts and sciences, planning must be based on perceptions of intellectual priorities across the school and the University, rather than on criteria that are based on the ascendance or diminution of specific departments. We are already making decisions on this basis.

A second force is the communications revolution, with implications for all academic fields. At the institutional level, the transformation demands electronic and optical networks for faculty and students, with an innovative, responsive staff to support technology in the classroom and in research. New technology-based networks enable higher education to be instantly "international." SAS will lead the way.

At the same time we must—and will—be realistic about the resources available for higher education. Financial challenges are engaging American universities, and arts and sciences in particular. In common with nearly all private universities and colleges, SAS is heavily dependent on tuition revenues, chiefly from its undergraduate students. The rate of tuition increases tolerated in the 1980s, at levels much higher than inflation, is rightly being modified in the 1990s. As a result of this alone, the years of expansion will be over. But the tuition increases of the last ten years have also generated major costs. As more middle-class families have sought financial aid for students, budgets for financial aid have soared. Penn, unlike Princeton, for example, has not been able to temper the impact of financial aid through earmarked endowment income. Continuation of the University's present need-blind admissions policy, assuming as it does the allocation of costs to the operating budgets of the undergraduate schools, has a huge, negative budgetary consequence for academic programs in SAS.

Higher education has joined health care as a target for widespread public criticism in the 1990s. We have not done a sufficient job in explaining ourselves—or, more profoundly, in explaining the enduring values of knowledge and a liberal education. We have also paid too little attention, until recently, to promoting optimal efficiency and productivity throughout the School. As guardians of hard-earned family funds, derived from parents, from donors, and, in the case of federal research grants, from taxpayers, we have the obligation to produce high-quality research and teaching to the maximum extent possible and to cut areas where success cannot be fully achieved.

These are some of the challenges that we will face and overcome. The overall message of this plan is buoyant, assertive, and optimistic. In the nineteen years of its existence, the School of Arts and Sciences has established an enviable record of accomplishment; as an institution, it is now self-confident, unified, and innovative. The School is proud of the quality, allegiance, and entrepreneurial spirit of its faculty; the depth and flexibility of its 36 graduate programs; its strong interdisciplinary and international engagement; and its effective commitment to undergraduate education. Aggressive pursuit of quality is embedded in the culture of the School. The School's goal is to be the outstanding center for arts and sciences in the world.

This goal is, we believe, within reach. It is, however, resource-dependent. The theme of this plan is that the School can excel in all four of its missions by accepting resource constraints as a challenge for imaginative change provided that the number, quality, morale, and support of standing faculty are maintained at least at the reduced levels of 1993. We will

achieve this goal by being efficient, flexible, forward-looking, selective, and alert to opportunity.

The following are the operating assumptions and goals for SAS as it moves toward the twenty-first century.

1. Undergraduate education lies at the very heart of our enterprise. Undergraduates are our primary consumers; it is their tuition dollars that pay the salaries of every standing faculty member in our School. Practically, as well as ethically, our primary goal must be to build the best undergraduate school of arts and sciences in the world.

2. In this time of financial constraint, we have to use our resources wisely. We have to be inventive — to seize opportunities to reorganize our intellectual efforts in order to achieve economies as we go about our business. Most important, we must make choices about the initiatives in which we should invest but also eschew investments where we do not have a good prospect of achieving distinction and have the necessary determination to cease making investments in areas no longer at the forefront of our endeavors.

3. We are operating within a global community of ideas. The transmission of knowledge routinely crosses national boundaries, and, therefore, we must present ourselves as a genuinely international School, with a faculty, a research agenda, and a program of instruction that reflects that reality.

4. We are an outstanding School of Arts and Sciences that lies at the center of a University blessed with excellent professional schools. The School of Arts and Sciences and the professional schools have a growing need to work together in order to further both the School's mission to educate students in the liberal arts and the professional schools' mission to redesign professional education as a form of liberal education. We will rededicate ourselves to serving as a vital and active intellectual center for the University, building bridges to the professional schools in both research and teaching.

5. We must work diligently to reconcile the paradox of an institutional culture that gives unusual financial and administrative autonomy to individual departments, but which at the same time is in its intellectual orientation determinedly inter-disciplinary. It is in large measure through a focused and carefully considered commitment to promoting inter-disciplinary research and teaching that we will meet the challenges of organizing and applying the new knowledge of the twenty-first century, and we must develop institutional mechanisms within the School, and between schools, that nurture, rather than hinder, those efforts.

Background

The School of Arts and Sciences is characterized by a mix of strengths that, together, give SAS its special personality, and distinguish it from arts and sciences in other major universities. These include:

An excellent research faculty and strong graduate programs across the spectrum of intellectual disciplines (see Part II, sections 1 and 3 below). SAS is characterized by both quality and range. Rather than having a few programs targeted for excellence, SAS strives for excellence across a wide range of fields. This range is necessary for the School to be able to work effectively as a bridge and support to professional schools that address widely diverse social activities—from art through law, social work, and education to business, engineering, communications and the health professions. Intellectual connections are also important with the University Museum.

Well-established, innovative, and successful undergraduate programs that build on the School's interdisciplinary strengths and the faculty's commitment to both research and teaching (see Part II, section 2, page S-10).

Unique cross-school opportunities, because of the presence of eleven professional schools on the same campus as SAS, and the University's strong interdisciplinary character. SAS has a commitment to provide leadership in developing research and teaching programs that optimize the University's intellectual resources and strengthen the University as a whole.

First-rate programs of continuing and life-long education, with substantial involvement in language education (see Part II, section 4, page S-13).

An unusually strong international emphasis throughout the School. SAS is a leader in the University's programs in international education (see Part II, section 5, page S-15).

Location in a significant, cosmopolitan urban area of the United States, with substantial opportunities for faculty and students to engage in community research and service.

This plan is designed to maintain the mix of scholarly pursuits that characterize this exciting School and make it a formidable intellectual presence. What we have now is successful and irreplaceable. The School of Arts and Sciences is strategically prepared to enhance Penn's leadership in higher education into the twenty-first century by doing well what we do best.

Radical changes in direction for the School have been carefully considered, and rejected. The School is strong because it comprises a dynamic, constantly changing array of intellectual interests. Flexibility in priority-setting is the key to future success. Trade-offs will be made across fields, activities, and departments, which take into account areas of growth and decline (both nationally and in the School), potential for excellence, faculty leadership, unusual opportunities, and immediate teaching and research needs.

The School is committed to innovation and increased productivity through efficiency; SAS has, for example, the lowest ratio of administrative/clerical expenses to faculty expenses of any school at Penn. The School will continue to cut costs and seek additional revenue. We reject a policy of reducing the standing faculty further because it would weaken the School's intellectual excellence. But in order to maintain our standing faculty, we must increase income and/or make cuts in other areas.

There are no ready formulas nor easy solutions. In order to build the strongest possible School for 2000 and beyond, faculty and administrative officers will work together as a unified, proactive force. The School's strength lies in the faculty's and administration's vigorous commitment to higher education at Penn, in the practical belief that bold measures can be achieved, and in the recognition that the School is well-poised to achieve its goals, even through lean years.

The Creation of the School

The University of Pennsylvania has long been an innovator in education in the arts and sciences. In the eighteenth century, The College of Philadelphia, as Penn was then called, was unique among its colonial peers in its radical departure from the traditional ecclesiastical curriculum. It provided instruction not only in the classics, but also in the more "practical" disciplines, such as mathematics, physics, modern languages, and government. It also established early on a close and fundamental relationship between the liberal arts and the professions. It was from their chairs in The College that James Wilson in law and John Morgan, Benjamin Rush, and William Shippen in medicine shaped the professional programs that made Penn the nation's first University.

Such cross-disciplinary relationships established an honored tradition and a distinctive point of view that have continued throughout the history of the University. In the 1970s a renewed focus on the centrality of the arts and sciences led to an effort to integrate strengths in professional and graduate areas into a more fully developed liberal arts core that would "best enable the University to face the future as a single community of learning." On the undergraduate level, the men's and women's student bodies, which already shared the same faculty, were formally united in a larger and stronger College. These two undergraduate bodies, together with the continuing education programs offered through the College of General Studies (formally under the jurisdiction of the Provost) and the College for Women's Continuing Education Program, were joined with the Graduate School (previously separate) and with four social science departments from the Wharton School, to create what is now known as The School of Arts and Sciences.

Under the structure created in the spring of 1974, the School joined together 528 faculty members, 28 departments, 33 graduate groups, and eight academic programs and centers, to become Penn's single largest component. From the outset, SAS focused both on strengthening the core disciplines and on increasing mutually beneficial interactions among the arts and sciences and with the professional schools. New interdisciplinary majors were formed, bringing the number of undergraduate major programs to 45. Dual degree options were expanded, three interdisciplinary graduate groups were added, and 12 new academic programs were established. The School began immediately to build on Penn's rich diversity to create unique alliances and opportunities. On its tenth anniversary in 1984, the School published a report that honored its "Decade of Distinction." This document chronicled the achievement of the new School's initial task of establishing a coherent academic and administrative framework.

As the "Progress Report" in Appendix A amply demonstrates, the School can take considerable pride in the strides it has made toward achieving the goals enunciated in its 1987 Five-Year Plan. The School was able to enhance significantly—both in terms of endowments and term gifts—the support it

was able to extend to its research faculty. Undergraduate programs in the College of Arts and Sciences have been strengthened across an impressive range of areas. The implementation of the General Requirement, the introduction of new, proficiency-based language requirements for all students, the establishment of the Writing Across the University Program, the inclusion of computer applications in undergraduate courses, the strengthening of the advising system—these were all successful efforts initiated as a consequence of the planning process of 1986-1987. The School also made significant progress in achieving its goals in graduate fellowships, increasing the amount of fellowship support from \$2.6 million in 1988 to over \$4 million in 1992. With the introduction of the new Master of Liberal Arts degree, our College of General Studies has begun an extension of its offerings to the graduate level that, taken together with the program in Dynamics of Organization, has addressed many of the issues raised in the 1987 Plan's call for a new Graduate Division of Continuing Education.

As impressive as those accomplishments are, there are some notable areas in which the School fell short of its goals, requiring us both to re-evaluate some of our objectives and work even harder in the future to achieve others. Our initial, high expectations that Arts and Sciences would be the central beneficiary of the Campaign for Penn have been, to date, only partially realized. While we can take pride in our success at establishing 32 new endowed chairs, we nevertheless fell short of our goal of 75. Similarly, the School's commitment to establish an endowed research fund for its faculty did not come to pass. Increasingly, too, the pressures of student financial aid emphasized our need for increased income. One of the most pressing challenges facing the School during the remainder of this century is to generate a base of endowment income that will enable us to maintain the high quality of our faculty and of our undergraduate and graduate programs.

Development and Implementation of the Strategic Plan

This plan is the result of an extraordinary collective effort. In January of 1992, Dean Rosemary Stevens established a Planning and Priorities Committee (PPC) composed of faculty and student representatives. The Committee met throughout the spring to consider broad issues of higher education and the current status of the School. During this period, five task forces prepared planning reports for undergraduate, graduate, lifelong, international, and area studies education. In addition, each department

was requested to develop a long range plan by the fall.

The PPC reviewed the five task forces' reports in order to develop long range goals for the School in these areas. Dean Stevens also established three Divisional Planning Committees for humanities, social sciences, and natural sciences to review all of the departments' plans. In December, 1992 the three divisional committees and the PPC met to discuss the relationship between the departments' plans and the general goals of the School. The result of this meeting was a framework for the plan and a set of goals for each of the strategic areas of faculty, undergraduate education, graduate education, lifelong education, and international education. Drafts of these and supporting sections were prepared during the first three months of 1993 with continual review by the PPC. At the same time, the PPC reviewed reports of the three divisional committees on the five-year plans of each of the School's departments, considered appropriate trade-offs as the School makes priority decisions for the 1990's, and incorporated the results into the plan.

The plan was submitted to the standing faculty for review in mid-March, and a special faculty meeting was held for faculty discussion and review. The result of this collective effort is this strategic plan for the School of Arts and Sciences—*Priorities for the Twenty-first Century*.

The School will establish a planning committee appointed by the Dean in consultation with the faculty to implement the Plan. This committee will make a formal report on progress at the end of each academic year and will work with the Dean to revise and update the Plan on an annual basis. This committee will initially comprise members of the PPC. The PPC's Divisional Panels will also continue through the period of implementation of this Plan, to provide guidance and advice on departmental and programmatic issues.

Organization of the Plan

Recognizing the multiple missions of the School of Arts and Sciences, Part II focuses separately on faculty, undergraduate education, graduate education, and lifelong education. A fifth section addresses international education separately because this is a stated University priority.

Part III of the plan sets out goals for facilities and technological support. Part IV outlines the School's fiscal needs through the year 2000, including levels of University subvention. Part V sets out the School's priorities for fund-raising, emphasizing the School's serious shortfall in endowment. Progress reports on programs and fiscal status since 1987 are included as Appendices.

II. Five Strategic Areas

1. Faculty

Our faculty is our most valuable resource. It is the heart and soul of the School, the mainstay of the two, mutually-supportive enterprises in which we are engaged—research and teaching. The single greatest challenge in the years to come is to enhance the quality and effectiveness of the School's faculty during a period of continued fiscal constraint. The goal is threefold:

(1) To maintain a standing faculty of sufficient size to assure and, where necessary, to extend the intellectual range of the School; to ensure flexibility in organizational response to new intellectual and financial opportunities; to strengthen links with the professional schools; and to increase our competitiveness among US and foreign universities. The specific goal is a faculty of 480 members in 1993-94, with a stable faculty size in the range 480-490. (For purposes of comparison, the School has about the same number of faculty in Arts and Sciences as Stanford and Columbia, but substantially fewer than Harvard and Yale, each of which has at least 50 faculty more than Penn.)

(2) To support this standing faculty during a period of severe financial constraint without compromising our ability to compensate faculty adequately;

(3) To utilize faculty resources within the School and across schools far more efficiently than we have in the past.

A major key to our success will lie in our ability as a School to inspire and nurture our faculty, at a time when institutions of higher education across the country face mounting public criticism, and to improve the quality and efficiency of the education that we provide throughout the School.

How far these goals can be met—or exceeded—depends on the implementation of the strategy set out below.

Creating a Faculty for the year 2000

The prerequisite strategy for faculty development is to continue to achieve economies in support staff, equipment, purchases, and other categories of current expense wherever possible, in order to shift all possible resources to standing faculty. Where desirable, several temporary or part-time faculty positions will be combined to create standing faculty positions. Rationalization of the use of staff will focus on services that most enhance faculty research and teaching; and we will improve the quality and efficiency of staff skills with additional training. Geographical concentration of departments (notably in Logan and Williams Halls) will provide special opportunities to streamline and upgrade administrative support.

Faculty size and faculty compensation are related issues. Even modest expansion in the size of our faculty without careful planning would severely compromise our ability to maintain competitive compensation levels for existing faculty. For that reason, decisions about faculty appointments over the next seven years will be tied closely to a clear evaluation of the contributions that each of our departments makes to our programs of undergraduate education, graduate training, and scholarly research, and to overarching School-wide and University priorities. Guiding principles for the next seven years are: to build on departmental and programmatic strengths; to seize opportunities to forge new areas of distinction; to foster the distinctiveness of SAS as a School; and to avoid committing resources where, given present budgetary prospects, we have no realistic prospects of distinction and/or no overriding curricular justification. In some cases, this may mean the consolidation, reorganization, or elimination of departments.

The School of Arts and Sciences has built a tradition of "promoting its own," because of care and high standards in hiring, tempered by rigorous

qualitative evaluation for promotion. This policy is a healthy and advantageous aspect of faculty culture in SAS. The long term vitality of our faculty depends on a healthy balance between senior and junior scholars, so that our ranks are continually and effectively renewed by appointing the most promising junior faculty in the world.

Eighty-two percent of our current faculty are tenured. This situation limits flexibility across scholarly fields as knowledge changes. Thus, the School's policy for the next few years is to focus on the appointment of untenured assistant professors rather than on appointments at the senior level. This strategy will enable the School to maintain, and perhaps to increase faculty size within the financial constraints that currently confront us, while assuring within each department the balance of age and experience necessary for our future vitality. This is a particularly propitious time to recruit junior faculty because the current pool of highly-trained job applicants is especially attractive. Our goal, however, does not exclude strategic senior appointments.

Considerations of new faculty appointments come at a time when the cap on retirement at age 70 is being lifted (in 1993). The effects of this shift are at present unclear. However, it is clear that in order to provide openings for new faculty we must ease the transition of senior scholars into retirement, without loss of dignity and/or access to research materials, by developing successful incentives. In turn, the School will benefit where emeritus faculty choose to share new work with colleagues and students. An important goal for faculty development is thus to provide senior scholars on the faculty with an optimal set of alternatives as they consider retirement. This might include the opportunity to do part-time teaching or to play active roles in advising and other support services for a specified period, adequate access to work space, and appropriate research facilities after retirement. Fulfillment of this goal will depend on specific financial conditions, but will ideally be achieved within the next seven years.

We will also develop non-discriminatory job performance standards in order to ensure that all faculty are meeting their responsibilities as teachers and scholars, so that faculty members who are considering retirement have a defined benchmark for making an informed choice whether to retire or fully continue in their departmental and professional duties.

Inclusion of a range of experiences is an important key to our success as a scholarly community. Universities perpetuate conservatism, but knowledge thrives when accepted principles and views are challenged. Our goal is to maintain a world-renowned faculty that is distinguished by diverse backgrounds and differing world-views.

The School of Arts and Sciences has made modest progress in adding women to its standing faculty, with the number having increased from 72 in 1988 to 81 in 1993, now representing 17.1% of the standing faculty. The number of women who are full professors has increased from 29 in 1988 to 35 in 1993. We would have done better were it not that SAS is a constant target for "raiding" of our women faculty by other universities. We will intensify the effort to recruit women to the standing faculty and to retain those who are here.

We will also re-double our efforts to recruit and retain talented minority faculty, as our achievements here have fallen significantly short of our announced goals. The level has remained essentially constant over the past five years. There were 32 minority members of the standing faculty in 1988 and 34 in 1993. Each department will be asked to include in its annual report recruiting goals and strategies as well as progress reports on its achievements.

Nurturing Faculty in Arts and Sciences

Research is the life force of knowledge and the basis of academic disciplines. The School of Arts and Sciences is committed to producing research of the highest intellectual standard, free of the need to justify goals or strategies in terms of specific applications. A continuing objective of the School is to provide a supportive collegial atmosphere and superior facilities to foster the scholarly aspirations of faculty and students. Their achievements, in turn, enhance the reputation of the School.

The School strives to provide for all faculty the basic financial support necessary to aid them in their research, particularly in areas for which external grant support is unavailable or insufficient. SAS has, in the last five years, made significant progress in this area. Endowed professorships and term chairs provide for those faculty chair holders modest research budgets that have significantly aided their research. In addition, we will seek endowment for a distinguished faculty fellowship program that will enable two faculty per year, selected in a competition, to devote full time to research and scholarship for twelve months. In the natural sciences, the

School recognizes that excellence in research, especially in experimental work, can require substantial resources. Although the federal government has programs to support such research, matching funds and start-up costs are often the responsibility of the country's educational institutions. The School is committed to raising the money necessary to provide these resources for our best scholars.

Progress in faculty compensation must include decisions about trade-offs in salary and benefits that will yield a total compensation package that places us among the very best of our peer institutions. We will work with University officials to create the best possible salary policies for the School.

The means of nurturing our faculty extend well beyond the marshalling of financial resources. We will also mobilize the talent and experience of our senior faculty to provide effective mentorship for the growing numbers of junior faculty who will be joining our ranks—sharing with them their experience as teachers, advisors, grant applicants, and researchers. The goal is to have formal mentorship programs in place in all SAS departments within two years, with mentorship of junior faculty considered as part of the responsibility of each tenured faculty member.

The Importance of Undergraduate Teaching

A faculty member is professionally a scholar and vocationally a teacher. In a university, excellence in scholarly research and excellence in teaching are inseparable. Scholars are fundamentally students, endeavoring to learn more about their disciplines, but they are also teachers, communicating their new findings to others. Teachers gain insight from interactions with their students. Conversely, students learn best about the questions on the frontiers of knowledge when those questions are being actively explored by their teachers. An understanding of the state of current knowledge and its dynamic nature is important to students, whatever their future careers.

