
SECTION 2

ACADEMIC INITIATIVES AND PLANS

This Budget Plan is an expression of Stanford's programmatic directions and the financial requirements to support them. In this section we review some of the important academic plans and initiatives reflected in the budget.

UNIVERSITY-WIDE ACADEMIC INITIATIVES

Undergraduate Education

The reformulation of goals for undergraduate education by the Commission on Undergraduate Education and the subsequent development of new programs, initiatives, and requirements will produce important changes in undergraduate education for 1997/98.

Most dramatic among these changes is the growth in the number of faculty teaching first and second year students in small-class settings. As recently as 1994/95, only 30 faculty taught in the pilot Sophomore Seminar program; for 1997/98 approximately 185 faculty will teach small-group courses through Stanford Introductory Studies.

The reforms enacted by the Faculty Senate also have transformed the curriculum and provided new opportunities for juniors and seniors. Minors are now offered in 53 fields, writing-intensive courses have been developed for every major, and the Undergraduate Majors Enhancements Program provides resources to departments for innovative mentoring programs.

The Stanford Introductory Studies initiative prepares students in their freshman and sophomore years for participation in independent research and honors when they are juniors and

seniors. Highlights of the 1997/98 plan include Freshman Seminars; Sophomore College; Sophomore Dialogues and Seminars; and the Science, Mathematics, and Engineering Core. Next year, more than 75 Freshman Seminars will be taught across the curriculum, in topics ranging from classics to medicine. These seminars will enroll a maximum of 16 students and engage them in active critical inquiry.

Sophomore Dialogues and Seminars, offered for the past four years, have been very successful and will now be offered to almost two-thirds of the members of the class of 2000. The Science, Mathematics, and Engineering Core (or Science Core) will expand in 1997/98 after its pilot year in which about 100 students enrolled. Seventeen prominent science faculty teaching in interdisciplinary teams are offering courses developed around the themes of light, the human heart, and earth resources. By using new approaches, they make complex material accessible to non-scientists without sacrificing the rigor of hands-on laboratory experience.

Complementing these SIS programs are initiatives in advising and mentoring. For new students, access to information and guidance before matriculation and during the first year has been improved by providing a wealth of information on the Web. The Majors Advising Enhancements Programs provides new opportunities for faculty/student interaction through field trips and symposia.

Research and honors programs provide special opportunities for undergraduates to work individually with faculty on research projects. Undergraduate research grants continue to grow steadily, with support expected for more than

350 projects in 1997/98. The Undergraduate Research Opportunities (URO) office provides advice to more than 1000 students annually on the planning and implementation of research and honors projects.

The Summer Science Fellowships and the residential Honors College continue their steady growth in 1997/98. These programs make creative use of the summer term, when students and faculty have the opportunity to concentrate on research projects, without the competing demands of other classes.

Stanford Graduate Fellowships

The Stanford Graduate Fellowship program will welcome its first class in September, 1997. The purpose of the program is to help attract outstanding graduate students who can pursue their work at Stanford with solid research support. This program also reduces the University's dependency on federal funding for graduate students.

Applicants to Stanford Ph.D. programs were nominated by departments and reviewed by a faculty steering committee. Of 145 applicants to science and engineering doctoral programs who were offered Stanford Graduate Fellowships in the initial round, 81 accepted, including 32 who also received National Science Foundation fellowships. A second round of nominations will bring the total number of Fellows to more than 100.

The goal of the program is to provide at least 300 Stanford Graduate Fellowships (100 three-year Fellowships). Initially the program is supported by \$10 million from the President's Program Fund which will provide funding for the first two years. Endowment and gift funding is required for the third and subsequent years, and over half of the necessary funds have been raised.

SCHOOL-BASED PLANS AND INITIATIVES

School of Earth Sciences

The School plans to add three new faculty under its Ocean Margins Initiative, two in soil sciences/environmental science, and one in high-resolution geochronology. These new faculty appointments will create many opportunities for links between Earth Sciences and organizations inside and outside Stanford. Within Stanford, they complement research in Anthropology, Biological Sciences, Civil and Environmental Engineering, and the Institute for International Studies. Externally, they will strengthen and expand connections with the U.S. Geological Survey and the Monterey Bay Aquarium Research Institute.