The clear acceptance of interdependence between teaching and research has marked the School of Arts and Sciences from its beginning. A primary goal for the School, and therefore for the faculty during the 90's, is to complete a process already begun: to create the best undergraduate program in any research university. By coordinating and concentrating the many and diverse skills of our faculty and by emphasizing the central importance of undergraduate teaching, SAS will create a vibrant and interactive teaching and learning environment for both faculty and students.

The School will ensure high-quality undergraduate teaching by requiring evidence of excellent teaching for promotion and tenure and as a component in salary increases; and it will encourage teaching improvement through consultation, self-evaluation, and other support systems. SAS will not countenance reduced teaching as a bargaining chip for faculty who are entertaining offers from other universities, or as an incentive for new recruits.

Enhancing Faculty Responsibility

If there is a dominant and recurring refrain throughout all of American economic life today, it is the need to bolster American "competitiveness" in order to increase the efficiency with which we produce and deliver goods and services. On the one hand, those involved in American higher education can take pride in the knowledge that we are engaged in an enterprise in which American accomplishment is pre-eminent: our system of higher education is envied by others as the finest in the world, a fact evidenced by the increasing flow of students from abroad to research institutions like Penn. However, we are not without our faults. Indeed, among our "consumers," there is a mounting and vociferously articulated sentiment that faculty should be doing more—that they should be spending as much time and energy in the classroom as in their research. Mechanistic "solutions" that appear to flow logically from these criticisms must be avoided. We must find ways in which to utilize more effectively the inherent strengths of a great research university.

We believe that every department in the School should develop and support an explicit policy of faculty responsibility regarding research, teaching, advising, and mentoring. Because demonstrated excellence in teaching is an essential criterion for the granting of tenure in the School of Arts and Sciences, it is imperative that departments develop programs of evaluation and mentoring that enable faculty at all levels in their careers to meet their maximum potential as graduate and undergraduate teachers. It is also important that departmental policies of faculty responsibility include an extensive and explicit commitment on the part of all faculty to implementing the advising goals outlined in the sections of this plan on undergraduate and graduate education (Sections 2 and 3 below). All of these policies should be explicitly incorporated into departmental recommendations respecting promotions and merit salary increases. Indeed, future allocation of resources

to departments will be tied to the development of such policies.

Research and teaching goals should be mutually reinforcing. While the interaction of those goals is a natural concomitant of graduate education, the School is committed to developing programs at the undergraduate level that bring the research strengths of our faculty to our students. Toward that end, the School will encourage: the creation of additional research mentorships for undergraduates; the creation and enhancement of departmental honors programs that introduce advanced students to sustained research; and the establishment of a fund within the School to underwrite undergraduate research expenses.

2. Undergraduate Education

Introduction

Undergraduate education in the School of Arts and Sciences takes place in the College. Located within a research University that is nationally acclaimed for the strength of its graduate programs and its professional schools, the College seeks to draw on the strength of our own faculty and of the entire University to create an intellectual culture that will inspire in all undergraduates a passion for learning, a capacity for critical thinking, and a seriousness of purpose that will equip them to lead productive and satisfying lives.

Since the last five-year plan, the College has made progress on several fronts, including the General Requirement, the writing requirement (beginning in the fall of 1993), the Penn Reading Project, the expanded array of faculty-taught Freshman Seminars, and the improved pre-major advising system that involves both faculty and peers as advisors. In mobilizing our resources to produce the best undergraduate education in any research university, we must maintain our momentum in established areas. We have also identified new challenges: we will insure that all first-year students have a faculty advisor (as well as a peer advisor and access to Assistant Deans for Advising), and we will integrate pre-major and major advising; mathematics and science instruction will serve the needs of all our students; capstone experiences will enrich the senior year; the curriculum will be fully international; we will work to realize the goal of "one university" by creating more partnerships between the College and the other schools on this campus; we will find a proper home for the College; and, perhaps most important, we will create a truly intellectual environment at Penn, one in which undergraduates will experience the finest teaching and faculty/student contact.

Maintaining our Momentum

A series of exciting and successful innovations during the last five years must be consolidated and maintained while we look for new opportunities to improve the quality of our undergraduate offerings.

The General Requirement. The initiation of the General Requirement in 1987 realized the School's philosophy of introducing undergraduates to a broad range of intellectual interests. The agreement by our diverse faculty to identify sectors of knowledge and specific courses within each represents a major cooperative enterprise. Initial reviews of the General Requirement have since produced some modifications. We are now ready for a full review of the entire program. We need to create new courses and not just fit existing courses into the sector framework. We must also develop sets of science courses with depth for humanities and social science majors, as well as courses for natural science majors seeking to extend their interests into other areas of science.

The Penn Reading Project has attracted national attention as an outstanding effort to provide greater coherence to the first-year experience. With support from the Provost and cooperation of the Council of Undergraduate Deans, the School of Arts and Sciences has taken the lead in introducing the project in all of Penn's four undergraduate schools to enable all first-year students at the University to share an intellectual experience. The interdisciplinary aspect of the program was enhanced by heavy participation of faculty from several of Penn's schools who served as group discussion leaders. During the next five years, we will strengthen the program to insure that this intellectual experience lies at the heart of the orientation that introduces first-year students to the University. We will also increase our efforts to provide meaningful follow-up activities throughout the year.

The Freshman Seminar Program has proved to be one of the most successful and valuable components of the freshman experience. We have provided added incentives for freshmen to enroll in these special seminars by allowing students to count one seminar toward fulfillment of the General Requirement. We will institutionalize the program by encouraging

departments to build such courses into their regular roster, and we will also explore and expand the potential contributions of faculty in Penn's engineering, medical and other schools.

The Writing Requirement. Penn's renewed commitment to encouraging excellent writing began in 1982 with the establishment of the Writing Across the University Program (WATU). Since that time, hundreds of College courses have provided students special attention to their writing. With the implementation of the new College writing requirement in the Fall of 1993, every College student will be required to take either a semester-long writing course or two WATU courses. To meet the demand created by this new requirement, new writing courses will be created not just in English but in various departments, and faculty will be encouraged to enrich the writing component in existing courses. In addition, special efforts will be made to broaden the number of science and social science courses in the writing program.

Advising

Increased Faculty Participation. The academic counseling system for pre-freshmen and freshmen has been restructured and expanded since the last five-year plan by pairing upperclass "peer advisors" with an expanded number of faculty advisors, and by requiring that freshmen meet with their faculty advisors prior to registering for courses. We will encourage more faculty to participate in this program so that all first-year students will have a faculty advisor (as well as a peer advisor and access to Assistant Deans for Advising). In addition, we will extend such advising until the end of their sophomore year, when students are required to choose a major.

Coordination of Services. Our success in improving, expanding, and customizing advising has now created the need to integrate the many types of advising that are available to our undergraduates. We must create a system that is readily comprehensible and accessible and that provides seamless transitions as students' changing needs are met by different advisors. To accomplish this, we will integrate the services provided by the Assistant Deans in the College Office, the Assistant Deans for Residence, faculty serving as freshman advisors, upperclass peer advisors, faculty serving as major advisors, and the Career Planning and Placement Office.

Undergraduate chairs, Assistant Deans from the College Office and residences, and representatives from the Career Planning and Placement office will meet regularly to coordinate their services. Academic advisors will receive improved information about vocational choices and requirements, including new Penn programs such as those for primary and secondary school teachers. It is especially important to integrate academic advising and initiatives with the non-academic advising and support provided by the Office of Student Life. For example, strategies will be developed to encourage residually-based advisors to identify students with emotional or study-habit problems and to coordinate with the student's other advisors. Study groups suggested by faculty and other advisors for subjects such as mathematics and sciences in which students work together on assignments will be organized with facilitators and support in the residences.

Assessment. We cannot improve our services without measuring our students' success and satisfaction with our efforts. Exit interviews of selected seniors and other creative "polling" devices will be conducted to evaluate the effectiveness of advising and other services, with follow-up of alumni five years after graduation. In addition, the College Office will initiate an electronic Dean's Forum whereby students will be able to get advice, and we will be able to gather their feedback on programs.

Initiatives in Mathematics and Science Education

We must develop in each student an understanding of the remarkable intellectual achievements of this era in mathematics and science and their technological consequences. Such knowledge is essential for a responsible citizenry to make wise choices. We cannot teach our students all of the substantive information that they will need for future decisions that require scientific information and judgements, but we can prepare them by providing the basic skills and knowledge to understand and analyze new problems when they arise.

Mathematics. We are already in the midst of a revolution in undergraduate mathematics education at Penn. In the Fall of 1993 a major revision of our calculus curriculum will go into effect, introducing into all calculus courses symbolic-manipulation software that will change the emphasis from manipulation to a deeper understanding of underlying phenomena and that will enable students to solve more complex, open-ended problems. These changes will affect students in all disciplines that require calculus—not just science, business, and engineering.

Introductory Science Courses. Efforts to improve undergraduate science and mathematics education reach across School boundaries. SAS science and mathematics departments already provide vital educational services to Penn's other schools. To ensure that we are meeting the science and mathematics needs of these constituencies as well as of our own SAS students, SAS will organize a council of science and mathematics chairs and undergraduate chairs to coordinate changes in content, presentation, demonstrations, and laboratory activities for basic mathematics and science instruction. SAS will also organize regular consultations with departments and Schools throughout the University whose students are served by SAS courses. The School of Engineering and Applied Sciences, for instance, is formulating and will be implementing major curriculum revisions over the next several years. SAS will work closely with SEAS to provide the basic science and mathematics instruction required for future generations of applied scientists.

The Major

Selecting a major is a confusing and stressful experience for many of our students. Career and academic considerations may pull in different directions, and the sheer number of majors available to College students can be daunting. The varied standards of different majors also present a challenge in meeting graduation requirements. SAS will simplify the process of selecting a major by extending faculty advising through the sophomore year, by ensuring that academic advisors and career counselors coordinate their efforts to advise freshmen and sophomores who are considering majors, and by providing clear and early statements to students by means of expanded publications and other forums regarding what is expected of them in the major program and what they may hope to achieve. We will also continue to encourage double majors, where appropriate, including those involving other undergraduate schools at Penn.

In many disciplines, culmination of a student's study in the major should be some sort of senior "capstone" experience. Since disciplines vary by ideology and methodology, it is not possible to advocate a single model of capstone. Many departments already offer majors with an excellent academic record an honors track that involves the writing of a senior thesis based on individual research. Others may offer departmental senior seminars or courses that cross department boundaries, internship experiences, or comprehensive senior examinations. SAS will encourage as many departments as possible to create or enhance research opportunities and/or honors programs for their undergraduates.

One University

Among the ten largest majors in the College in 1992, three involved interschool cooperation: Biological Basis of Behavior, Communications, and Design of the Environment. (The largest majors were History, English, Economics, International Relations, and Psychology; Biology and Political Science were also in the "top ten"). Nevertheless, perhaps the area of greatest untapped potential for the growth of undergraduate education at Penn lies in the area that most evidently distinguishes SAS undergraduate education from that offered by our peers -- our location in the midst of a great University with eleven sister Schools on a single campus. The challenge is to build innovative bridges between SAS and Penn's professional schools in order to extend undergraduate opportunities offered by professional schools while simultaneously exposing non-SAS undergraduate and professional students to the liberal arts and sciences. Some examples follow.

The Sciences. The large Biological Basis of Behavior major is an interdisciplinary, inter-school program that has been in operation for almost fifteen years and is widely recognized as pioneering. It includes faculty from Penn's medical, nursing, and veterinary schools as well as from the SAS departments of Anthropology, Biology, Chemistry, Mathematics, Physics, and Psychology. The Cognitive Science Minor Program, which explores a broad range of research questions in the area of cognition, includes faculty from the SAS departments of Linguistics, Philosophy, Psychology and Mathematics, as well as from the department of Computer and Information Science in the School of Engineering and Applied Science. All Biochemistry majors do one year of laboratory research, many in the Medical School, with some either in the Veterinary or the Dental School. Other science programs may offer similar opportunities on an individual basis.

Joint Wharton/SAS Program. Currently, the School of Arts and Sciences and the Wharton School are working together to construct an optimally integrated curriculum joining the strengths of the two schools. The joint Wharton/College Program in International Studies is modeled on the Management and Technology program between Wharton and SEAS.

This program, unique in the country, will attract exceptionally well-qualified students who can demonstrate proficiency in a foreign language prior to matriculation. It integrates management studies with area studies, advanced and applied language study in the area of concentration, and international studies. Limited to about forty new students each year, the forty-credit program commences with a two-semester proseminar in macro-economic theory and modern world history, provides two special science courses in the sophomore year dealing with the global environment, includes a semester abroad in the junior year, and culminates in a two-semester senior seminar team taught by faculty from both schools. Students complete the General Requirement in the School of Arts and Sciences as well as all of the foundational business courses in the regular Wharton program. Leading to both a Bachelor of Arts and a Bachelor of Science in Economics degree, the program promotes an understanding of cultural and economic diversity, international politics, international economics, and international business, as well as the ability to function effectively in another language and culture. Graduates of this program will have received the finest possible undergraduate preparation for careers with an international purview in such fields as law, business and finance, education, government, and environmental service. This initiative shows great promise and suggests directions into which we might move in the future.

Education. A strengthened partnership between SAS and the Graduate School of Education could produce the next generation of teachers who are so much in demand while also addressing our students' vocational concerns. The Deans of the two Schools will develop new programs, improved courses, and other curricular innovations to make it easier for all SAS students who wish to pursue careers in primary and secondary teaching, particularly in science and mathematics, to complete the required training and certification.

Interschool Minors and Certifications. Finally, SAS will work to give our students more interdisciplinary opportunities within the context of traditional arts and sciences concentrations by modifying applicable rules and requirements in order to allow our students to take minors in other Schools or to achieve "certifications" that can be reflected on a transcript. Of course, we also wish to work with other Schools to encourage their students to take SAS minors and certification programs. Such multi-lateral involvement will enrich the intellectual experience of all of Penn's undergraduates, and will enable SAS to support the professional aspirations of many of our students without weakening their liberal arts education.

A Home for the College

The centrality of the College of Arts and Sciences within the School and within the University must be represented physically by a central and prominent location on Penn's campus -- now lacking. Our departments, faculty, advisors, and classrooms are dispersed throughout the campus, and College students have no central location in which to gather. This creates obvious practical problems and less obvious psychological obstacles for students. If we are to project an image of the integrity of the College to recruits, to matriculating undergraduates, to the University, and to ourselves, we must be a beacon on Penn's campus. Plans for integrating physical facilities are discussed in detail in the Facilities section of this plan.

Teaching

As part of the renewed emphasis on teaching mentioned in the section on the faculty above, SAS will redouble its efforts to provide opportunities for faculty to obtain useful evaluation and feedback concerning their teaching, to improve skills and master new teaching styles, and to exploit new technologies in their classrooms. To this end, we have recently compiled an inventory of teaching resources available in the School, produced a teaching manual, and introduced a mentoring program that pairs any interested instructor with an award-winning teacher to review videotaped classroom presentations or to discuss teaching. The task now set for this incipient Teaching Resource Center is to ensure that faculty have ready access to these resources, to acquire additional resources as needed, and to promote a culture among our faculty in which excellence in teaching and research are mutually reinforcing. A further objective is to help prepare our graduate students for their duties as teaching assistants and for careers that will include pedagogical responsibilities. Since the last plan, SAS has introduced a school-wide orientation program for all new teaching assistants. This will be expanded and refined. Many SAS departments offer additional specialized training, and more will be encouraged to do so. Rigorous English language proficiency testing and training programs have been instituted that exceed the requirements imposed by recent state legislation. Faculty and graduate groups will improve the placement, training, and performance of teaching

assistants during the next seven years by improved mentoring and monitoring, as explained in other sections of this plan.

Coordination of Academic and University Life Functions

So far, this plan has reviewed and made recommendations concerning curricular and instructional matters. Even if it were possible, however, to formulate a perfect curriculum taught by perfect teachers, the question still remains whether SAS undergraduates have sufficient experience of and engagement with the intellectual life of the University. It is a sobering fact that the average undergraduate attends formal classes for only about 15 hours a week, roughly 15% of his or her waking hours. It is essential that we focus more concretely on how the other 85% of the undergraduate experience might contribute to our student's intellectual development. Here the residences and the University Life division can play a crucial role. For example, while residences are generally regarded as falling under the purview of "student life," the 1989 Provost's Working Group on Undergraduate Education correctly emphasized that residences also offer unparalleled and still largely unexplored educational opportunities, and that some of the most effective strategies and formats for learning (as advocated, for example, in the Harvard Assessment Seminars) are precisely those that can be most readily located in the residences - peer advising, collaborative learning, and House based seminars and recitation sections. In addition, the residences can serve as educational laboratories, where departments and individual faculty members can offer interdisciplinary or experimental courses, where students can work with faculty to initiate new courses, and where educational technology can be most readily integrated into the curriculum. In the future, we will seek to coordinate academic and "university life" functions more closely (particularly in longer range planning efforts and in decision making that affects resource allocation). Such coordination offers our best opportunity for integrating the experience of the modern research university with the older and still valid ideal of the university as a community of scholars.

3. Graduate Education

Graduate education is essential to the intellectual vitality of a research University. The primary purpose of doctoral education is to prepare scholars and scientists to make original contributions to the development of new knowledge and to be the next generation of faculty. In some disciplines, a master's program is offered. As apprentice scholars, graduate students engage the creativity and knowledge of the faculty, stimulating as well as performing new research. As teaching assistants, graduate students promote the undergraduate mission of the School of Arts and Sciences. The presence of graduate programs provides undergraduates with opportunities for advanced work and research that would otherwise not be available, and serves to maintain an intellectual vigor that keeps faculty at the forefront of their fields.

The Graduate Division of SAS offers doctoral and master's degree programs through 36 graduate groups, many crossing departmental and disciplinary lines. Graduate group faculty make admissions decisions, devise course and degree requirements, and certify successful completion of degree requirements. The administrative role of the Graduate Division is to support the intellectual efforts of graduate groups, review their programs, and activities, provide incentives and rewards for successful programs, monitor students' progress, and provide students with advice and assistance as needed.

Our planning for graduate education in SAS through the remainder of this century occurs in an atmosphere of significant uncertainty. On the positive side, the quality of graduate programs across the School—and the quality of students applying to those programs—has never been higher. On a more troubling note, academic employment opportunities for many recent Ph.D.'s have in the last few years been unusually constrained. While most demographic projections suggest an "opening up" of academic employment opportunities toward the end of this century, financial uncertainties in higher education, together with the unpredictable effects of the repeal of mandatory retirement provisions, require a level of caution as we contemplate any expansion of our graduate programs. The one certain principle that we must follow during an era of financial constraint and job-market uncertainty is to make our investments in graduate education selectively. We must support well those programs in which we have achieved distinction; we must invest in those programs in which we have significant promise of distinction; but we must be cautious about using our finite resources in graduate education to support programs that are not central to our academic mission or that may not promise the distinction that is expected in pursuit of that mission.

Recruiting Outstanding Students

Central to the School of Arts and Sciences's strategic plan for graduate education is the recruitment of outstanding students into its graduate programs. Currently 2140 students are enrolled, a slight decrease from five years ago. (At present, Penn awards more earned doctorates than Chicago, Columbia, and Yale; fewer than Berkeley, UCLA, Stanford, Harvard, Cornell, and MIT.) By the late 1990s, an increase in faculty retirements should create an increased demand for new Ph.D.s. At the same time, however, constraints on the ability of universities to support graduate education will make the funding of graduate education more difficult. An important goal of the strategic plan is to balance these competing forces while improving the quality of our programs.

Fellowships. In order to attract outstanding graduate students, the School of Arts and Sciences plans to increase the number of multiyear fellowships while maintaining the ability to provide adequate student stipends. This may mean an overall reduction in the number of graduate students funded. Available support from University resources includes approximately 445 teaching assistantships and 215 University Fellowships. However, serious gaps remain, particularly in providing multi-year fellowships, which are important for recruiting outstanding graduate students, and twelve-month and dissertation fellowship support, which are needed to reduce the time it takes to achieve a degree.

The School of Arts and Sciences will work toward increased graduate student support through University sources as well as outside corporate and government foundations. Given overall financial pressures at the University level, however, trade-offs in the use of existing support are necessary as a short term goal. Graduate Groups will be asked to redesign and recommend improved packaging of existing support to meet each Graduate Group's most important unmet needs. For example, this might be in the form of trading off increased multi-year or dissertation fellowship support against the total number of grants.

In addition, given financial restrictions, the support that is available to the School of Arts and Sciences will be targeted to those programs that have a clearly defined mission, a well structured program to achieve the mission, and a demonstrated ability to produce and place outstanding graduates.

Recruitment of Women and Minority Students. The School of Arts and Sciences will continue its efforts to increase the proportion of women and minorities within its graduate student body. This effort must extend especially to those areas of scholarship in which women and minorities are under-represented, including the natural sciences as a whole. In the past five years more progress has been made in attracting women than in attracting minority students. SAS recruitment efforts will benefit from the recently established Chisum Recruitment Fund, which pays for campus visits by successful minority applicants, and from the Graduate and Professional Program Initiative for Students of Historically Black Colleges and Universities, which offers summer research residency to promising black undergraduate scholars and makes provision for subsequent graduate recruitment through special fellowships.

A positive learning environment is important for all doctoral students, but is crucial for women and under-represented minorities. Hence, progress in increasing the number of women and minority graduate students will benefit from greater progress in recruiting women and minority faculty to Penn into all departments and graduate groups.

Communication. The best means for attracting outstanding students is not only to have an excellent faculty but also to communicate that fact strongly to prospective students and their advisors. The Graduate Division is committed to working with Graduate Groups to reduce communication gaps in the recruitment of graduate students. Special attention will be given to streamlining procedures for mailing applications and departmental materials to prospective applicants. In some fields, consideration will be given to providing travel subvention to faculty who meet with undergraduate students when presenting their work at other institutions. When possible seed money will be granted to graduate groups for recruitment conferences and campus visits. Improving the matching of graduate students and graduate programs by such conferences and visits will have the added benefit of reducing the time-to-degree problems mentioned below.

Strengthening Graduate Programs

The relative autonomy of graduate groups is, for the most part, a great strength of graduate education in SAS. Graduate Groups have separate identities, developed to meet the needs of students and influenced by the character of the faculty and the shape of the discipline. Nevertheless, careful review of individual programs, together with school-wide initiatives for

improvement, is needed to build upon this strength at a time of budgetary stringency.

A Mission Statement for Each Graduate Group. In order to retain the individual identity of Graduate Groups, while maintaining the ability of SAS to target resources, and as part of an ongoing planning process in Arts and Sciences, each Graduate Group will be required to develop its own clearly articulated statement of its mission and methods for achieving that mission. These will specify the educational philosophy of the Graduate Group; its concept of the discipline and its position in the discipline; the fields of study in which it is particularly strong and those that are not covered; the parameters it uses in determining the size of the student group and the allocation of graduate student resources among students; its specific program for teaching research methods, testing students, and providing research and teaching experience; its plans for addressing time to degree and attrition issues; and a comparison of its program with those of similar graduate programs at peer institutions.

Student-Faculty Interaction and Research Mentoring. To increase the interaction between graduate students and faculty, the School of Arts and Sciences will continue to encourage the establishment of new workshops and colloquia in cross disciplinary fields such as those offered by the Institute for Research in Cognitive Science and the new interdisciplinary workshops on "The Problematics of Identities and States" developed by faculty from the School's area studies programs.

An important function of the graduate group is the mentoring of students. Graduate students should be exposed to research early in their careers. In some fields, research assistantships already serve this need. A similar experience should be made available in other fields by channeling support into summer or semester-long research internships, in which selected graduate students in their second or third year serve as assistants in faculty research. Such a program could also be adopted in fields which have some, but inadequate, research assistantships.

Student Research Support. The School of Arts and Sciences has created a Graduate Education Fund to provide advanced students with special support for travel to professional meetings. A funding goal of SAS will be to expand the availability of seed money for dissertation projects, to help students cover the costs of research equipment and supplies, and to travel to archives, libraries, and museums.

Instructional Training. Teaching assistantships allow graduate students to develop teaching skills under faculty supervision. As teaching assistants, graduate students play an important part in undergraduate instruction. It is essential, both for their needs and for the undergraduate program, that they receive training and preparation. As part of this training, the School of Arts and Sciences conducts TA workshops and tests the English language fluency of all new teaching assistants. In addition, many departments, such as English, Music, and Mathematics, have adopted innovative programs to assist instructional training. All Graduate Groups will address this issue and establish programs for the training, monitoring, and mentoring of graduate students to be effective and stimulating teachers.

Time-to-Degree and Attrition. There is a national concern over the lengthy time to degree for many Ph.D. students and the attrition that occurs after a substantial investment has been made by the school and the student. At the same time, the ideal program length for the Ph.D. may have increased in recent years because of the larger body of knowledge that must be acquired. Of course, a reasonable period for dissertation work may vary considerably across disciplines. Some steps have already been taken in SAS to address this issue, including the newly instituted Annual Report on Dissertation Progress by students in the sixth year and beyond. In addition, a new Mellon Foundation grant has established a pilot project in five departments aimed at reducing time-to-degree.

To progress further, and to concentrate attrition in early years, each Graduate Group will be asked to develop an integrated program to evaluate the progress of students with respect to course requirements, qualifying exams, and dissertation proposals. Each student should have an assigned faculty mentor or a team of two or three mentors at each stage, and the progress of students should be evaluated annually by the Graduate Group. Graduate Groups should attempt to introduce research as early in the program as the discipline permits. To promote early research, each graduate student will be evaluated by performance in course work and by examination no later than the end of the second year.

The dissertation stage is the crucial factor in time-to-degree. Departments will provide stringent reviews prior to candidacy so that student effort and school resources are not wasted. Research mentoring is critical to progress in this area, and special attention will be given to directing students toward a topic in the period immediately after the qualifying

examination. It is a goal of SAS to provide each student with a minimum of one year of support at the thesis writing stage.

Student Information. The new Student Record System, together with an improved SAS student information system, and a new SAS graduate student data base will soon provide students and Graduate Groups with access to up-to-date, well-organized data. This data base will be expanded by adding accurate information on financial aid.

In addition, we will work with Graduate Groups to develop long-term tracking of former students, both those who have finished the Ph.D. and those who have not. This student data base will provide information on assessing and improving the different aspects of educational program of the Graduate Group. It will also serve as an important guide for improving performance with respect to time-to-degree and attrition.

Job Placement. Job placement is a crucial obligation to all graduate students. Graduate Groups and mentors should provide each student from year one with realistic career planning information that can be used in considering the implications of the student's chosen examination fields and topics for research, with respect to eventual career placement. The Graduate Education Fund can also be used to improve the competitive position of our students by helping them to publish and to present papers at national conferences.

4. Lifelong Education

The School of Arts and Sciences is committed to the enduring significance of the liberal arts and sciences for citizens of all ages. By expanding access to lifelong education programs, we enrich our own teaching, scholarship, and professional lives. It was in the context of these convictions that the College of General Studies (CGS) was founded in 1892. These convictions continue to serve as the foundation of all educational efforts in CGS. Other SAS initiatives in post-baccalaureate education, notably the M.S. in Dynamics of Organization, have been conceived and organized in the same spirit.

The School's goals for lifelong education reflect 1) our commitment to the highest educational standards; 2) the departmental and interdisciplinary interests of the SAS faculty; 3) Penn's responsibility to address the social, intellectual, and professional needs of the urban community in which we live; and 4) the School's recognition of Philadelphia's rich moral and material resources, including its libraries, private scholarly associations, and museums. Through our programs in lifelong education, the School will continue to make concerted efforts to link the University with important constituencies in the Philadelphia community. These constituencies include qualified older students; individuals with career and family responsibilities; retired persons; elementary, secondary and post-secondary teachers; high school and foreign students; University employees; and Penn alumni. An important goal for SAS is to intensify our efforts to reach out to the minority community through programs in lifelong education-- seeking to recruit, support, and retain qualified minority students of all ages through to the completion of their academic objectives.

The College of General Studies, Penn's principal lifelong education program, has expanded from a program to provide undergraduate courses and degrees in the evening for teachers and other adults into one that also provides postbaccalaureate and graduate level study, programs for young people and senior citizens, non-credit short courses and workshops, and specialized language study, including the Penn Language Center and the English Language Programs.

Enrollments of part-time students have increased in the past five years. A significant number of these students already have college degrees. There have been dramatic increases in enrollment in the M.S. in Dynamics of Organization program and in the English Language Programs. Since many of our lifelong education programs bring students to Penn who would not otherwise be here and who do not receive university financial aid, SAS benefits not only from their presence on campus but also from the additional revenues such students provide. For both reasons we will stress development of the following efforts in the next seven years.

Credit Courses and Programs

CGS undergraduate courses and degrees are the equivalent of those offered in the daytime programs of the College. SAS faculty, through departments and the CGS Executive Committee, have an essential governance role in creating innovation, in maintaining standards, and in ensuring an appropriate mix of courses for part-time and special students. Unfortunately, teaching by standing faculty in the evening and summer has declined in the past fifteen years. A long-standing goal is to increase standing faculty

participation in and supervision of CGS offerings to continue to insure that CGS courses and degree programs are educationally equivalent to our College program; however, both the downsizing of the faculty in the recent past and the increasing calls on faculty because of additional responsibilities for study abroad, may make this goal unattainable in the next few years.

CGS students earning bachelors degrees are at the core of our lifelong education programs. Our goal for the year 2000 is to increase the number of CGS students working on undergraduate degrees by at least 10 percent from the current base of approximately 600 students. In order to do this we will permit CGS degree candidates to take courses in their major during the day (at CGS rates), so as to facilitate election of regular departmental majors by CGS students. This will open departmental majors in the sciences and in other departments which have been effectively closed to qualified part-time students. In addition, we will attempt to find funds to provide scholarship support for mature local adult students seeking undergraduate degrees, with the goal of support for 25 adult, part-time students who are graduates of Philadelphia high schools.

Through programs at the CIGNA Corporation and the Colonial Penn Co, CGS has served company employees on-site who seek a liberal arts education. The employer supports student tuition charges and assists with administrative costs. We will intensify our efforts to expand and enrich such programs and to open up new sites. We will also certify a "Business Cluster", drawing on Wharton Evening courses for company-based students as well as for on-campus CGS degree students.

Many of our evening students already have a bachelor's degree and take undergraduate courses for enrichment or career development. We have developed special programs, notably for liberal arts graduates wanting to enter health professions. We will expand such opportunities wherever possible.

Graduate Continuing Education

A growing number of highly qualified adults seek to return to a university for graduate level education that is different from pursuing the Ph.D. study. These students seek self-contained masters degrees or other credentials that signify advanced learning and support both personal achievement and professional advancement.

Because Penn is the leading graduate school in this area, the School of Arts and Sciences accepts a central role in educating these outstanding students in many disciplines and departments, and in cooperation with other schools. SAS's goal for the next seven years is to intensify its commitment to such students and to offer programs that are exciting to faculty and that serve the educational needs of mid-career students. The Master of Science in Dynamics of Organization and Master of Liberal Arts degrees are the best examples so far of implementation of this goal. SAS will work toward a significant expansion of masters level programs for mid-career students, including disciplinary and departmental programs, interdisciplinary programs, and theory/practice programs, as appropriate. Possible areas include critical languages, museum studies, environmental studies, and public policy.

SAS also seeks to support and develop appropriate training and retraining programs in the arts and sciences for teachers, in cooperation with the Graduate School of Education. Fields of particular importance here are science and mathematics.

The School will develop a Faculty Council for Graduate Continuing Studies to oversee and promote self-contained masters degrees and other graduate level programs that are apart from the Ph.D. Working with the Associate Deans for Continuing Education and for Graduate Studies, the Council will have the mandate to develop new programs and create appropriate structures for implementing them, and will serve as an advocate for the needs of part-time graduate students at Penn. The Council will work cooperatively with existing programs and graduate groups; it may include representatives from other schools.

Special Language Programs

To promote language learning and to enhance international education, SAS has developed new programs that supplement regular departmental offerings. The Penn Language Center (PLC) serves area studies interests by expanding the range of less commonly taught languages at Penn. It has also developed courses to serve professional students in business and health. The English Language Program brings substantial numbers of foreign students to campus, and assists with assessing and developing the English fluency of TA's and new faculty in SAS and other schools of the University.

Our goal for language programs is two-fold; aggressive development of PLC's potential to serve additional graduate and professional students from SAS and other Schools at Penn, as well as Penn and non-Penn employees, executives and other individuals; and further development of the capacity of the English Language Programs to offer specialized programs for the international community and for local residents and the Penn community.

Public Service and Enrichment Programs

Numerous faculty take part in programs that serve youth, adults or seniors in the area, apart from study for a degree. These can be lectures, performances, non-credit short courses or workshops, or credit courses available on an audit basis. Most of the programs sponsored by CGS are designed to be self-supporting or grant-supported; all have the purpose of making Penn more accessible to residents of Philadelphia and surrounding areas. These programs will continue.

An area of renewed interest involves Penn alumni. We will work with the Development Office and the Office of Alumni Relations to develop innovative educational programs that create and maintain good connections with our alumni through "weekend colleges," travel/study programs, and/or special seminars on or off-campus. CGS will house these activities in its Cultural and Public Service Programs division.

We will continue to develop new outreach programs for employees and professionals, for example the Science Tutorials co-sponsored by CGS and the School's Natural Science Association. We will support and further develop programs for youth designed to increase the numbers of college-bound students from the local community, using both summer and academic year activities. These programs can build on the success of the Precollege Program, the Penn Summer Science Academy, the Hughes Scholars program, and the Young Writers Workshop.

Summer Sessions and Programs

The School of Arts and Sciences has traditionally administered a full program of Summer Sessions, and assists other Schools with marketing of campus credit courses that are given between May and August. In 1992, CGS offered more than 200 undergraduate courses in its two summer sessions, and sponsored Penn Summer Abroad courses in seven countries. In the past five years, undergraduate enrollments have declined in Summer Sessions, as they have in other universities. An important goal is to reverse that trend through better course offerings and increased marketing. A secondary goal is to work with other schools and university offices to increase and improve summer use of the campus for special programs and workshops, and to provide better access to Penn's facilities and cultural opportunities during the summer for outside groups and individuals. We are considering the establishment of a major Summer Institute at Penn in U.S. Studies. The English Language Programs will continue to offer a wide range of specialized summer programs for the international community, and Penn Language Center will begin to develop intensive summer foreign language programs for business and professional audiences. The overall goal is full use of the campus in the summer, both for educational and financial reasons.

As part of the School's commitment to international education, SAS will expand its support of study away from campus, including new sites through Penn Summer Abroad. CGS will also continue to sponsor specialized programs in the United States, such as the Geology Department's link with the Yellowstone-Bighorn Research Association in Montana.

Structures and Incentives for Innovative Programming

Penn and SAS have healthy and multi-faceted programs for lifelong learning. We have not developed the wide-ranging administrative structures and understandings that are common in continuing education programs at other major research universities like Harvard, Columbia and Johns Hopkins. In part this is a matter of choice. We have chosen, as general policy, to maintain credit courses and programs, especially at the undergraduate and the masters level, in the academic mainstream rather than in a separate office or school.

Within the next seven years, we will strengthen and, when necessary, alter structures for managing lifelong education, summer programs and other special programs in the School of Arts and Sciences in order to provide incentives for departments to participate in such programs; and to develop financial resources for experimentation and dissemination. SAS will appoint a task force to undertake a complete review of the budgetary status

and revenue-generation responsibilities of Lifelong Education programs, with special attention to planned reinvestment for program development, marketing and service enhancement. Our goal is to enhance the contributions of CGS and other lifelong education programs to the overall delivery of education in SAS as well as to the rest of the University.

5. International Education

Mindful that we are living in an era of increasing interdependence among the cultures and nations of the world, one of our primary tasks as teachers and scholars is to prepare ourselves and our students to live and work effectively, knowledgeably, and sensitively in that world. The international commitment of the School is not a separate ingredient in our instructional and resource programs, but a concept thoroughly integrated into these programs as part of an intellectually powerful and coherent rationale for teaching and research. Most of the faculty in SAS have world-wide working connections and many hold foreign degrees. We are committed to expanding the international dimension of our programs as unquestioned policy and routine practice.

The components of SAS's international effort are increased diversity of the student body, enhanced international content in the curriculum, a more central educational role for our excellent area studies programs, continued improvement of our language instruction programs, an international agenda for faculty development, increased attention to international library resources, and a more self-conscious fund-raising effort outside the United States. Discussions of each of these topics follows:

The Student Body

The most visible aspects of international education in SAS are our relatively large number of international students. The international students currently enrolled in the College (321), the College of General Studies (121), and the Graduate Division (640) constitute the largest proportional representation of international students in the University, and one of the largest of any university in the country. We intend not only to maintain but indeed increase the cultural diversity of our student body. The specific goal is to increase modestly the number of undergraduates studying at Penn from abroad. To achieve this we will embark on a fund-raising effort abroad that will enable us to provide financial aid to talented international students who might not otherwise be able to afford a University of Pennsylvania education.

Undergraduate Study Abroad

SAS endorses the University's goals of increasing the number of Penn undergraduates participating in study-abroad programs, and, equally important, of taking a more active stance in evaluating and certifying the academic quality of these non-Penn programs in which our students participate. Indeed, since over 80 per cent of the University's students who study abroad come from SAS, it is essential that SAS set policies and build programs in this important area.

While there are many undergraduates in SAS whose circumstances will make it difficult for them to study abroad, it is our general goal to encourage students to take advantage of the opportunity to live and to study in another culture. Approximately 20 per cent of our undergraduates currently study abroad (the third highest percentage in the Ivy League, just behind Brown but significantly less than Dartmouth's 70 per cent); it is our goal to increase the number of Penn undergraduates studying abroad to 35 per cent.

It goes without saying that the achievement of this goal will depend on our ability to construct (and fund) intellectually coherent teaching programs abroad. Most obviously, we must establish options that are both intellectually rigorous and attractive to our undergraduates. We must also integrate the academic work done in those programs with our on-campus curriculum, thus eliminating many of the academic obstacles that currently diminish the number who opt for study abroad. If Penn increases this number, we will be able to structure academic programs in ways that enhance, rather than impede, the ability of our students to satisfy both their general requirement and their departmental major obligations. And finally, we must, in cooperation with the central administration, find solutions to financial aid obstructions that presently tend to restrict study abroad to those who can most easily afford it. If we are going to be an international university for all students, we must work to be an "equal opportunity" international university.

We have made significant progress in expanding the number of Penn-directed study-abroad programs. Currently there are such programs in Belgium, Czechoslovakia, France, Italy, Japan, Korea, Mexico, Nigeria, and the United Kingdom. As this report is being written there are a number of new initiatives underway that will almost certainly increase this number,

including efforts at the University of Seville, Royal Holloway College, and Queen Mary Westfield College, University of London. For students who cannot leave campus for a semester or year, SAS offers one of the largest and most diverse Summer Abroad programs of any U.S. university. All of these programs offer regular departmental credit and are led by Penn faculty or staff. Over the last five years, an average of 260 Penn students have taken these programs each year, along with students from other colleges and universities. We are currently expanding the sites. In 1993, there will be a total of 14 programs in 10 countries. There are new sites in Prague, Bordeaux, Korea (Seoul National University) and Kiev. Continuing sites include London, Cannes, Compeigne, Tours, Fribourg, Florence, Ibadan, Warsaw, and Alicante.

The central assumption underlying all our efforts in study abroad is the necessity of taking responsibility for the academic quality of the programs in which our students are enrolled. That assumption motivates our efforts to create our own, Penn-directed programs abroad, but it also underlies our decision to evaluate and certify the quality of all non-Penn-directed programs in which our students are enrolled.