The Earth Systems Program has been very successful in attracting undergraduates to the School and in providing them with a strong and meaningful education. The recent addition of an energy track broadens the choices for specialization. The program has been supported by external grant funds to date. The School and the Provost have committed to fund a portion of the continued operating costs, and long-range financial support of the program is the School's top fundraising priority.

The High Resolution Ion Microprobe, now being fabricated in Australia, is expected to arrive in the fall of 1997. This new instrument will give Stanford a technological edge over other institutions worldwide in the area of geochronology (the measurement of the age of mineral samples). The purchase and operation of the instrument is a joint venture with the U.S. Geological Survey.

Education

Important progress has been made in each of the areas identified last year in the School's budget plan.

The Learning, Design, and Technology (LDT) master's program, which will begin this summer, will train students to develop and evaluate

learning environments that use emerging information technologies. A guiding assumption of the LDT program is that issues related to the use of technology in learning environments are most effectively addressed by collaborative teams with a wide range of expertise. The program has close links with the activities of the University's Commission on Technology in Teaching and Learning by focusing on the design of technology-intensive learning environments based on the latest developments in cognitive science and related areas.

The 1996/97 pilot that integrated evaluation into the Policy Analysis master's program was successfully completed, and the redesigned program will continue in 1997/98. The master's program in higher education is also being redesigned in conjunction with the School's new federally funded research center, the National Center for Post-Secondary Improvements in Higher Education.

This summer, the School will begin a two year evaluation of the Summer Teaching School, a key component of the Stanford University Teacher Education Program (STEP). This evaluation is integral to current rethinking of STEP, which addresses possible curricular and structural changes within the program as well as changes in certification requirements in California.

Basic infrastructure improvements and modest design enhancements of the Cubberly School of Education building will also begin this summer. Upgrades for the CERAS building will include a video lab to support the LDT master's program and augment doctoral research, a computer classroom, and additional research offices. A staffing reorganization has been successfully completed and the School will continue training and process improvements to enable the staff to adapt to changes in the work environment.

A new initiative in 1997/98 is the Spencer Research Training Program. The preparation of world-class educational researchers is a critical

goal for the School, and this proposal calls for a significant reformation of the School's curriculum related to research methodology.

School of Engineering

The School of Engineering engaged in a rigorous academic and financial planning effort this past fall. All nine departments developed five year academic plans to capitalize on strengths, shore up weaknesses, and plan for anticipated retirements. The resulting five year plan for the School focuses on critical academic appointments, strategic development of several small departments, and continued renovation and development of modern, flexible laboratory facilities. Some initiatives resulting from this planning process are discussed below.

The School currently has several high quality research efforts in bioengineering and biomedical engineering, most of which involve collaborations with departments in the Medical School or with the Chemistry Department in Humanities and Sciences. These efforts include medical imaging in Electrical Engineering, biomechanics in Mechanical Engineering, and biotechnology in Chemical Engineering. The School intends to strengthen its presence in these areas through the use of incremental billets in Electrical Engineering, Mechanical Engineering, Chemical Engineering, Materials Science, and Computer Science, as well as by developing curricula and an integrated vision for its bioengineering and biomedical engineering activities.

The Materials Science and Engineering department is at a critical juncture. Changes in faculty demographics have seriously affected the depth, breadth and strength of this small department and additional faculty billets are needed to improve the department's National Research Council rankings. After a thorough review by an external visiting committee, the School expects to begin building the strength and stature of this department over the coming year.

Computer Science is a field of growing importance, and student demand for its courses is extremely high. The field is developing many new facets that deserve attention if the department is to retain its premier ranking. To develop these new areas, the department will need three incremental billets over the next five years.