Our increased efforts in creating new programs of our own and in evaluating and certifying the programs of others require new administrative arrangements and structures. Specifically:

Faculty Involvement. SAS will involve faculty in creating new, Penn-sponsored programs. If there is one thing of which we are certain, it is that faculty must endorse enthusiastically our international education goals if we are to succeed in our enterprise. We cannot enhance our current study-abroad efforts simply by creating and imposing new programs from above. Rather, our faculty — and, more particularly, our academic departments — must feel a sense of ownership of and participation in these programs. It is our hope, therefore, that extensive faculty involvement will not only provide the school with creative leadership in the establishment of new study-abroad programs, but will also help guarantee that our student's participation in those programs enhances, rather than diminishes, the programs of departments back home at Penn.

Office of Off-Campus Study. SAS will create, within the administrative structure of the undergraduate College of Arts and Sciences, an office of off-campus study. That office will evaluate and certify the academic quality of all work undertaken by our undergraduates. Toward that end, that office will work with academic departments — and with undergraduate chairs in particular — to ensure that the academic purposes of our undergraduate departments and programs are well-served by the off-campus study programs that our students pursue. The most important and immediate task for the Office of Off-Campus Study will be to evaluate and certify the various non-Penn study-abroad programs in which our students are currently enrolled. It is our intention to impose high standards of excellence for all Penn-approved study abroad programs, and, consequently, it is our expectation that the number of programs designated as "Penn-approved" will be significantly smaller than it is at present.

Just as it will be important for the SAS Office of Off-Campus Study to work closely with other schools in program evaluation, so too will it be essential that this new office work closely with the University Office of International Programs and with Penn Summer Abroad in coordinating the administrative and financial arrangements for College students participating in these programs. SAS strongly supports the initiative to require all Penn students to deal directly with Penn in all matters relating to study abroad programs, including payment of tuition and costs for room and board. The cost-savings achieved from such a stipulation may prove significant, but in order to realize that potential it is imperative that the individual schools work closely with OIP both in identifying those programs that are deserving of Penn approval and in negotiating revised tuition rates for Penn students participating in those programs.

An International Curriculum

The School of Arts and Science has always had a strong international component in its curriculum. Many of our departments — History, Political Science, Anthropology, Asian and Middle Eastern Studies, South Asian Regional Studies, Religious Studies, History of Art, and all of our foreign language departments — have long offered a range of courses at both the graduate and undergraduate levels that have the capability of providing our students with a knowledge about a wide range of cultures. We often find, however, that our offerings are much wider than the average expectations of our students. The course choices of our students — particularly our undergraduate students — tend to be very traditional. The vast majority major in traditional disciplines — history, English, biology, political science — and study subjects within those disciplines, mainly North American

and European-centric, with which they are already familiar.

We must work more diligently to expand our students' intellectual horizons beyond the familiar and the traditional.

Area Studies. SAS, like most research universities, has organized its research and teaching about other nations and cultures through "area studies." The original impetus for the creation of area studies programs may have arisen from the immediate pressures generated by the Cold War, but the importance of those programs in a post Cold-War world in which American social and economic policies are increasingly affected by the people and institutions of other cultures is even more manifest. Thus, the faculty and administration of SAS believe that it is imperative to enhance our area studies programs. As in all areas of endeavor, however, it is essential that we analyze our relative strengths and weaknesses in area studies, and that we make intelligent choices about the allocation of resources based on that analysis.

Endorsing the recommendation of the SAS Task Force on Area Studies, we have begun to authorize a number of inter-departmental searches in areas identified as being of high priority for our area studies efforts. This will allow us to serve the broader, programmatic interests of the School while at the same time insuring that such appointments closely connect to the disciplinary strengths and priorities of individual departments. In 1992-93, inter-departmental searches are underway in South Asian Studies and East Asian Studies. We anticipate authorizing additional appointments in other world areas in subsequent years.

A related goal is to strengthen the undergraduate component of our area studies programs. Indeed, there may be no better way to implement our goals in international education than to imbue global and regional perspectives in our undergraduate curriculum. Toward that end, our decisions respecting both departmental and area studies priorities will be heavily influenced by the abilities of departments to offer innovative undergraduate programs. This is particularly important, we would note, in those departments and programs whose focus is on the history, culture, and development of nations other than the United States and Western Europe.

Finally, mindful that we cannot achieve equal distinction in everything we attempt, we must make difficult choices respecting allocation of resources to our area studies programs. With that consideration in mind, our immediate goals in SAS are:

1. To maintain and enhance our already-distinguished program in South Asia Studies. We will do this both through the mechanism of inter-departmental searches and through appointments to specific departments.
2. To build our strength in East Asian Studies, and in particular, in Japanese Studies, an area in which our faculty strength is presently limited. Toward that end, we have four searches presently underway in the East Asian field and anticipate several more in the future.
3. To strengthen our steadily-improving program in African Studies, with one immediate goal to secure for that program designation as one of the Department of Education's national resource centers.
4. To work with our well-established program in Middle Eastern Studies to increase the quantity and quality of our undergraduate offerings in this important subject area.
5. To challenge faculty with interests in Western Europe to come together to expand our efforts in this important area. The direction that those efforts might take cannot be dictated from above, but rather, must be natural outgrowths of the interest of our faculty.
6. To strengthen the social sciences component of our program in Latin American Cultures, in which a group of faculty has developed impressive expertise in ethno-history, literature, cultural anthropology, and archaeology.
7. To work with Penn's University Museum to utilize more effectively the personnel and holdings of that distinguished institution to enhance the international programs of the School. Conversely, we hope that such cooperation will bring added strength and vitality to the programs of the museum.
8. To strengthen the SAS component of the Lauder M.B.A./M.A. Program in Management and International Studies which has achieved a distinctive niche for itself in the field of international business education. The SAS component of that program, while it has improved in recent years, is not yet up to the standards we desire and require.
9. To create a joint undergraduate degree program in international studies with the Wharton School. This program, already approved in principle by the SAS and Wharton faculties, will offer to students a course of study that will include education in international relations, international business, an area studies concentration, and intensive language training. It will provide an important bridge between the programs of our two distinguished schools

Language Education. It is, of course, language that opens the door to the wisdom and accomplishments of any culture. The School of Arts and Sciences, since the publication of its last five year plan, has made impressive strides in improving both the quality and variety of its language instruction. Our proficiency-based model of instruction and evaluation has reinvigorated our language program, raising the morale and competencies of both language teachers and students.

As patterns of choice among undergraduates have shifted, SAS has proven itself adaptable. Among the Romance Languages, there has been a significant shift toward Spanish, but even more notable, although still a minority, increasing numbers of our students are taking non-European languages. Approximately 100 languages are available for study in SAS. In the Fall of 1992, 211 students enrolled in Japanese language courses, 116 in Mandarin Chinese, 116 in Korean, 111 in Hebrew, and those numbers all are rising significantly.

Our ability to meet (and, equally important, to lead and anticipate) those demands rests on the responsiveness of departments and other instructional units to the imperatives generated by the School's commitment to an international education curriculum. The Penn Language Center has proven to be a creative and flexible agency through which we respond to these new imperatives, and we anticipate that PLC's role in offering both basic instruction and innovation in pedagogy in the "less-commonly-taught languages" will increase. Over the next few years, PLC will further develop innovative language offerings to support area studies interests of both undergraduate and graduate students, such as the African Language Tutorial program, new levels of well documented languages such as Persian Reading and Writing, and new offerings in Asian and central European languages. PLC will also continue to develop its impressive list of languages for special purposes, especially those called for by graduate and professional students of other schools; these include the large program of languages for business (currently in nine languages) and languages for health professions. Finally, PLC will develop ways to assist with corporate workforce needs in foreign language study, either through on-site programs or through intensive language programs on campus in the summer.

An International Agenda for Faculty Development

Research in basic science is an international activity whose common language has become English and our natural science departments routinely carry out their research and recruit their faculty within the context of an international community of scholars. The social science and humanities departments have traditionally operated in a more parochial context, but the facts of intellectual and institutional life in the academy are rapidly changing throughout the world. Just as our Romance Languages Department now routinely looks to France, Italy, Spain, and Latin America in its recruitment of faculty, so too do the History, Economics, and Sociology Departments look beyond the United States for scholarly specialists in fields as diverse as semiotics, econometrics, and demography. The important thing to stress about the international diversity of our faculty is that it will flourish not because of any prescriptions from above about the numbers of Europeans or Asians or Africans on our faculty, but, rather, as a natural outgrowth of our search for the most talented teachers and scholars capable of contributing to a curriculum which will reflect the strength and interdependence of knowledge throughout the world.

A second important aspect of the international diversity of our faculty is the ability of that faculty to teach and do research in settings outside the United States. The University's rapidly-expanding network of faculty and graduate student exchange agreements with universities abroad stands as testimony to our progress in this area.

The School can, however, provide institutional support that will enhance the faculty's ability to operate effectively in the global community of ideas. Our rapidly expanding network of formal faculty and graduate student exchange agreements is one means of encouraging faculty development in this area. We will continue to develop additional exchange agreements—both broad umbrella-agreements between universities and more-focused relationships between individual departments and programs—in the future. These efforts are not without cost, and thus it is imperative that we develop a modest fund dedicated to supporting faculty and graduate student travel and maintenance abroad.

In addition to developing formal agreements with selected Universities abroad, the School will establish new institutional structures capable of expanding even further the exchange of ideas and people across cultures. The newly-established French Institute for Culture and Technology will seek to mobilize faculty and graduate students throughout the University in a program of scholarly and cultural interchange with colleagues from a

wide range of disciplines and professions in France and other Francophone nations. Similarly, the Center for the Advanced Study of India, working closely with our already-distinguished South Asian Studies Program, will enlist scholars both within and beyond SAS in a policy-oriented agenda of research on modern India. All of these efforts, it should be noticed, involve substantial investment. Our success in expanding these efforts—both in terms of the continuation of existing programs and the creation of new ones—will be absolutely dependant on attracting outside financial support. As important as these research directed efforts at international outreach may be, we will devote unrestricted SAS funds only to those international programs that contribute directly to our instructional mission.

Library Resources

Nowhere is the importance of making informed choices about financial priorities more apparent than in the important—and expensive—area of library acquisitions. While it is true that our library acquisition policies should reflect the University's commitment to international education, it is even more compellingly evident that our library strengths should represent our faculty strengths. Therefore we must continue those policies presently pursued by Penn's highly competent library staff—policies aimed at closely

coordinating acquisitions policies with the teaching and research needs of the faculty. If our faculty's strengths in teaching and research increasingly reflect the international mission of the University, then library strengths must almost certainly follow.

External Relations

Penn's large (and growing) cadre of alumni living abroad constitute an important source of support—in the recruitment of students, in the establishment of networks with both corporations and academic institutions abroad, and in fund-raising. The issue then is not whether we should mount a vigorous external relations effort aimed at recruiting our international alumni and friends in active partnership with us, for of course we should. Rather, the issue is how, and with what institutional mechanisms, we should mount that effort. While there are many efforts in which individual school initiative is appropriate, we feel that the University's effort in external relations abroad should be a responsibility shared and coordinated centrally. While SAS will play an active role in that effort, economies of scale, together with the essential fact that we are, when all is said and done, "one university," dictate that we mount a coordinated, inter-school effort to further Penn's development and public relations efforts abroad.

III. Supporting Goals

Adequate space, modern equipment, and up-to-date facilities go hand-in-hand with the recruitment and retention of first-rate faculty and students and the improvement of research and teaching. SAS is committed to modernizing its teaching and research laboratories, to improving its office and classroom space, to providing state-of-the-art computational and information technologies, and to maintaining a safe and secure working environment. In the past, SAS, traditionally without its own capital budget, has relied heavily on University-wide support for realizing these commitments. In the next seven years and beyond, SAS will have substantial and growing needs for funds for the renovation and renewal of basic facilities. Several of the following projects will be completed during the time period covered by this plan. Notably, thanks to the generosity of alumnus Elliot Jaffe and his wife Roslyn, the History of Art Department will be moving into the distinctive building near the library on the southwest corner of 34th and Walnut Streets. Renovations, which will include the construction of a new wing, have begun. We must help to identify resources for the initiation of other priorities; otherwise, there may be an unmanageable backlog for the University in the future.

1. Facilities

Modernizing and Maintaining the SAS Physical Plant

Renovation. The following are the School's most urgent renovation needs:

Logan Hall. Built in 1874, Logan Hall is the second oldest building on the campus. The University has embarked on an ambitious program to rehabilitate Logan. The end result will be to restore historically significant features of Logan Hall's public places and to provide the School of Arts and Sciences with a building designed to meet the needs of its departments of American Civilization, Folklore & Folklife, History and Sociology of Science, Music, Philosophy, and Religious Studies, together with the Philadelphia Center for Early American Studies, and the Program in International Relations. This project is a cornerstone in the Arts and Sciences' plan to create a visible center for the School at the heart of the University.

A Facility for the Music Department and Musical Performance. Our Department of Music is one of the most distinguished in the nation. With an international reputation in musical composition, theory, history, and ethnomusicology, its faculty and graduate students are nevertheless housed in one of the most dismal facilities on campus. There is an urgent need not only for improved faculty offices, classrooms, and practice rooms, but also for a multi-purpose performance hall. The absence of such a performance facility on our campus has resulted in the embarrassing situation in which the prize-winning works of many of the distinguished composers on our

faculty are performed all over the world, but not on Penn's campus. This is a situation that we are determined to remedy. The preferred possibility is to locate both Music Department offices and a performance facility in a renovated Logan Hall.

Houston Hall. The construction of the new Revlon Center will open the possibility of reassigning space in Houston Hall. This facility, together with College Hall, Logan Hall, and Williams Hall, will further concentrate Arts and Sciences at the center of campus. Houston Hall will house the College, the Graduate Division, and the College of General Studies, and will provide meeting spaces for our faculty and a necessary center for College students.

Irvine Auditorium. As part of the current feasibility study for the SAS precinct, prospects for the future use of Irvine will be developed.

Bennett Hall. Built in 1925, Bennett houses Penn's distinguished English Department as well as several other University offices in grossly inadequate conditions, and serves as an instructional facility with over twenty-four classrooms. Bennett Hall suffers from deferred maintenance and is in need of substantial external and internal repair, with projected costs in the millions of dollars, rising year by year. Plans for the renovation of Bennett must be developed over the next five years with a goal of completing rehabilitation by the end of the decade.

David Rittenhouse Laboratory. This building houses the Departments of Astronomy, Mathematics, and Physics. It includes offices, classrooms, a major machine shop facility, and teaching and research laboratories in addition to the newly renovated facilities for the School's Multi-Media and Educational Services. Needs for reorganization and renovation of space in DRL were highlighted in the 1988 report of the Ad Hoc SAS/SEAS Planning Committee for Natural Sciences and Engineering Facilities chaired by Drs. Cooperman and Clelland. Dramatic improvement in the classrooms has taken place over the past year under the guidance of the Provost's Classroom Facilities Committee. Much remains to be done in the rest of the building.

Hayden Hall. The Department of Geology occupies extremely cramped quarters in the rear of Hayden Hall. Facilities are completely inadequate for the current research and teaching program of the department, including its growing role in the University's new Institute for Environmental Studies. This situation will only become worse, as the research program is growing. A long-term solution to Geology's space problems, such as the Science Complex suggested in the preceding SAS five-year plan, is not on the immediate horizon. A temporary solution would be to complete the fourth floor in the rear of Hayden Hall.

New Facilities. Two major new facilities are needed:

IAST. The Chemistry Department, with its superb research program, is rapidly becoming one of the top ten in the country. Phase I of the Institute for Advanced Science and Technology (IAST) will provide substantial

additional laboratory space for the Department. This will relieve severe overcrowding in the present Chemistry buildings and allow for necessary expansion in research. This facility is in the advanced planning stage. Construction should begin later this year and be complete in two years.

APsychology Building. Penn has one of the best Psychology departments in the nation. The facilities of this outstanding department, however, could well be the worst on the campus. The department is dispersed among four separate buildings, the quality of some of which leaves much to be desired. To solve this problem, SAS calls for the construction of a new building on Locust Walk where the Bookstore currently stands. The proximity of the Bookstore to the current Psychology Laboratory Building would allow the Department to consolidate office, classroom, and laboratory space.

Modernizing Teaching Laboratories and Research Laboratories

SAS has major needs, not addressed above, for the modernization and rehabilitation of teaching and research facilities and for providing start-up costs for new faculty, particularly in the Natural Sciences. Costs for such equipment and renovations can be as high as \$250,000 for a junior faculty member and range from \$500,000 to \$2,000,000 for a senior appointment. Ideally, SAS will fund several such appointments in the next few years, in order to maintain the University's research momentum.

The technology and methodology of science changes constantly. There is a need for parallel modernization in introductory instruction. We will modernize Physics demonstration and teaching laboratories as well as freshman Chemistry labs. There are teaching labs in Biology that will be rehabilitated. All of these departments, as well as Geology and Astronomy, have substantial needs for new teaching and research equipment. The Psychology Department is instituting an undergraduate research requirement for which new equipment and supplies will be required, and the Mathematics Department's innovative program to use computer technology in all calculus classes will necessitate continuing investment in software and equipment upgrades. Although the University's Undergraduate Initiatives Fund, Research Foundation, and Research Facilities Development Fund have provided assistance in some of these areas, the funds available will be inadequate (or even non-existent) in the next few years. Starting in FY 1995, the School will include an annual budget line of \$1.5 million for these purposes. Together with resources from University funds, this will enable SAS to begin to plan rationally for the upgrading of teaching and research laboratories, and it will give the school flexibility to attract outstanding new faculty.

2. Technology Support

The School of Arts and Sciences is committed to promoting, enhancing, and integrating the use of informational and related technologies to help SAS achieve its educational, research, and administrative goals.

Beginning in September 1991, SAS Computing was completely reorganized. Three advisory committees engage in long-range planning and policy decisions for SAS computing: the Academic Computing Committee, the Humanities Computing Committee, and the Social Sciences Computing Committee.

The School envisions a future in which all SAS faculty, staff and students have access to the best possible technological resources; all of our constituency will have desktop access to a wide variety of University and external information that helps them improve their productivity; all will receive prompt support that exceeds measured expectations; all will have easy and timely access to distributed files, resources, and applications over local and international networks; clients' technological needs are satisfied through the use of timely and efficient system resources; and all have easy access to data regardless of the platform they use, and there is a cross-platform strategy for data exchange and application interoperability.

Instruction. It is the goal of the School of Arts and Sciences to integrate appropriate technologies more fully into the educational process at all levels.

Computer based instructional materials: SAS will help faculty to develop programs or to use programs developed elsewhere to enhance the learning process. Currently, computing is used in instruction in several social science courses (29 courses), natural science courses (18 courses), and in foreign language learning programs (23 courses). Our goal is to substantially increase the number of computer-enhanced courses.

Multi-media classrooms: There are currently six classrooms equipped with computers and video display equipment as well as five computer laboratories set up for classroom teaching. The School's seven-year goal is to have at least one multimedia classroom in each SAS classroom building, thereby reducing needless shifting of technology from room to room; to

continue updating equipment in our computer laboratories; and, if space becomes available, to have at least one computer laboratory in each SAS classroom building appropriate for such instruction.

Research Computing. SAS is developing a robust, distributed computing environment that supports the research needs of the School and enhances its educational mission. This distributed computing takes place on several different platforms.

Workstations: Our goal is to increase the ability of all SAS Computing clients to use workstations in their research and teaching. The School will do this by providing appropriate hardware, software, data and expertise in the workstation environment and by assuring easy access to workstations from desktop computers in a client-server model. Currently, there are workgroups of workstations in Physics, Mathematics, Chemistry, Biology, Linguistics, Psychology, Social Sciences Computing, and Humanities Computing. Each year \$200,000 in matching funds will be provided for the purchase and upgrading of workstations and to provide appropriate, high-quality, centralized workstation support.

Desktop Computing: Our goal is to commit sufficient funding to support and upgrade equipment and software so as to reach a point where external comparisons indicate that SAS is competitive with other institutions in the level of computing resources and support provided to faculty, staff and students.

Communication and Networking: SAS plans to install and enable an ethernet network connection for every appropriate room in SAS buildings. This will be accomplished by establishing an SAS networking operation and working with DCCS to install and maintain the connections in SAS buildings. Begun in FY 1993, this project has been placed on hold for FY 1994 due to the lack of funds. However, it is included in projected budgets beginning with FY 1995, and is expected to be completed by 1999. SAS will also install Local Area Networks (LANs) that will allow SAS clients to easily share information and computing resources.

Administrative Computing. The School aims to provide appropriate technologies and access to information in order to enhance administrative and academic support processes.

In order to achieve this goal, SAS will establish an administrative computing advisory committee and produce a general set of guidelines for information access, for the development of applications, and for helping staff derive more benefit from client-server technology. The School will improve its consulting efforts to help departments analyze and streamline their administrative and academic support processes, to reorganize staff if necessary, and to support the new organization and processes with the latest technology. SAS will continue to improve the information and analysis provided to faculty and staff to support their planning and decision-making efforts.

User Support and Training. SAS aims to educate faculty and staff to a level of self sufficiency in the use of technology in order to increase their productivity. SAS has already reorganized user support in major ways by establishing a help desk for all users, by training support staff, and by developing an inventory of all hardware and software used in the School. Our goal is to enhance the services offered by this new organization by continuing to train staff and to distribute them throughout the school, and by expanding education for SAS clients. SAS will provide universal, school-wide access to on-line resources, including an inventory of hardware and software in use, a useful database of the most often asked questions and answers, and communication of services and expertise available. SAS will also develop and publish a clear user-support policy, including division of labor and cost, coherent standards on hardware and software, and an explicit policy stating the staff requirements for support.

An additional goal is to work with department and administrative offices to improve their business and academic support processes through an evaluation of all departmental functions and the enhancement of technology.

Multi-Media Services. The School's Multi-Media & Educational Technology Services (MMETS) provides specialized facilities, media equipment, and services to SAS faculty, staff, and students. MMETS will provide front-line support for multi-media classrooms and is directly involved with the design process of new classrooms. The movement from analog to a purely digital media environment will have a dramatic effect on MMETS and its services over the next few years. Plans call for replacing the SAS analog language lab with a digital environment tied to internet, moving into digital teleconferencing for classes as well as telephony, providing support for image and image processing, and becoming more directly involved in digital processing for languages, linguistics, and music.

IV. Operating Needs and Budgetary Prospects

Implementation of this far-reaching plan is dependent upon on the availability of both operating and capital funds, and on vigilant resource management within the School. The Strategic Plan has been designed to be achieved within strict budgetary parameters. Projections based on the fiscal year 1994 budget are given through fiscal year 2000 in Table 1, page S-21. These projections, based on a key assumption regarding financial aid that is discussed below, show a significant challenge for fiscal year 1995, followed by essentially balanced budgets in fiscal years 1996 through 2000.

There is, however, one very serious issue that SAS, the other undergraduate schools, and the University must address in order to enable us to achieve our mutual objectives. This issue is the extraordinary additional costs which are projected for the University, and for SAS in particular, on account of rapidly increasing undergraduate financial aid. These costs are over and above the 28.5% of undergraduate tuition that has been returned to students in the form of financial aid in the past few years. Growth in SAS's undergraduate financial aid budget has been driven by several factors over the last several years. The first is the economy which has impacted our parents' ability to pay for the increasing cost of higher education. The second is modifications in Penn's financial aid packaging to compete with other Ivy and non-Ivy institutions that have offered higher grant awards than Penn has traditionally provided. And the third is a decline from historical levels of third party funding (state and federal) for student financial aid because of severe budget cuts. In order for Penn to attract and retain the quality students that we seek, the undergraduate financial aid budget has grown at rates higher than tuition increases to keep pace.

In order to address these problems, maintain Need Blind Admissions, and protect the school's unrestricted funding base, the University has instituted several new policies. The first policy is to set targets for restricted fundraising for undergraduate financial aid. The purpose of this policy is to change the way Penn funds its undergraduate financial aid budget by endowing a significant piece of it, which was one of the Campaign goals. The second policy change has been to give schools the incentive to raise undergraduate financial aid dollars, which was not the case in the past. Under this policy, any restricted funds for undergraduate financial aid above the Campaign goal will directly offset unrestricted funds dollar for dollar that the school would have spent to meet its annual obligation. Current University figures suggest the need for additional revenues for SAS of \$4.128 million per year in order to meet the projected total subsidy for undergraduate financial aid by FY 1997. SAS does not at present have endowment to generate these revenues, although we are urgently seeking such funds. Covering the additional costs from the SAS operating budget would dangerously reduce the School's unrestricted resources for academic programs over the next seven years, or throw the School into serious deficit. A long-term solution to this key problem is required for the School of Arts and Sciences to achieve its basic goals.

The School is beginning this plan in FY 1994 with a budget that is considerably leaner than previous years. This budget has been achieved with the cooperation of all the component parts of the School working together to keep costs to the lowest possible level. The School of Arts and Sciences has necessarily become more efficient than it was in the 1980s. University subvention has been decreasing for the last six years in real terms, allowing for increases for central University purposes and additional subsidies for other Schools. In FY 1988, subvention totalled \$24.128 million, representing 24.4% of the total revenue for SAS. In FY 1994, subvention will be \$24.221 million, 17.6% of the total revenue.

Accomplishing the goals presented in this plan depends, in large part, on achieving a stabilized budget over the next seven years. In particular, the level of subvention must stabilize in order for the School to plan rationally on a multi-year basis. Given the fact that subvention funds are drawn in large part from tuition, we assume in the projections in Table 1 that subvention, starting from the reduced levels of FY 1994, will grow, but at a rate somewhat below that of projected increases in tuition income.

It should also be mentioned that the plan presented in Table 1 for the SAS unrestricted budgets from FY 1994 through FY 2000 does not include a capital budget for the School. As outlined in Section III.1 on Facilities and in the following Section V on Capital Development Needs, the School of Arts and Sciences has building, renovation, and other capital requirements for the next seven years totalling more than \$55 million. A substantial development effort will be undertaken to help raise these funds as well as the funds necessary for undergraduate financial aid.

Projection Assumptions

Forecasting the finances of the School of Arts and Sciences through FY 2000 requires, ideally, a solid set of assumptions about the economy, the health of the University system overall, the position Penn holds in this system, and the management of the resources over which SAS has control. Taking a conservative position, we are assuming that the tight fiscal conditions that currently exist will not improve soon. Indeed, further tightening will be necessary for SAS in at least the next two fiscal years. Although these years will be challenging, the net result will be a leaner, even more efficient School, able to respond aggressively to new opportunities in the remainder of the decade.

Enrollment. SAS will begin FY 1994 with an undergraduate enrollment of approximately 5830 students. The working number for planning is 6000. The School plans to increase its undergraduate enrollment modestly each year by a combination of freshman enrollments and transfer admissions, until it recovers to a total of 6000 students in FY 1998. In addition, the College of General Studies will increase enrollments of undergraduate students, of Penn and non-Penn students in Summer Sessions, and of part-time students at the post-baccalaureate and Master's level.

Faculty and Staff. After halting faculty searches in FY 1992 because of budget constraints, SAS made a modest increase in standing faculty size from 475 to about 480 its top priority in FY 1993. This has been achieved primarily through the recruitment of extraordinarily talented junior faculty. The emphasis on junior faculty recruitment, coupled with an unusually high number of retirements, has given the School the opportunity to effect a modest reduction in the percentage of tenured faculty. Emphasis on junior faculty hiring will continue.

SAS has the lowest ratio of administrative and clerical salary expense to faculty salary expense among Penn's twelve schools. There is some concern that it is now too low, given the multiple demands on universities in the 1990s. Nevertheless, the School will continue to look for budgetary savings in this area in order to focus limited investment funds on the academic mission of the School.

Unrestricted Income: FY 1994 - FY 2000

Tuition. Each year the University forecasts undergraduate tuition income for the Schools. This forecast is based on past enrollment history and the approved tuition increase. For the purpose of these projections, we are assuming, as suggested by the University Budget Office, that undergraduate tuition will increase 5.3% per year until FY 2000. Graduate tuition, special tuition, and special fees are also expected to increase at the rate of 5.3% annually. Other escalating percentages in Table 1 are based on this assumption. If actual tuition increases change substantially from this assumption, the related escalators on the expense side would have to change also, so that total performance would remain substantially the same.

The additional factor that influences total tuition income to the School is enrollment. As mentioned above, SAS expects to increase enrollment steadily from the current undergraduate count of 5830 in FY 1994 to 6000 in FY 1998. We have factored the effect of this increase into the tuition revenue calculations.

Subvention. For FY 1994, subvention will be \$24.221 million. This is the lowest subvention since FY 1988, when it was \$24.128 million. As mentioned above, subvention as a percentage of total revenues has been decreasing rapidly, with a powerfully negative impact on the SAS budget; indeed, if subvention had increased at the level of inflation over the past seven years, all else being equal, SAS would have made a substantial "profit" in FY 1994. The unrestricted budget projections for FY 1994 - FY 2000 are based on the assumption that subvention will stabilize at the low FY 1994 level and will then grow at a rate somewhat below that of tuition increases for the remainder of the decade.

Other Income. SAS expects that investment income and gifts will increase at 5.0% each year. Indirect cost recoveries are forecast to increase at 4.4% annually. Sales and services and other miscellaneous income are projected to grow at 4.0% per year.

Unrestricted Expenses: FY 1994 - FY 2000

Salaries and Wages. Total salaries and wages for FY 1994 will increase at a modest 2.5%. In past years, a priority for SAS was to increase academic salaries at a rate sufficient to ensure that faculty salaries in the

School would remain competitive with or be superior to those at peer institutions. Academic year 1993-94 has been a particularly difficult year for compensation increases at many institutions. The 2.5% increase in SAS will not help the School gain ground on its competition, but neither is the School likely to lose much ground. SAS is forecasting salary increases to be a more robust 4.0% in FY 1995 and FY 1996; for FY 1997 through FY 2000, the increase is projected to be 4.5%.

Employee Benefits. Beginning with FY 1994, employee benefits will be 32% for full-time employees and 11.7% for part-time workers. These percentages are expected to remain constant through FY 2000. In FY 1993, the full-time rate was 29.9%. The increase is the consequence of a change in accounting regulations (FASB 106). To comply with this new regulation, the University must estimate, and then charge in the current year, the future costs of retiree health-care. In addition, the University must also fund the future health-care benefit obligations incurred in past years. The University will write this portion off over twenty years. The additional charge to the FY 1994 budget for adopting the new accounting standard is \$798,000.

Financial Aid. Overall graduate and undergraduate student financial aid costs will rise from \$27.269 million in FY 1993 to \$28.938 million in FY 1994, an increase of 6.1%. Basic financial aid costs in future years are expected to rise with the rate of tuition increase, or 5.3% per year.

As mentioned above, the increasing cost of the need-blind admissions policy requires additional financial aid supplements from the School. This additional expense will be \$2.821 million for FY 1995, \$3.629 million for FY 1996, and \$4.128 million for FY 1997 and each year thereafter. SAS has been asked to pay for this financial aid supplement by raising additional term gifts or endowment income. We have shown this expense as a separate budget line at the bottom of Table 1. If substantial revenues cannot be found to support this line by the School or the University or

both working together, changes will have to be made in the University's financial aid policy.

If this single issue is resolved, the SAS financial plan, as represented by the Performance line in Table 1, though challenging, will be feasible. Should funding of financial aid not be resolved, SAS would not be able to fulfill this Plan; that is, it would not be able to continue its successful evolution as one of the top centers for arts and sciences in the world.

Allocated Costs. In FY 1994, allocated costs will comprise 29% of the total unrestricted expense charged to SAS, or \$39.469 million. Allocated costs are charges from the University to pay for utility and building costs, library costs, and the cost of running the central administration. These costs, set by the University, are expected to increase 4.5% per year in FY 1995 and FY 1996, and 5.0% annually thereafter.

Research Investment and Networking. Because of their importance to the intellectual vigor of SAS, two new expense lines are in the budget projections beginning with FY 1995. Computer-Networking is a project to establish an SAS networking operation in all SAS buildings. The cost of this project will be at least \$250,000 each year for five years. The Research Investment line will enable SAS to plan for research start-up and retention packages wherever needed in the School. This is initially budgeted at (a relatively modest) \$1.5 million for FY 1995.

Other Escalators. Current expense, equipment, expense credits, and research investment are forecasted to increase 3.0% in FY 1995 and FY 1996, 4.0% in FY 1997 and FY 1998, and 4.5% in FY 1999 and FY 2000.

IAST. The School will incur allocated costs for 36,000 square feet of space in the Institute for Advanced Science and Technology when the first building is complete in the fall of 1995. The School will also generate additional indirect cost recovery from the use of this space. Estimates for both income and expense are included in Table 1.

V. Development Needs

The guiding strategy for continuing the growth of excellence in SAS is the wise management of new and existing resources. Attracting and maintaining faculty members who are or will be leaders in international scholarship and dedicated teachers remain the single highest priority. Enterprising faculty and innovative programs, in turn, bring SAS the best students. Once they are here, faculty and students must find an environment that spurs them onward in their search for new knowledge. The blueprint for building this SAS environment is to extend and manage our existing assets. We must raise funds to provide the infrastructure that will make this possible.

Five Years ago the School devised a plan for achieving capital and operating growth and subsequently set a \$250 million goal for the Campaign for Penn, one-quarter of the projected \$1 billion total for the University at large. By February 1993, the SAS Campaign total had reached \$190 million, with one and one-half years still to go. Not all of the funds raised in the Campaign go into endowment, and a portion will not be received until some time in the future, but the positive effects of the Campaign for Penn are already visibly evident in the School's plans and programs.

The achievement of this strategic plan requires not only that we complete successfully the SAS portion of the Campaign for Penn, but also that we build on that success by significantly increasing the School's endowment, which totaled \$129 million in 1992. Our goal over the next five to seven years is to increase the size of that endowment, independent of monies set aside for financial aid, to \$200 million.

Our most pressing capital need is to raise a separate endowment to cover the increasing cost of financial aid; this is an area in which the School of Arts and Sciences at Penn lags behind many of its peers, and we absolutely must address this financial need if we are to flourish as an institution in the future. Finally, the School faces a significant challenge in financing the cost of important capital improvements in its physical facilities. The cost of carrying out a comprehensive plan of construction and renovation of the School's buildings over the course of the next seven years is currently estimated at more than \$55 million.

Faculty Development

Endowed Chairs. SAS has had considerable success in securing funds for endowed chairs over the past three years, doubling the number of existing chairs and bringing the total to 62. The endowed chair is our most valuable tool in recruiting and retaining outstanding faculty and may be the only way the School will be able to recruit senior scholars in the

future. The School will seek to add another 25 endowed chairs (\$31.25 million) to its current number.

Term Chairs. Our substantial success in generating term-chair support for the faculty has stimulated important research and teaching initiatives. However, since these run for a term of five years, they must be regularly regenerated. These chairs will allow the School to recruit and retain outstanding faculty members. To the current term-chair total of 56 we intend to add 25 new chairs for a funding increase of \$1.25 million.

Faculty Fellowships. SAS seeks an endowment of \$2 million to establish a distinguished faculty fellowship program that will enable faculty to devote full time to research and scholarship for up to one year.

Investing in Science. Endowed chairs, term chairs, and faculty fellowships will meet much of the research support needs for faculty in the humanities and the social sciences. However, scientific research continues to require special attention. Many are calling the twenty first century "the science century" in recognition of the tremendous importance scientific research will play in our lives. To prosper in such a time, SAS needs to build its research funds to attract outstanding scholars, to supply the equipment and facilities needed for innovative work, and to fund graduate-student research. To help meet the challenge of "the science century," SAS has set a goal of \$10 million in endowment.

Undergraduate Education

Undergraduate Financial Aid. Recent cuts in State and Federal funding have highlighted the need for the University to generate increased financial aid funding. In order to meet the University's commitment to need-blind admissions and the decision to apply more of the costs of financial aid to the budgets of the undergraduate schools, by the end of the decade SAS will need a combination of endowment and term gifts providing more than \$4 million per year in operating funds for student support.

Undergraduate Experience. SAS is committed to a rich and diverse college experience for all its students. The creation of a "small college atmosphere" and the development of special programs are two areas where we have had particular success. Funding priorities include:

Freshman Seminars, which bring first-year students together in a small class taught by a senior faculty member. To ensure that all first-year students have this positive academic experience, SAS seeks \$2 million in endowment for the development of Freshman Seminars.

Table 1: SAS Unrestricted Budget Projections for FY 1994 through FY 2000

			FY1994 Budget	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000
Direct Revenues	Tuition	Undergrad Regular	\$74,805	\$78,811	\$83,539	\$88,304	\$93,298	\$98,346	\$103,666
		Undergraduate Special	\$9,304	\$9,797	\$10,316	\$10,863	\$11,439	\$12,045	\$12,684
		Graduate Regular	\$11,518	\$12,128	\$12,771	\$13,448	\$14,161	\$14,911	\$15,702
		Graduate Special	\$768	\$809	\$852	\$897	\$944	\$994	\$1,047
		Total	\$96,395	\$101,545	\$107,478	\$113,512	\$119,842	\$126,297	\$133,098
	Tuition Special Programs		\$4,134	\$4,448	\$4,684	\$4,932	\$5,193	\$5,468	\$5,758
	Special Fees		\$2,150	\$2,211	\$2,328	\$2,452	\$2,582	\$2,719	\$2,863
	Investment Income		\$825	\$866	\$910	\$955	\$1,003	\$1,053	\$1,106
	Gifts		\$162	\$170	\$179	\$188	\$197	\$207	\$217
	Indirect Cost Recovery	Endowments	\$1,152	\$1,203	\$1,256	\$1,311	\$1,369	\$1,429	\$1,492
		Sponsored Programs	\$8,199	\$8,560	\$9,297	\$10,052	\$10,462	\$10,891	\$11,338
		Other Restricted Funds	\$289	\$302	\$315	\$329	\$343	\$358	\$374
		Total	\$9,640	\$10,064	\$10,868	\$11,691	\$12,174	\$12,678	\$13,204
	Sales and Services		\$45	\$47	\$49	\$51	\$53	\$55	\$57
	Other Income		\$275	\$286	\$297	\$309	\$322	\$335	\$348
	Total		\$113,766	\$119,638	\$126,792	\$134,090	\$141,365	\$148,811	\$156,651
Reg Program Subvention			\$24,221	\$24,827	\$25,447	\$26,211	\$26,997	\$28,077	\$29,200
Bank Transaction			\$52	\$46	\$40	\$35	\$31	\$27	\$23
Total Revenues			\$137,899	\$144,510	\$152,280	\$160,336	\$168,393	\$176,915	\$185,873
Direct Expense	Compen- sation	Academic Salaries	\$32,537	\$34,389	\$35,763	\$37,373	\$39,055	\$40,812	\$42,648
		Graduate Stud Salaries	\$5,233	\$5,211	\$5,422	\$5,663	\$5,918	\$6,186	\$6,464
		Administrative Salaries	\$10,848	\$11,172	\$11,618	\$12,143	\$12,689	\$13,259	\$13,856
		Total Salaries	\$48,618	\$50,772	\$52,803	\$55,179	\$57,662	\$60,257	\$62,968
		Employee Benefits	\$13,178	\$13,839	\$14,393	\$15,040	\$15,717	\$16,424	\$17,164
		Total Compensation	\$61,796	\$64,611	\$67,196	\$70,219	\$73,379	\$76,681	\$80,132
	Current Expense		\$8,305	\$8,513	\$8,756	\$9,091	\$9,439	\$9,847	\$10,272
	Computing - Networking		\$0	\$250	\$250	\$250	\$250	\$250	\$0
	Equipment		\$686	\$730	\$752	\$782	\$814	\$850	\$888
	Expense Credits		(\$1,295)	(\$1,319)	(\$1,359)	(\$1,413)	(\$1,470)	(\$1,536)	(\$1,605)
	Research Investment		\$0	\$1,500	\$1,545	\$1,607	\$1,671	\$1,746	\$1,825
	Financial Aid	Undergrad Stud FinAid	\$21,359	\$22,461	\$23,809	\$25,167	\$26,590	\$28,029	\$29,545
		Undergrad Stud Aid Spec	\$1,393	\$1,467	\$1,545	\$1,626	\$1,713	\$1,803	\$1,899
		Graduate Regular Aid	\$6,186	\$6,514	\$6,859	\$7,223	\$7,605	\$8,009	\$8,433
		Total Financial Aid	\$28,938	\$30,442	\$32,212	\$34,016	\$35,908	\$37,841	\$39,877
Allocated Costs	Utilities		\$6,888	\$7,198	\$7,596	\$8,209	\$8,865	\$9,566	\$10,044
	Non-Utilities		\$5,554	\$5,804	\$6,125	\$6,619	\$7,148	\$7,713	\$8,099
	General Administration		\$6,315	\$6,599	\$6,896	\$7,241	\$7,603	\$7,983	\$8,382
	General Expense		\$9,659	\$10,094	\$10,548	\$11,075	\$11,629	\$12,210	\$12,821
	Net Space Allocation		\$1,115	\$1,165	\$1,218	\$1,278	\$1,342	\$1,410	\$1,480
	Library		\$9,938	\$10,385	\$10,853	\$11,395	\$11,965	\$12,563	\$13,191
	Total		\$39,469	\$41,245	\$43,235	\$45,819	\$48,552	\$51,445	\$54,017
Total Expenditures			\$137,899	\$145,972	\$152,587	\$160,370	\$168,543	\$177,124	\$185,406
Performance			\$0	(\$1,462)	(\$308)	(\$34)	(\$150)	(\$209)	\$467
Undergrad Aid Supplement				(\$2,821)	(\$3,629)	(\$4,128)	(\$4,128)	(\$4,128)	(\$4,128)

The Writing Requirement. Funding for this program will add writing-intensive sections to an array of course offerings, so that communication skills become a standard component in the education of all SAS undergraduates. To extend the writing program beyond the successful Writing Across the University (WATU) program, SAS seeks \$1 million in endowment.