The Department of Industrial Engineering and Engineering Management (IEEM) has shaped a major initiative in the area of Work, Technology, and Organization that focuses on the changing nature of work, especially in engineering, and the role of technology in changing the workplace. This effort could form the basis for a major new research thrust as well as significantly increased visibility and stature for the department.

Laboratory and equipment requirements are significant for fields in which the School plans to develop future strength. Start-up packages of the size once reserved for the most senior faculty appointments are now needed to support the research needs of new junior faculty. One-of-a-kind fabricated equipment and expensive laboratory renovations are often required to support the work of experimentalists. The School is working to develop a model for sharing start-up expenses with departments, for redirection of restricted faculty support dollars to newly hired faculty, and for intensified fundraising efforts to solicit funds from its corporate friends for start-up costs.

The School recently completed a survey of space policies and utilization across its departments and across the University. This study will lead to a comprehensive plan to reallocate existing Engineering space, free up some of the most populated facilities, bring together synergistic groups, and possibly make space available for reallocation by the Provost.

Graduate School of Business (GSB)

The Graduate School of Business strives to be the leading academic school of management in

the world in terms of its impact on management theory, thinking, practice, and performance. The GSB's strategy to achieve this goal is to pursue significance, managerial relevance, excellence, and scholarly rigor in its research and teaching programs. The School's long-standing commitment to fundamental research has been supplemented in recent years by an emphasis on intensive dissemination of new research to managers, to continuing executive education, and to educating both potential young managers and young scholars.

Looking ahead to the next several years, the School plans to increase its Executive Education capacity by developing new public and custom programs to fill sixty rooms in the Schwab Center during the academic year and 280 rooms during the summer. Subject to final approval by the Provost, the School's plans call for an increase in the number of faculty to 95-100 over several years and a small increase in the number of doctoral students in each entering class. The MBA and Sloan programs will stay at approximately the current levels of 360 and 47 students per class, respectively.

The 1997/98 budget reflects the following priorities:

- Implementation of the new MBA core curriculum, adding an associate dean to manage this implementation, and providing resources for course development, including case writing.
- Completion of the Link Addition which extends Littlefield Management Center and integrates the GSB's two buildings. Plans are pending to complete fundraising for this project, backstopped temporarily by use of School reserves.
- Completion of the review of the doctoral program which began in Fall 1996.
- Implementation of a school-wide intranet that includes communication with alumni and applicants.

- Development of 3-4 additional weeks of Executive Education programs per year, building on areas of faculty research and interest among practitioners, including alumni. This will require additional faculty, a program development that draws on faculty interests, and a faculty development strategy that prepares and encourages faculty to participate in executive teaching.
- Improvement in the teaching and learning environment of the GSB Building and investment in technology, space utilization, and physical appearance.
- Consideration of a major capital campaign to raise funds for faculty support, research and teaching initiatives, and a proposed major remodel of the existing GSB Building. Key competitors, including Harvard, Wharton and Chicago, are believed to be developing campaigns ranging from \$100-\$400 million or more for faculty support and new facilities. The School faces more competitive challenges in hiring, retaining, and supporting faculty, particularly from Harvard which expects many faculty retirements in the near future and which is moving toward a research model that may be very attractive to GSB faculty. These competitors are also expected to make major investments in facilities, which will further exacerbate the contrast between the aging GSB Building and their new facilities.

Humanities and Sciences (H&S)

The School of Humanities and Sciences will continue to build on several new initiatives launched in recent years. One is the teaching program for freshmen. After two years of deliberations, recommendations by the Cultures, Ideas, and Values Design and Review Committee are expected to result in a new program, Introduction to the Humanities. H&S faculty will continue to play a major role in the innovative Science Core program which was successfully introduced last year. Beginning in winter quarter, undergraduates will be able to pursue

course work and research projects through the new Overseas Studies campus in Cholula, Mexico. After two years of planning, students can major in the new interdisciplinary Program in Comparative Studies in Race and Ethnicity. In addition, H&S faculty will be well represented in teaching the inaugural slate of freshman seminars, a key component of the Stanford Introductory Studies program.