The Undergraduate Research Fund, which supports opportunities in a wide variety of disciplines. Recent funding has given history majors a chance to publish their work, molecular biology students a new lab, and undergraduates the experience of an on-site excavation of a 3000 year-old archaeological site in France, to name just a few. In support of undergraduate research and capstone experiences, SAS seeks \$1 million in endowment.

Graduate Education

Graduate Fellowships. To compete with peer programs and bring the best students to SAS, we must offer multi-year graduate fellowships in support of extended study. Our goal is to increase our term fellowships (\$50,000) by 50 and our endowed fellowships (\$200,000) by 20, a combined fund-raising goal of \$6.5 million.

The Graduate Education Fund provides advanced graduate students with support for travel to professional conferences, covers seed money for dissertation projects, and helps students cover the costs of research equipment and supplies, as well as travel to archives, libraries, and museums. SAS will seek \$1 million to endow an expansion of this program.

International Education

Funds in the amount of \$5 million are sought to provide basic endowment support for the educational efforts of our School's seven foreign area studies centers and for advanced international research, as promoted by the French Institute for Culture and Technology and the Center for the Advanced Study of India.

VI. Conclusions

The next decade is likely to be one of severe budgetary constraints for higher education in the United States. The School's Strategic Plan has been developed in this context. Primary aims are to achieve: (1) growth in quality and program within no-growth real budgetary projections; and (2) an organization that is flexible, intellectually entrepreneurial, and responsive to faculty initiatives, in order to take advantage of unexpected opportunities.

The single most important resource goal is to maintain, nurture, and support an excellent standing faculty, committed to both teaching and research. At a time of necessary trade-offs, the strongest/ most effective academic programs will be supported disproportionately. Reallocations of positions will occur from departments that have allowed a decline in their research and teaching programs. Overall faculty size should stabilize in the recently reduced range of 480-490; any less would jeopardize the School's mission to serve University goals in research and teaching, especially in the natural sciences. Favoring appointments at the junior rather than the senior level, shifting positions and making cuts in other areas including part-time faculty will allow these goals to be achieved.

During the next seven years the School will focus on the unique and excellent opportunities for undergraduate education that can best be provided at the University of Pennsylvania. Recognizing that Penn's peculiar strengths as a university conjoin and interweave an excellent School of Arts and Sciences with excellent professional schools, the School will continue to build innovative programs across Penn's schools, as well as strong programs in the liberal arts and sciences. The School will ensure high-quality undergraduate teaching by requiring evidence of excellent teaching for promotion and tenure and as a component of salary increases, by providing teaching consultation and mentorship programs, and — most important — by fostering the School's commitment to teaching at all levels as an intrinsic element of all School activities.

Funding for the graduate program will experience slow nominal growth, which is likely to mean a decline in real dollars. Graduate groups will be encouraged to make trade-offs so as to attract the best graduate students, resulting probably in fewer full-time graduate students overall. Innovative programs of graduate continuing (part-time) education will be developed. Lifelong education programs in general will expand; and major efforts will be made to extend the School's large summer program. The School goals for international education will include expansion of undergraduate education

An alliance between SAS and the Annenberg Institute will make Penn's Center for Judaic Studies a major international center devoted exclusively to Judaic and Near Eastern studies that has the potential to be the best such center in the world. SAS will work with the University's development office to raise \$13 million in endowment for support of Fellows and research opportunities through the Center within five years, and a further \$5 million in endowment for support of the Jewish Studies research and teaching program.

Construction and Renovation of Buildings and Facilities

The SAS Campaign has had a primary focus on the support and enhancement of its human resources. However, the School is aware that certain building and renovation projects are of great importance in creating a positive working environment for faculty and students. The School joins the University in seeking funding of \$7.5 million to renovate the interior of Logan Hall, and \$1 million to finish the renovations of the Jaffe History of Art building. Additional funding will be required if it proves feasible to modify Logan Hall for the Department of Music or to provide alternative accommodations for Music. A continuing high priority is to complete the funding necessary for building and equipping the Institute for Advanced Science and Technology, to obtain the substantial funds necessary to renovate Houston and Bennett Halls, and to provide unified office and classroom space for the Department of Psychology. Moreover, funds are needed to modernize undergraduate teaching laboratories, to upgrade facilities in DRL, and to provide additional office and laboratory space in Hayden Hall.

Innovation

Dean's Discretionary Fund. This fund supports the new initiatives and decisive response to opportunity that build a broad-based education. As an essential element in continued innovation, SAS seeks \$5 million in endowment for the Dean's Discretionary Fund.

abroad, increased academic (quality) control of international programs, extension of teaching and research in international and U.S. studies, and support of area-study programs for regions of the world where the School has (or can build) demonstrated excellence.

This ambitious and realistic Strategic Plan can be implemented through an effective partnership of faculty and management within the School, under stable budgetary conditions—assuming a real operating budget for academic programs through the decade consistent with that of FY 1994. Three University-wide issues must be dealt with in order to realize this vision: (1) The increased projected burden of undergraduate financial aid, over and above the 28.5% of tuition income now being paid by the School; (2) The declining relationship between the School's tuition income and the level of University subvention, leading to a multi-million dollar annual shortfall in projected subvention income between FY 1987 and FY 1994; and (3) The School's growing backlog of capital projects, which are funded by the University. The School will press for a subvention program that will strengthen Arts and Sciences as the core of the University research and teaching program, and will continue to work with other schools and central administration to design workable strategies for financial aid and facilities development.

The single most important goal is a rapid increase in unrestricted endowment for the School. This would allow for multi-year investment by the School in faculty, technology, and facilities, and for endowment for undergraduate financial aid. The School of Arts and Sciences has done well in Penn's Capital Campaign. However, starting from a competitively disadvantaged position, it is still seriously underendowed in comparison with its peers in other major universities and liberal arts colleges. Specific goals are to raise a combination of endowment and term gifts to provide more than \$4 million per year in operating funds for student support by FY 1997 *plus* an additional \$70 million increase in the School's endowment between 1994 and the year 2000, to a total endowment of \$200 million.

For Penn to maintain its excellent academic position in a period of increased competition, a premier School of Arts and Sciences is essential. The School is well-poised to meet the demands of an uncertain environment, providing that fiscal stability can be achieved — as part of its own efforts and as part of the University's academic and budgetary policy-making.

Appendix A. The School of Arts and Sciences: 1987 to 1993—A Progress Report

A visionary planning process that involved wide faculty participation resulted in the publication in 1987 of the School's first Five-Year Plan, "Building on Excellence". The Plan looked forward to a major increment of revenue from the Campaign for Penn.

The School's 1987 five-year plan was built on the premise that the vitality of the School of Arts and Sciences required a constant affirmation of the interdependence of all of its activities: undergraduate, graduate and continuing education; research; reciprocal relationships with other schools in the University; and service to the community outside the University. The plan reflected the School's continuing belief that individual disciplines enhance, and are enhanced by, interdisciplinary work and by a strong commitment to internationalization. Only by maintaining a clear vision of those broad principles could SAS approach the coming decades with confidence. The premises laid out in the plan of 1987 have become important ground-rules for the School as it exists today, and are assumed in the strategic plan presented here.

It is a matter of pride to report that the School has achieved many of the goals set out in its 1987 plan. We have achieved those goals in spite of the fact that the initial expectation that Arts and Sciences would be a central beneficiary of the Campaign for Penn has been, to date, only partially fulfilled, and in spite of a reduction in standing faculty. The "planning benchmarks" of the 1987 plan described below are useful measures of the School's accomplishments as well as those areas where experience fell short of stated expectations.

Faculty Research and Scholarship

In order to support faculty development and to recruit and maintain the highest quality faculty, the School set out to establish 75 new endowed chairs and 150 term chairs; to maintain competitive faculty salaries; to endow faculty research funds, and to fund research centers. Since 1987, the School has succeeded in establishing 32 endowed chairs and 56 term chairs, and in recruiting distinguished faculty for 5 new trustee chairs. The School was not able to establish a separate fund for the research centers, as proposed in the 1987 plan, nor was it able to create a separate endowment for research funds. However, the centrally administered Research Foundation and Research Facilities Development Fund have been of substantial assistance in providing this support.

Set against the successes in endowing new chairs has been a difficult but necessary decrease in the overall number of faculty in order to meet the School's operating budget. In the initial years of SAS, some reductions might have been expected as part of the reorganization of several divisions into a single School. The number of standing faculty in SAS dropped from 528 in 1974 to 497 in 1987, with further reduction to 475 in 1993. An important, positive trade-off for this diminution was the School's commitment to provide faculty salaries competitive with peer institutions. Over the past five years the School has succeeded in improving its overall salary levels, although there is some evidence that the previous gap between Penn and peer universities, a gap that was closing nicely prior to 1990, has widened in the past three years. Nevertheless, we have worked strongly toward the 1987 goal of salary competitiveness, and we will continue to do so in the future.

The School's research programs are strong. Extramural support has increased from \$25.5 million in FY 87 to \$34.6 million in FY 92. This is an increase of 35.7% in a period when federal support has been increasingly difficult to obtain.

Undergraduate Education

In the 1987 plan, the School of Arts and Sciences emphasized the centrality of undergraduate education at the University of Pennsylvania. We have enjoyed marked success in enhancing our undergraduate programs. Innovations in curriculum include the implementation of the new General Requirement; an increase in the number of freshman seminars taught by standing faculty from 32 in 1987 to 63 in 1993; the introduction of a new proficiency-based language requirement for all students; the establishment of writing support for courses affiliated with the "Writing Across the University" program; a rigorous writing requirement for all students, to begin in 1993; and the inclusion of computer applications into undergraduate courses, notably in the social sciences and in mathematics. In addition, a Pew grant provides funds for the development of introductory, interdisciplinary courses that genuinely seek to integrate knowledge.

Courses already developed under this program include Asian Civilizations, Cognitive Science, Molecular Biology, and Origins and Development of the Physical and Biological World.

Teaching has been improved by the development of a College-sponsored orientation session for new teaching assistants and, in many departments, by the introduction of additional specialized training sessions for teaching assistants. The advising system for first year students has been strengthened by increasing the percentage of first year students advised by faculty advisors from 20% in 1987 to 67% in 1993; by pairing each faculty advisor with an upperclass peer advisor who is trained and supervised by the College Office; by assigning students to faculty advisors on the basis of shared interests wherever possible; and by trying to match freshmen with peer advisors living in the same residences. A computerized student record keeping system has also been instituted, and students are being trained to use an easily accessible computerized information system that includes course descriptions and schedules, College graduation requirements, and general University information.

The College of Arts and Sciences (CAS) has coordinated its programs with those of Penn's other Schools in important ways. Wharton and Nursing now have general education requirements that are patterned on those of CAS; the CAS Freshman Seminars serve all Schools; CAS Freshman English writing courses support Wharton's writing requirement; CAS language courses support the Wharton language requirement; and the Penn reading project, pioneered by SAS, applies to entering freshmen from all Schools.

As recommended in the 1987 plan, the evaluation of teaching has been thoroughly reviewed. A new course evaluation form, to be used across all undergraduate schools, will be in place for all courses by the fall of 1993. Mid-semester teaching forms for direct feedback to faculty have also been developed. Separate evaluation forms for recitation and laboratory teaching assistants have been developed and distributed to departments.

Despite continuing efforts, the \$25,000,000 goal for the undergraduate scholarship fund set out in the 1987 plan, as well as the \$10,000,000 goal for the undergraduate education fund, produced minimal amounts: \$587,000 and \$190,000, respectively. The need for student aid is even more urgent in the 1990s than it was in the 1980s, and must be a University priority, as well as a School priority, in the future.

Graduate Education

The School has made significant progress in achieving its goal of increasing fellowship support; the University allocation to SAS for graduate fellowships increased from \$2,610,000 in 1988 to \$4,048,000 in 1992. The number of students receiving full support increased to 993 in 1992, nearly reaching the target of 1,000 set in the 1987 plan. More than half of our students now receive full support in any given year. The School also granted partial support to an additional 256 students in 1992. Unfortunately, the School fell short of achieving its goal of supporting 100 minority students or of offering 200 new multi-year fellowships; both are important goals for the next seven years.

The substantial growth of graduate population projected by the 1987 plan did not occur, partly because of inaccurate assumptions regarding the effect of job market changes. The number of graduate students rose from 2,248 in 1987 to 2,411 in 1992, an increase of 7.3% (including those in MD/PhD programs). A newly required Annual Progress Report on the dissertation for all graduate students in their sixth year or beyond is helping to decrease program length, and some graduate groups have introduced a time limit for degree completion.

Of great importance during a time of faculty cutbacks, the School has revised and re-created two graduate programs in areas where the Penn faculty is both cohesive and strong. The new graduate program in American Civilization draws on a stellar faculty in departments throughout the School. A new program, Art and Architecture of the Mediterranean World links faculty in History of Art, Classical Studies, and other departments with the University Museum. These programs draw on established traditions in the University in general, and in Arts and Sciences in particular.

The School continues to optimize opportunities for both research and education. An immediate example is the strengthening of our programs in Jewish Studies, which is expected to follow the merger of the Annenberg Research Institute into the School, to take effect in 1993.

(Appendix A continued next page)

Lifelong Education

Lifelong education is the major focus of the School's College of General Studies (CGS). In 1988, CGS completed the marketing study of its students suggested by the School's 1987 plan, and then carried out more extensive research as part of a full-scale program review in 1991. Partly as a result of these studies, the number of students enrolled in CGS who already have college degrees has increased while undergraduate enrollments have held steady.

The 1987 goal of 50 minority undergraduates working towards degrees in the health professions was pegged to a grant proposal that did not succeed; however, CGS science and mentoring programs for high school students have expanded significantly over the past five years, and many students included in these programs are minority students now entering college. At the graduate level, the new Master of Liberal Arts degree, approved by faculty and trustees in 1990 and already serving over 100 students, is a significant accomplishment that, together with the program in Dynamics of Organization, addresses many of the issues in the 1987 plan's call for a new Graduate Division for Continuing Education.

The annual fund-raising benchmarks for student financial support were unrealistic, but CGS has steadily built its scholarship resources, especially through the Bread Upon the Waters and the Senior Associates programs. In FY 92 the combined endowments from these programs were about \$215,000; 43 undergraduate students were supported last year, with direct awards totalling \$33,658.

Management and Efficiency

The School's 1987 plan established a detailed set of goals for improving management and general efficiency. The School is led by the Dean, supported by Associate Deans for Undergraduate Education (The College), Graduate Studies, and Continuing Education, Associate Deans for Humanities and for Natural Sciences (the social sciences are shared between them), and for Academic and Administrative Computing, and Vice Deans for Finance and Administration, and for External Affairs. The Dean's Office recognizes that leadership and service are mutually reinforcing characteristics. Service responsibilities include the provision of clear and timely information on academic programs, institutional performance, and budget to faculty, to University administrators, to students, and to members of the School's Board of Overseers. Leadership includes, *inter alia*, encouragement of faculty initiatives; responsiveness to faculty and student views; innovation and priority setting; and strengthening a sense of community, cohesiveness and willingness to change among all participants in the School.

Curricular management was improved, and financial planning and analysis have been enhanced by providing comprehensive information on departmental finances to all chairs and by centralizing resource management. Incentive and support systems remain an important goal. A major step toward implementation has been the creation of a strong Institutional Research and Analysis Unit, responsible to the Vice Dean for Finance and Administration.

SAS is also developing a formal public relations/communications strategy. In 1992, for the first time, SAS commissioned and distributed its own recruiting videotape to all accepted College students. The video

is also used by alumni groups and by the development office. We have prepared a new faculty directory to be used by the University News Bureau and development staff to promote faculty work, honors and achievements; worked with the News Bureau to provide better focussing of news on SAS activities; and worked with the School's Board of Overseers and a nationally known public relations firm to promote the School's (and the College's) special "image". In the past we have been overly modest about our achievements. The continuing goal of these activities is to achieve a visibility for the School that accurately reflects our excellence.

Physical Plant and Facilities

The Institute for Advanced Science and Technology, scheduled to begin construction in 1993, will provide space for a significant expansion of the research capacity of the Department of Chemistry. The interior and exterior of Logan Hall will soon be renovated. The suggested renovations of Bennett Hall have been postponed because of lack of funds. No progress has been made in providing consolidated space for our outstanding Department of Psychology, and solutions are still being sought for adequate housing for our distinguished Department of Music. Space problems remain severe for our Departments of Geology and Mathematics as no progress was made on the previous plan to expand the David Rittenhouse Laboratory complex to house Astronomy, Geology, Mathematics and Physics.

The School has raised \$3,000,000 for construction of new buildings in the past five years, a disappointing sum. Fund-raising for construction and renovation has proved unexpectedly difficult.

Enhancing Technological Resources

Networking. Data communications networks have been significantly improved since 1988, but much work remains because of constantly improving technology. Many faculty and staff are now connected to PennNet, and both graduate and undergraduate students will soon have access to E-mail.

Research Computing. In 1987, 25% of all faculty had personal computers. Currently 80% of all SAS faculty have personal computers. They are provided to all interested faculty. In 1987, research computing in the natural and social sciences was done using a centralized mainframe facility. By 1992, SAS had achieved its goal of enhancing mainframe computing with vector processing and had gone beyond that goal to transform research computing from mainframes to workstation computing.

Instructional Computing. The School goal in 1987 was to increase support for instructional computing and thereby increase the integration of computing into the curriculum. In both humanities and social sciences computing today, we have added staff to support instructional computing and have over sixty courses in which computing is integrated into the curriculum. SAS has also established a Technology Learning Center whose staff have started a seminar to teach faculty about using the tools available on the internet for teaching and research.

Audio-Visual Technology. In 1992, SAS Audio Visual Services was totally reorganized and moved into new facilities in DRL to become Multi-Media and Educational Technology Services. The focus of the group has shifted from the purely audio-visual to an integration of computers and multi-media technology.

Appendix B. Fiscal Status —The Past Seven Years: FY 1987 - FY 1993

Two primary factors that influence the budget of the School of Arts & Sciences are course enrollments and the size of our faculty and support staff. This section contains a review of the enrollment, faculty and staff, and fiscal history of the past seven years.

Enrollment History

The College of Arts and Sciences. Student enrollments in the College rose sharply in FY 1988 because of an unexpected 7% increase in the number of acceptances. Since then enrollments have slowly declined from a peak of 6,146 to 5,808 in FY 1993. This is a 1.2% rise from FY 1987.

The number of undergraduate course units taught rose sharply from 50,863 in FY 1987 to 53,421 in FY 1988 because of the large increase in matriculants for FY 1988. Course enrollments reached an all time high of 53,998 in FY 1990 and then decreased to 51,293 in FY 1993. Much of the reason for the increase in FY 1990 was due to increased registration in SAS courses by students in the School of Engineering and Applied Science (SEAS) and Wharton.

Table 2: SAS Student Count FY 1987-FY 1993

	College	GAS + MD/PhD	CGS
1987	5,740	2,248	1,302
1988	6,146	2,231	1,265
1989	6,104	2,366	1,198
1990	6,082	2,308	1,189
1991	6,099	2,375	1,353
1992	5,898	2,411	1,349
1993	5,808	2,358	1,441
% Change 87-93	1.2%	4.9%	10.7%

Table 3: SAS Course Enrollments FY 1987 - FY 1993

(Enrollment figures for FY 1993 are preliminary; the CGS count includes a projection for summer 1993)

	1987	1988	1989	1990	1991	1992	Prelim 1993	% Change 87 to 93
Undergraduate	50,863	53,421	52,648	53,998	52,791	51,724	51,283	0.8%
Graduate	7,713	7,628	7,980	7,259	7,190	6,980	6,852	-11.2%
CGS	9,835	10,243	9,902	10,072	11,297	10,984	10,673	8.5%
Total Enrollment	68,411	71,292	70,530	71,329	71,278	69,688	68,808	-1.8%

The Graduate Division. The number of graduate students in Arts & Sciences grew from 2248 in FY 1987 to 2358 in FY 1993, an increase of 4.9%. However, the number of SAS graduate course units taught in Arts and Sciences have declined 11.2% in this period, from 7,713 in FY 1987 to 6,852 in FY 1993 with a peak year of 7,980 in FY 1989. Part of the decline is due to the return of a graduate economics course taken by Wharton MBA students to the Wharton School. This has been a rather stable period for graduate enrollments compared to the large drop in the late 70's and early 80's from 9,904 course units in FY 1976 to 7,337 in FY 1983.

The College of General Studies. The student population in CGS shows a growth of 10.7%, from 1,302 in FY 1987 to 1,441 in FY 1993; the low point was in FY 1990 (1,189) and the peak year was FY 1991 (1,353).

The CGS course units taught have risen 8.5% overall from 9,835 in FY 1987 to 10,673 in FY 1993; the peak year was FY 1991 with an enrollment total of 11,297. This corresponds to the high number of admissions for that year. The undergraduate course units taught have risen 20.6% from 6,000 in FY 1987 to 7,238 in FY 1993, graduate course units taught have tripled, from 43 in FY 1987 to 135 in FY 1993, an increase of 214%, but summer enrollments have decreased 13% from 3792 in FY 1987 to a projected 3300 in FY 1993. The undergraduate growth is partially due to the Penn Language Center offerings, which began in FY 1990. The graduate growth can partly be attributed to the Master's in Liberal Arts (MLA) program instituted in FY 1991, as well as to the enrollment of non-traditional graduate students.

Faculty and Staff

The number of Standing Faculty in Arts and Sciences has decreased 4.4% from 497 in FY 1987 to 475 in FY 1993. At the same time the tenure ratio has risen from 76.9% in FY 1987 to 81.7% in FY 1993.

Secondary and Adjunct Faculty include faculty from other Schools, and individuals from other institutions who teach in Arts & Sciences on a per-course basis. The majority of lecturers in SAS are part-time and function as special instructors in selected areas, or as supplemental faculty in high-demand disciplines. Because of the varied nature of the terms and responsibilities of these positions, the numbers of faculty listed under this category can be misleading.

The count of Teaching Assistants in table 4 includes all graduate students supported partially or fully as TA's. The number of full time equivalent Teaching Assistants increased 12.6% from 382 in FY 1987 to 430 in FY 1993.

Of the 454 administrative staff members in FY 1987, 312 were associated with departments and 142 with SAS administration. Total administrative staff count increased 7.3% to 487 in FY 1993, with 317 of the total associated with departments and 170 with SAS administration. Most of the increase in SAS administration staff occurred in SAS Computing (9.5), External Affairs (7), The College (4.5), WATU (3), and English Language Programs (4).

(Appendix B continued next page)

Table 4: Summary Headcount of SAS Academic and Administrative Staff

			1987	1988	1989	1990	1991	1992	1993	% Change FY 1987 to FY 1993
Academic Staff	A. Standing Faculty	Prof	275	280	289	289	295	290	292	6.2%
		Asso	107	100	98	98	98	101	101	-5.6%
		Asst	115	104	109	109	105	96	82	-28.7%
		Total Stnd Fac	497	484	496	496	498	487	475	-4.4%
	Tot Ten Fac		382	380	387	387	393	391	393	2.9%
	% Tenured		76.9%	78.5%	78.0%	78.0%	78.9%	80.3%	82.7%	7.6%
	B. Associated Faculty	Emeritus	6	5	5	3	6	9	6	0.0%
		Secondary/ Adjunct/Visitors	42	46	37	39	37	40	30	-28.6%
		Lecturers	201	224	227	240	236	222	255	26.9%
		TA's	491	500	551	506	514	501	488	-0.6%
	Total Asso Fac		740	775	820	788	793	772	779	5.3%
	C. Total Research Staff		38	28	20	17	13	20	19	-50.0%
	Total Academic Staff		1,275	1,287	1,336	1,301	1,304	1,279	1,273	-0.2%
Administrative Staff	SAS Admin	A. Professional/ Administrative	83	87	92	102	106	106	105	27.3%
		B. Support Staff	57	59	58	55	62	63	62	8.8%
		C. A-4 Staff	3	5	3	4	4	4	4	16.7%
		Total Admin Staff	142	151	152	161	171	173	170	19.7%
	SAS Depts	A. Professional/ Administrative	121	134	139	129	139	140	142	18.1%
		B. Support Staff	177	186	199	190	173	163	159	-9.7%
		C. A-4 Staff	15	17	15	18	19	18	15	0.0%
		Total Dept Staff	312	337	352	337	330	321	317	1.5%
	Total Administrative Staff		454	488	504	498	501	493	487	7.2%
	Total Staff		1,729	1,775	1,840	1,799	1,805	1,772	1,760	1.8%

Finances

Many of the remarks in the introduction to the financial section of the preceding five-year plan are as true today as they were six years ago. Through careful management, the School has continued to balance its budget for the past six years. However, it has become increasingly difficult to do so. As an example of the constraints, consider that financial aid and allocated costs accounted for 57.8% of the School's total undergraduate tuition, subvention and indirect cost recovery income in FY 1992. An additional 34.5% of this income was spent on academic salaries, for a total of 92.3%. Even with the recent reductions in faculty size, SAS continues to lack the fiscal flexibility needed to respond to special opportunities, initiate new programming, provide adequate support to existing initiatives, or supply appropriate funds to faculty for research and travel. In addition, there is no flexibility in the budget for long range planning for the School's urgent capital projects.

Several tables provide a financial history from FY 1987 through FY 1993. The data for fiscal years 1987 through 1992 represent actual final performance. FY 1993 is not complete, so the figures for 1993 represent the current 1993 budget or estimates of performance rather than the actual performance. Table 5 gives this seven year history for the School's unrestricted budget in actual dollars. Table 6 presents the Table 5 information in constant 1987 dollars using the College & University Operations Higher Education Price Index (HEPI) index. This index tends to run modestly higher than the Consumer Price Index. Tables 7 and 8 give the combined unrestricted and restricted budgets of the School for FY 1987 - FY 1993 in actual and constant 1987 dollars (respectively). Revenues from chairs obtained in the development campaign support faculty salaries from the restricted side of the budget. Thus the unrestricted budget gives only a partial picture of academic salaries.

Some Highlights of the Budget Data

(Note: In contrast to the budget layout in earlier planning documents, we show undergraduate student financial aid as an expense item rather than as a deduction against revenue.)

Unrestricted income

Tuitions and fees (undergraduate, graduate and special combined) represent 66.4% of unrestricted income in FY 1987 and 72.1% in FY 1992. Undergraduate tuition, independent of financial aid, grew by 49.3% from FY 1987 to FY 1992. In constant 1987 dollars this growth was 16.1%.

Indirect Cost Recovery rose 26.4 % from FY 1987 to FY 1992 (\$7.094 million to \$8.969 million). However, in constant 1987 dollars, indirect cost recovery shows a decrease of 1.7%. In FY 1987, it represented 7.7% of the unrestricted income, and in FY 1992 it was 6.9%.

Subvention rose only 12.9% from FY 1987 to FY 1992, falling from 24.9% of unrestricted income to 20.0% over this period. In constant 1987 dollars, subvention shows a decrease of 12.2%. From the subvention history presented in the preceding five-year plan, one sees that there was a large increase in subvention in FY 1987. This reflects the addition of the library to the allocated cost side of the budget in that year.

It should be noted that payment of graduate student fellowships to SAS graduate students from the Provost's funds plus matching funds for tuition remission to Research Assistants increased by 80.1% from FY 1987 to FY 1992, from \$2,924,000 to \$5,267,000. These data appear at the bottom of Table 5. Taking these funds into consideration, the SAS subvention growth rate over the past six years comes to 20.5% instead of 12.9% (a decrease of 6.3% in constant dollars), and subvention's share of unrestricted income augmented by this additional graduate aid becomes 27.2% in FY 1987 and 23.1% in FY 1992.

Restricted Income

Restricted income of \$30.351 million represented 24.7% of the School's total income in FY 1987. Restricted income grew 37.3% to \$41.659 million in FY 1992, but represents a slightly smaller percentage (24.3%) of total FY 1992 income. In constant 1987 dollars the growth was 6.7%.

The largest component of restricted revenue (65.8% in FY 1987 and 67.3% in FY 1992) is direct cost recovery from sponsored programs. This revenue increased 40.3% from \$19.964 million in FY 1987 to \$28.019 million in FY 1992. In constant dollars the increase was 9.1%.

Restricted income from gifts and investments (endowment funds) rose by \$2.415 million (51.9%) from FY 1987 to FY 1992. In FY 1987

this income was \$4.657 million and represented 15.3% of total restricted income. By FY 1992, restricted income from gifts and investments totaled \$7.072 million and represented 17% of total restricted income. In constant dollars, the growth in these categories from FY 1987 to FY 1992 was 18.4%. A positive trend toward longterm funding has occurred in the relative proportions of these two categories: in FY 1987, 8.3% of restricted income was from endowed funds and 7.0% was from gift funds, while in FY 1992, 12.1% was from endowment funds and only 4.9% was from gift funds.

Unrestricted Expense

Compensation is the School's largest expense element (42.7% of unrestricted expenditures in FY 1992), with faculty salaries accounting for 73.1% of total unrestricted salary expenditures in FY 1987 and 69.5% in FY 1992. When graduate student salaries are added to the academic salaries, the combined non-administrative salary compensation represents 81.6 % of unrestricted salary expenditure in FY 1987 and 79.2 % in FY 1992. Unrestricted academic salary compensation increased 36.4% from \$21.986 million in FY 1987 to \$29.984 million in FY 1992. In constant dollars this increase was 6.0%. However, here it is important to note that there has been some shift of faculty salaries to restricted budgets because of the School's successful efforts at obtaining endowed chairs. Total unrestricted and restricted academic salary compensation increased 43.4% from \$27.536 million in FY 1987 to \$39.484 million in FY 1992 (an 11.5% increase in constant dollars). Total unrestricted and restricted graduate student salary compensation increased 55.4% (20.8% in constant dollars) from \$5.207 million in FY 1987 to \$8.092 million in FY 1992. Total unrestricted and restricted administrative salary compensation increased 47.8% (14.9% in constant dollars) from \$9.577 million in FY 1987 to \$14.150 million in FY 1992. (Note that these amounts do not include Employee Benefits.)

Allocated costs constitute a significant portion of total unrestricted expense (30.2% in FY 1987 and 29.6% in FY 1992). Allocated costs have increased 37.7 % from \$27.855 million in FY 1987 to \$38.349 million in FY 1992. The increase in constant dollars has been 7.1%.

Total student financial aid has grown by 49.7% from \$17.449 million in FY 1987 to \$26.113 million in FY 1992, increasing its share of the unrestricted expenditures from 18.9% in FY 1987 to 20.1% in FY 1992. In constant 1987 dollars the financial aid obligation has increased 16.4%.

The School's current expense budget, reduced by expense credits, shows a modest increase of 10.1% from \$ 8.364 million in FY 1987 (9% of unrestricted expenditures) to \$ 9.206 million in FY 1992 (7.1% of unrestricted expenditures.) However, in constant dollars current expense has decreased by 14.4%. Department and School current expense budgets have been held flat for several years. Of course, one cannot maintain flat current expense budgets for long as real costs are rising.

Restricted Expense

Compensation constitutes the major portion of restricted expense (47.2% in FY 1987 and 49.1% in FY 1992). Overall, restricted compensation grew by 51.3 % from FY 1987 to FY 1992, or 17.7% in constant dollars. Approximately 65-70% of this is for academic salaries.

Much of the total restricted current expense derives from the sponsored research budgets. Current expense, reduced by expense credits, accounted for 30.4% of the restricted expense in FY 1987, and 27.6% in FY 1992. It has increased by 31.9% from FY 1987 to FY 1992, which is only 2.6% in constant dollars, a rate slower than the growth rate of other categories, resulting in a decreasing portion of the restricted expenditures.

Restricted student aid has two components. The tuition remission paid for TA/RA/RFs from restricted funds increased 118.3% from FY 1987 to FY 1992, but represented only a small portion of restricted expense (2.1% in FY 1987 and 3.2% in FY 1992). Other student aid from restricted sources, in the form of fellowship support with tuition remission, increased 83.5% over the same time period, and comprised a slightly larger share of the restricted expense (6.8% in FY 1987 and 8.6% in FY 1992). There is, in addition, restricted student aid (both expense and income) transferred to the School from other schools whose students take graduate level courses in SAS. This represents a much larger source of restricted aid to graduate students than is provided from the SAS restricted budgets, but is a measure of our teaching effort rather than our restricted fund raising efforts. In FY 1987, SAS imported \$4.385 million in restricted student aid transfers, compared to the \$1.985 million provided through SAS restricted aid funds.; in FY 1992, it was \$5.125 million (transfers) compared to \$3.643 million (SAS funds).

Table 5: SAS Unrestricted Budgets for FY 1987-FY 1993
(actual performance for 87-92, projected for 93)

UNRESTRICTED Budgets										
				Actuals - 14th Month, thousands of dollars						Projected
				FY1987	FY1988	FY1989	FY1990	FY1991	FY1992	FY1993
Inflation Index (HEPI)*										
Carryover - Prev Year										
Direct Revenues	Tuition	Undergrad Regular		\$45,660	\$49,717	\$53,919	\$58,205	\$62,991	\$68,128	\$71,228
		Undergraduate Special		\$5,654	\$6,394	\$6,068	\$7,104	\$7,771	\$8,500	\$9,311
		Graduate Regular		\$7,801	\$8,180	\$9,049	\$9,273	\$9,870	\$10,646	\$11,276
		Graduate Special		\$586	\$447	\$406	\$609	\$973	\$511	\$579
	Total			\$59,701	\$64,738	\$69,442	\$75,191	\$81,604	\$87,785	\$92,394
	Tuition Special Programs			\$1,377	\$1,839	\$2,476	\$2,463	\$2,732	\$3,634	\$3,674
	Special Fees			\$193	\$742	\$1,621	\$1,711	\$2,016	\$2,066	\$2,024
	Investment Income			\$459	\$521	\$666	\$741	\$802	\$814	\$825
	Gifts			\$182	\$138	\$170	\$127	\$176	\$125	\$162
	Indirect Cost Recov	Endowments		\$544	\$573	\$810	\$950	\$1,042	\$1,083	\$1,126
		Sponsored Programs		\$6,277	\$6,016	\$6,739	\$6,474	\$6,972	\$7,626	\$7,509
		Other Restricted Funds		\$273	\$81	\$252	\$168	\$289	\$260	\$287
		Total		\$7,094	\$6,670	\$7,801	\$7,593	\$8,302	\$8,969	\$8,922
	Direct Cost Recovery									
	Sales and Services			\$36	\$38	\$42	\$40	(\$32)	\$116	\$43
	Svc Center Revenues (Ledg-8)									
	Other Income			\$262	\$255	\$339	\$296	\$529	\$125	\$218
	Tot Direct Revenues			\$69,303	\$74,941	\$82,557	\$88,162	\$96,130	\$103,634	\$108,262
	Regular Program Subvention			\$22,987	\$24,128	\$25,498	\$25,836	\$27,130	\$25,957	\$25,526
	Bank Transaction			\$0	\$0	\$33	\$55	\$76	\$67	\$59
TOTAL REVENUES				\$92,290	\$99,069	\$108,088	\$114,053	\$123,336	\$129,658	\$133,847
Direct Expense	Compen-sation	Academic Salaries		\$21,986	\$23,809	\$25,554	\$27,261	\$28,876	\$29,984	\$31,933
		Graduate Stud Salaries		\$3,111	\$3,263	\$3,701	\$4,091	\$4,869	\$5,075	\$5,133
		Administrative Salaries		\$5,652	\$6,308	\$7,086	\$7,870	\$8,647	\$9,178	\$10,353
		Total Salaries		\$30,750	\$33,380	\$36,341	\$39,222	\$42,393	\$44,236	\$47,419
		Employee Benefits		\$7,344	\$7,080	\$8,701	\$9,735	\$10,514	\$11,069	\$12,069
		Total Compensation		\$38,093	\$40,461	\$45,043	\$48,958	\$52,906	\$55,305	\$59,488
	Current Expense			\$9,971	\$11,327	\$11,131	\$10,190	\$11,183	\$10,924	\$8,503
	Equipment			\$379	\$1,049	\$668	\$926	\$734	\$686	\$553
	Expense Credits			(\$1,607)	(\$2,753)	(\$1,785)	(\$2,832)	(\$2,649)	(\$1,719)	(\$1,363)
	Undergrad Stud Financial Aid			\$12,896	\$13,842	\$15,188	\$16,464	\$17,746	\$19,014	\$20,113
	Undergrad Stud Aid Special			\$874	\$982	\$895	\$1,021	\$1,172	\$1,238	\$1,315
	Graduate Regular Aid			\$3,679	\$4,112	\$4,776	\$5,086	\$5,509	\$5,861	\$5,841
	Total Financial Aid			\$17,449	\$18,936	\$20,859	\$22,571	\$24,427	\$26,113	\$27,269
	Allocated Costs	Utilities		\$5,591	\$5,550	\$5,716	\$6,041	\$6,483	\$6,956	\$7,170
		Non-Utilities		\$4,325	\$4,937	\$5,090	\$5,313	\$5,408	\$5,580	\$5,722
		General Administration		\$4,346	\$4,736	\$5,326	\$5,654	\$5,832	\$5,859	\$5,969
General Expense			\$6,300	\$6,868	\$7,315	\$7,610	\$8,316	\$8,800	\$9,130	
Net Space Allocation			\$641	\$780	\$905	\$1,091	\$1,320	\$1,010	\$955	
Library			\$6,652	\$7,061	\$7,696	\$8,531	\$9,376	\$10,144	\$10,453	
Total Allocated Costs			\$27,855	\$29,932	\$32,048	\$34,240	\$36,735	\$38,349	\$39,399	
TOTAL EXPENDITURES				\$92,140	\$98,951	\$107,963	\$114,053	\$123,336	\$129,658	\$133,849
Performance				\$150	\$118	\$125	\$0	\$0	\$0	(\$1)
Additions/(Reductions) [Budget Office Data]										
Restricted Carryforward Bal [incl Add/Reduc]										
Additional Subvned Grad Student Aid **				\$2,924	\$3,556	\$4,038	\$4,817	\$5,281	\$5,267	

* HEPI = Higher Education Price Index

** Unrestr Student Aid from Provost for ResAsst and Fellowship support - not included in REVENUES / EXPENDITURES

*** Restr Student Aid Transfers from Gift & Investmt Funds - not included in REVENUES / EXPENDITURES

Table 6: SAS Unrestricted Budgets for FY 1987-FY 1993 in 1987 Dollars

(actual performance for 87-92, projected for 93)

UNRESTRICTED Budgets									
			Inflation Adjusted Actuals - 1987 HEPI* thous of dollars						Projected
			FY1987	FY1988	FY1989	FY1990	FY1991	FY1992	FY1993
Inflation Index (HEPI)*			100.0	104.6	110.6	117.0	123.3	128.6	134.2
Carryover - Prev Year								Est 4.3%	Est 4.3%
Direct Revenues	Tuition	Undergrad Regular	\$45,660	\$47,543	\$48,734	\$49,731	\$51,098	\$52,979	\$53,090
		Undergraduate Special	\$5,654	\$6,114	\$5,484	\$6,070	\$6,304	\$6,610	\$6,940
		Graduate Regular	\$7,801	\$7,822	\$8,179	\$7,923	\$8,006	\$8,279	\$8,405
		Graduate Special	\$586	\$428	\$367	\$520	\$789	\$397	\$432
		Total	\$59,701	\$61,907	\$62,764	\$64,243	\$66,197	\$68,265	\$68,866
	Tuition Special Programs		\$1,377	\$1,759	\$2,238	\$2,105	\$2,216	\$2,826	\$2,738
	Special Fees		\$193	\$710	\$1,465	\$1,462	\$1,636	\$1,607	\$1,509
	Investment Income		\$459	\$499	\$602	\$633	\$650	\$633	\$615
	Gifts		\$182	\$132	\$154	\$108	\$143	\$97	\$121
	Indirect Cost Recov	Endowments	\$544	\$548	\$732	\$812	\$845	\$842	\$839
		Sponsored Programs	\$6,277	\$5,753	\$6,091	\$5,531	\$5,656	\$5,930	\$5,597
		Other Restricted Funds	\$273	\$77	\$227	\$144	\$234	\$202	\$214
		Total	\$7,094	\$6,378	\$7,051	\$6,487	\$6,735	\$6,974	\$6,650
	Direct Cost Recovery								
	Sales and Services		\$36	\$36	\$38	\$34	(\$26)	\$90	\$32
	Svc Center Revenues (Ledg-8)								
	Other Income		\$262	\$244	\$307	\$253	\$429	\$98	\$162
	Tot Direct Revenues		\$69,303	\$71,665	\$74,618	\$75,326	\$77,980	\$80,590	\$80,694
	Regular Program Subvention		\$22,987	\$23,073	\$23,046	\$22,074	\$22,008	\$20,185	\$19,026
Bank Transaction		\$0	\$0	\$30	\$47	\$62	\$52	\$44	
TOTAL REVENUES			\$92,290	\$94,738	\$97,694	\$97,447	\$100,050	\$100,827	\$99,764
Direct Expense	Compen-sation	Academic Salaries	\$21,986	\$22,768	\$23,097	\$23,292	\$23,424	\$23,316	\$23,801
		Graduate Stud Salaries	\$3,111	\$3,121	\$3,345	\$3,495	\$3,950	\$3,946	\$3,826
		Administrative Salaries	\$5,652	\$6,032	\$6,405	\$6,724	\$7,015	\$7,137	\$7,717
		Total Salaries	\$30,750	\$31,921	\$32,846	\$33,512	\$34,389	\$34,400	\$35,344
		Employee Benefits	\$7,344	\$6,771	\$7,865	\$8,318	\$8,529	\$8,608	\$8,996
		Total Compensation	\$38,093	\$38,692	\$40,711	\$41,830	\$42,917	\$43,007	\$44,340
	Current Expense		\$9,971	\$10,832	\$10,060	\$8,706	\$9,072	\$8,495	\$6,338
	Equipment		\$379	\$1,003	\$603	\$791	\$595	\$533	\$412
	Expense Credits		(\$1,607)	(\$2,632)	(\$1,613)	(\$2,419)	(\$2,149)	(\$1,336)	(\$1,016)
	Undergrad Stud Financial Aid		\$12,896	\$13,237	\$13,727	\$14,067	\$14,395	\$14,786	\$14,991
	Undergrad Stud Aid Special		\$874	\$939	\$809	\$872	\$951	\$963	\$980
	Graduate Regular Aid		\$3,679	\$3,932	\$4,317	\$4,345	\$4,469	\$4,558	\$4,354
	Total Financial Aid		\$17,449	\$18,108	\$18,853	\$19,284	\$19,815	\$20,306	\$20,325
	Allocated Costs	Utilities	\$5,591	\$5,307	\$5,166	\$5,161	\$5,259	\$5,409	\$5,344
		Non-Utilities	\$4,325	\$4,721	\$4,601	\$4,539	\$4,387	\$4,339	\$4,265
General Administration		\$4,346	\$4,529	\$4,814	\$4,831	\$4,731	\$4,556	\$4,449	
General Expense		\$6,300	\$6,568	\$6,612	\$6,502	\$6,746	\$6,843	\$6,805	
Net Space Allocation		\$641	\$746	\$818	\$932	\$1,071	\$785	\$712	
Library		\$6,652	\$6,752	\$6,956	\$7,289	\$7,606	\$7,888	\$7,791	
Total Allocated Costs		\$27,855	\$28,623	\$28,966	\$29,255	\$29,799	\$29,821	\$29,366	
TOTAL EXPENDITURES			\$92,140	\$94,625	\$97,580	\$97,447	\$100,049	\$100,827	\$99,765
Performance			\$150	\$112	\$113	\$0	\$0	\$0	(\$1)
Additions/(Reductions) [Budget Office Data]									
Restricted Carryforward Bal [incl Add/Reduc]									
Additional Subvned Grad Student Aid **			\$2,924	\$3,401	\$3,650	\$4,116	\$4,284	\$4,096	

* HEPI = Higher Education Price Index

** Unrestr Student Aid from Provost for ResAsst and Fellowship support - not included in REVENUES / EXPENDITURES

*** Restr Student Aid Transfers from Gift & Investmt Funds - not included in REVENUES / EXPENDITURES

Table 7: SAS Combined Unrestricted & Restricted Budgets for FY 1987-FY 1993
(actual performance for 87-92, projected for 93)

RESTRICTED plus UNRESTRICTED Budgets excluding Agencies/9-ledgers										
				Actuals - 14th Month, thousands of dollars						Projected
				FY1987	FY1988	FY1989	FY1990	FY1991	FY1992	FY1993
Inflation Index (HEPI)*										
Carryover - Prev Year				\$6,420	\$7,803	\$8,089	\$11,511	\$13,839	\$13,570	\$14,105
Direct Revenues	Tuition	Undergrad Regular		\$45,660	\$49,717	\$53,919	\$58,205	\$62,991	\$68,128	\$71,228
		Undergraduate Special		\$5,654	\$6,394	\$6,068	\$7,104	\$7,771	\$8,500	\$9,311
		Graduate Regular		\$7,801	\$8,180	\$9,049	\$9,273	\$9,870	\$10,646	\$11,276
		Graduate Special		\$586	\$447	\$406	\$609	\$973	\$511	\$579
		Total		\$59,701	\$64,738	\$69,442	\$75,191	\$81,604	\$87,785	\$92,394
	Tuition Special Programs			\$1,377	\$1,839	\$2,476	\$2,463	\$2,732	\$3,634	\$3,674
	Special Fees			\$193	\$742	\$1,621	\$1,711	\$2,016	\$2,066	\$2,024
	Investment Income			\$2,992	\$3,830	\$4,751	\$5,547	\$5,934	\$5,850	\$4,119
	Gifts			\$2,305	\$1,756	\$1,802	\$2,343	\$2,302	\$2,161	\$1,806
	Indirect Cost Recov	Endowments		\$544	\$573	\$810	\$950	\$1,042	\$1,083	\$1,126
		Sponsored Programs		\$6,277	\$6,016	\$6,739	\$6,474	\$6,972	\$7,626	\$7,509
		Other Restricted Funds		\$273	\$81	\$252	\$168	\$289	\$260	\$287
		Total		\$7,094	\$6,670	\$7,801	\$7,593	\$8,302	\$8,969	\$8,922
	Direct Cost Recovery			\$19,964	\$21,988	\$21,658	\$22,857	\$26,120	\$28,019	\$23,339
	Sales and Services			\$1,326	\$1,450	\$1,311	\$1,454	\$1,256	\$1,875	\$1,021
	Svc Center Revenues (Ledg-8)			\$4,439	\$4,336	\$5,157	\$4,825	\$4,742	\$4,809	\$2,348
	Other Income			\$262	\$255	\$339	\$296	\$529	\$125	\$218
	Tot Direct Revenues			\$99,654	\$107,604	\$116,358	\$124,281	\$135,537	\$145,293	\$139,863
Regular Program Subvention			\$22,987	\$24,128	\$25,498	\$25,836	\$27,130	\$25,957	\$25,526	
Bank Transaction			\$0	\$0	\$33	\$55	\$76	\$67	\$59	
TOTAL REVENUES				\$122,641	\$131,732	\$141,889	\$150,172	\$162,743	\$171,317	\$165,448
Direct Expense	Compen -sation	Academic Salaries		\$27,536	\$30,594	\$33,179	\$35,635	\$38,094	\$39,484	\$40,308
		Graduate Stud Salaries		\$5,207	\$5,497	\$6,138	\$6,729	\$7,597	\$8,092	\$7,977
		Administrative Salaries		\$9,577	\$10,585	\$11,567	\$12,312	\$13,544	\$14,150	\$14,003
		Total Salaries		\$42,320	\$46,676	\$50,885	\$54,677	\$59,235	\$61,726	\$62,289
		Employee Benefits		\$9,502	\$9,229	\$11,344	\$12,660	\$13,744	\$14,352	\$14,773
		Total Compensation		\$51,823	\$55,905	\$62,229	\$67,336	\$72,979	\$76,078	\$77,061
	Current Expense			\$21,519	\$25,635	\$24,835	\$24,199	\$29,685	\$27,806	\$14,644
	Equipment			\$4,298	\$3,507	\$3,470	\$5,324	\$4,375	\$5,524	\$5,315
	Expense Credits			(\$4,293)	(\$5,778)	(\$6,425)	(\$6,986)	(\$8,371)	(\$6,911)	(\$1,363)
	Undergrad Stud Financial Aid			\$12,896	\$13,842	\$15,188	\$16,464	\$17,746	\$19,014	\$20,113
	Undergrad Stud Aid Special			\$874	\$982	\$895	\$1,021	\$1,172	\$1,238	\$1,315
	Graduate Regular Aid			\$6,283	\$6,783	\$8,007	\$8,577	\$9,722	\$10,856	\$9,894
	Total Financial Aid			\$20,053	\$21,607	\$24,090	\$26,062	\$28,640	\$31,108	\$31,322
	Allocated Costs	Utilities		\$5,591	\$5,550	\$5,716	\$6,041	\$6,483	\$6,956	\$7,170
		Non-Utilities		\$4,325	\$4,937	\$5,090	\$5,313	\$5,408	\$5,580	\$5,722
		General Administration		\$4,346	\$4,736	\$5,326	\$5,654	\$5,832	\$5,859	\$5,969
		General Expense		\$6,300	\$6,868	\$7,315	\$7,610	\$8,316	\$8,800	\$9,130
		Net Space Allocation		\$641	\$780	\$905	\$1,091	\$1,320	\$1,010	\$955
Library			\$6,652	\$7,061	\$7,696	\$8,531	\$9,376	\$10,144	\$10,453	
Total Allocated Costs			\$27,855	\$29,932	\$32,048	\$34,240	\$36,735	\$38,349	\$39,399	
TOTAL EXPENDITURES				\$121,255	\$130,808	\$140,247	\$150,175	\$164,043	\$171,954	\$166,379
Performance				\$1,385	\$923	\$1,643	(\$3)	(\$1,299)	(\$637)	(\$931)
Additions/(Reductions) [Budget Office Data]				\$148	(\$520)	\$1,905	\$2,331	\$1,030	\$1,172	
Restricted Carryforward Bal [incl Add/Reduc]				\$7,803	\$8,089	\$11,511	\$13,839	\$13,570	\$14,105	
Additional Subvned Grad Student Aid **				\$2,924	\$3,556	\$4,038	\$4,817	\$5,281	\$5,267	
Restricted student aid transfers ***				\$8,998	\$9,871	\$8,881	\$9,502	\$10,377	\$10,402	

* HEPI = Higher Education Price Index

** Unrestr Student Aid from Provost for ResAsst and Fellowship support - not included in REVENUES / EXPENDITURES

*** Restr Student Aid Transfers from Gift & Investmt Funds - not included in REVENUES / EXPENDITURES

Table 8: SAS Combined Unrestricted and Restricted Budgets for FY 1987-FY 1993 in 1987 Dollars
(actual performance for 87-92, projected for 93)

RESTRICTED plus UNRESTRICTED Budgets excluding Agencies/9-ledgers										
				Inflation Adjusted Actuals - 1987 HEPI* thous of dollars						Projected
				FY1987	FY1988	FY1989	FY1990	FY1991	FY1992	FY1993
Inflation Index (HEPI)*				100.0	104.6	110.6	117.0	123.3	128.6	134.2
Carryover - Prev Year				\$6,420	\$7,462	\$7,311	\$9,835	\$11,226	\$10,552	\$10,513
Direct Revenues	Tuition	Undergrad Regular		\$45,660	\$47,543	\$48,734	\$49,731	\$51,098	\$52,979	\$53,090
		Undergraduate Special		\$5,654	\$6,114	\$5,484	\$6,070	\$6,304	\$6,610	\$6,940
		Graduate Regular		\$7,801	\$7,822	\$8,179	\$7,923	\$8,006	\$8,279	\$8,405
		Graduate Special		\$586	\$428	\$367	\$520	\$789	\$397	\$432
		Total		\$59,701	\$61,907	\$62,764	\$64,243	\$66,197	\$68,265	\$68,866
	Tuition Special Programs			\$1,377	\$1,759	\$2,238	\$2,105	\$2,216	\$2,826	\$2,738
	Special Fees			\$193	\$710	\$1,465	\$1,462	\$1,636	\$1,607	\$1,509
	Investment Income			\$2,992	\$3,663	\$4,294	\$4,739	\$4,813	\$4,549	\$3,070
	Gifts			\$2,305	\$1,679	\$1,629	\$2,002	\$1,867	\$1,681	\$1,346
	Indirect Cost Recov	Endowments		\$544	\$548	\$732	\$812	\$845	\$842	\$839
		Sponsored Programs		\$6,277	\$5,753	\$6,091	\$5,531	\$5,656	\$5,930	\$5,597
		Other Restricted Funds		\$273	\$77	\$227	\$144	\$234	\$202	\$214
		Total		\$7,094	\$6,378	\$7,051	\$6,487	\$6,735	\$6,974	\$6,650
	Direct Cost Recovery			\$19,964	\$21,027	\$19,575	\$19,529	\$21,188	\$21,788	\$17,396
	Sales and Services			\$1,326	\$1,387	\$1,185	\$1,243	\$1,019	\$1,458	\$761
	Svc Center Revenues (Ledg-8)			\$4,439	\$4,146	\$4,661	\$4,122	\$3,847	\$3,739	\$1,750
	Other Income			\$262	\$244	\$307	\$253	\$429	\$98	\$162
	Tot Direct Revenues			\$99,654	\$102,899	\$105,168	\$106,186	\$109,947	\$112,985	\$104,248
Regular Program Subvention				\$22,987	\$23,073	\$23,046	\$22,074	\$22,008	\$20,185	\$19,026
Bank Transaction				\$0	\$0	\$30	\$47	\$62	\$52	\$44
TOTAL REVENUES				\$122,641	\$125,972	\$128,244	\$128,307	\$132,016	\$133,222	\$123,317
Direct Expense	Compensation	Academic Salaries		\$27,536	\$29,257	\$29,988	\$30,447	\$30,902	\$30,704	\$30,044
		Graduate Stud Salaries		\$5,207	\$5,257	\$5,548	\$5,749	\$6,162	\$6,292	\$5,946
		Administrative Salaries		\$9,577	\$10,122	\$10,455	\$10,520	\$10,987	\$11,004	\$10,437
		Total Salaries		\$42,320	\$44,635	\$45,991	\$46,716	\$48,051	\$48,000	\$46,427
		Employee Benefits		\$9,502	\$8,826	\$10,253	\$10,816	\$11,149	\$11,160	\$11,011
		Total Compensation		\$51,823	\$53,461	\$56,244	\$57,532	\$59,200	\$59,161	\$57,438
	Current Expense			\$21,519	\$24,514	\$22,447	\$20,675	\$24,080	\$21,623	\$10,915
	Equipment			\$4,298	\$3,354	\$3,136	\$4,548	\$3,549	\$4,296	\$3,962
	Expense Credits			(\$4,293)	(\$5,526)	(\$5,807)	(\$5,969)	(\$6,790)	(\$5,374)	(\$1,016)
	Undergrad Stud Financial Aid			\$12,896	\$13,237	\$13,727	\$14,067	\$14,395	\$14,786	\$14,991
	Undergrad Stud Aid Special			\$874	\$939	\$809	\$872	\$951	\$963	\$980
	Graduate Regular Aid			\$6,283	\$6,487	\$7,237	\$7,329	\$7,886	\$8,442	\$7,375
	Total Financial Aid			\$20,053	\$20,663	\$21,773	\$22,268	\$23,232	\$24,191	\$23,346
	Allocated Costs	Utilities		\$5,591	\$5,307	\$5,166	\$5,161	\$5,259	\$5,409	\$5,344
		Non-Utilities		\$4,325	\$4,721	\$4,601	\$4,539	\$4,387	\$4,339	\$4,265
General Administration			\$4,346	\$4,529	\$4,814	\$4,831	\$4,731	\$4,556	\$4,449	
General Expense			\$6,300	\$6,568	\$6,612	\$6,502	\$6,746	\$6,843	\$6,805	
Net Space Allocation			\$641	\$746	\$818	\$932	\$1,071	\$785	\$712	
Library			\$6,652	\$6,752	\$6,956	\$7,289	\$7,606	\$7,888	\$7,791	
Total Allocated Costs			\$27,855	\$28,623	\$28,966	\$29,255	\$29,799	\$29,821	\$29,366	
TOTAL EXPENDITURES				\$121,255	\$125,089	\$126,760	\$128,310	\$133,070	\$133,717	\$124,011
Performance				\$1,385	\$883	\$1,485	(\$3)	(\$1,054)	(\$496)	(\$694)
Additions/(Reductions) [Budget Office Data]				\$148	(\$497)	\$1,721	\$1,992	\$836	\$912	
Restricted Carryforward Bal [incl Add/Reduc]				\$7,803	\$7,736	\$10,404	\$11,824	\$11,008	\$10,968	
Additional Subvned Grad Student Aid **				\$2,924	\$3,401	\$3,650	\$4,116	\$4,284	\$4,096	
Restricted student aid transfers ***				\$8,998	\$9,439	\$8,027	\$8,119	\$8,418	\$8,089	

* HEPI = Higher Education Price Index

** Unrestr Student Aid from Provost for ResAsst and Fellowship support - not included in REVENUES / EXPENDITURES

*** Restr Student Aid Transfers from Gift & Investmt Funds - not included in REVENUES / EXPENDITURES

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TO: Ken Henry, Packard Press

FROM: Karen Gaines, Almanac

I got finished Thursday night so I called for a messenger. The jacket hadn't gone in yet so I know they aren't starting the job until Friday morning, but thought it was better to get it turned in so you'll have it first thing in the morning.

Ken, this is my first time to paste for that slightly different finished page size, and both my boards and the template I'd been working with were set for 8.5 x 11.

Luckily I was already working these pages 1 pica shorter on the top, so I don't think there's any problem with the vertical fit--just take the bottom of the mechanical page as a baseline and the top will ride where it should.

Side to side, I have a glitch in the laserprinter product anyway--the left pages (even numbers) always fall toward the gutter and the right pages away from it. I've been pasting to compensate by pulling the left pages away from the gutter a little every week.

So this time I skipped the left-side compensation, and then I pulled the right pages about 1/16 of an inch toward the gutter, so I THINK that will give me pages centered side to side after a 1/8" trim.

If I've miscalculated, holler. The good part is that I can just run another set of pages and do it right if need be.

If there are any questions, give me or Marguerite a call. Thanks a heap for getting us through this.

**School of Arts and Sciences Strategic Plan:
Priorities for the Twenty-First Century
1993-2000**

**University of Pennsylvania
School
of
Arts and Sciences**