Faculty recruitment and development has been a priority for the School. During the last two years, H&S has reemphasized its commitment to faculty renewal by authorizing most searches at the junior level. While this trend is expected to continue, some strategic senior hiring will be needed to address changes in departmental demographics caused by retirements and resignations.

This year, the School will continue to explore programs to offer more assistance to faculty at all stages of their careers. Several fundraising efforts are underway for funds to provide more resources to junior and recently tenured faculty. For full professors approaching retirement and emeriti faculty, the School is discussing options to retain their contributions to teaching and research.

The School continues to seek perspectives from outside Stanford to assess its programs. Recommendations from 1996/97 departmental reviews of Psychology, English, History, and Biological Sciences will be studied and implemented, and in the coming year, external visiting committees will review the Departments of Classics, Linguistics, Mathematics, and Communication. The H&S Curriculum Committee, which serves as the overseer for reviews of interdisciplinary degree programs, will examine African and Afro-American Studies, Jewish Studies, Latin American Studies, and Math and Computational Science.

Finally, drawing on the intellectual commitment of scholars from Economics, Political Science, Sociology, History, and Classics, the School will launch a new research center, the Social

Science History Institute (SSHI). The goal of the Institute is to establish Stanford as a national leader in the reintegration of studies in history and social science disciplines that rely on historical data and analysis to frame and test hypotheses.

School of Law

With the success of the Campaign for the Stanford Law School and a supplemental allocation from the Provost, the Law School ended a six year period of downsizing the faculty and began participating actively in the market for new faculty appointments. The School will have three new faculty members next year, two senior appointments, and one entry-level appointment, all in business law. Several offers are outstanding for the following year.

Hand in hand with the faculty hiring initiative is an effort to bring Stanford's faculty salaries into line with those at peer institutions. Somewhat past the half-way mark, the Campaign has achieved its initial target of \$50 million and is heading toward a new goal of \$75 million. Ideally, \$20 million would be in the form of endowment, with the remaining \$5 million to be expendable, primarily to support a Faculty Momentum Fund for new faculty appointments and the rationalization of salaries. If the School meets this goal, its faculty salaries will be competitive with Harvard and Columbia, but still substantially below Yale and Chicago.

At present, the School has at least four ongoing academic initiatives of particular importance:

- The Stanford Program in International Legal Studies appears to be succeeding in providing graduate students from other countries with opportunities to undertake significant research projects and in infusing the JD program with diverse national perspectives. The dual JD/International Policy Studies degree remains a work in progress.
- The School has committed to teach legal ethics and professional responsibility

through what is called the "pervasive method" by including at least 15 course hours of ethics in selected second- and third-year courses. In the 1997/98 academic year, there will be enough such courses to require that every student take at least one as a requirement for graduation.

- A third curricular initiative concerns the roles of lawyers as counselors, problem-solvers, and negotiators which involve applying technical legal expertise to real-world problems of clients. Next year, the School will offer courses in counseling, negotiation, and mediation to more than one hundred students. This area of the curriculum is fundamentally interdisciplinary, and has benefited from the Law School's participation in the Stanford Center on Conflict and Negotiation, a joint venture with the Graduate School of Business and the Psychology and Economics Departments.
- A new program aims to attract applicants who are seriously contemplating academic careers and to strengthen the School's overall intellectual atmosphere. Without some encouragement and guidance, many talented students might not consider and prepare for careers in teaching. The program includes career counseling and guidance in writing articles for publication.

The expansion of programs in counseling and negotiation, business, high technology, and environmental and natural resources law, as well as new opportunities for clinical legal education, have increased the number of adjunct faculty playing roles in the Law School's curriculum. Together with the School's continuing effort to provide offices for emeritus faculty, these programs have increased the need for office space. The Law School currently occupies the Owen House and is in the process of restoring Huston House for occupancy in the fall of 1997.

School of Medicine

The School of Medicine has made significant

progress on several major initiatives undertaken in recent years. Restatement of the School's mission to continue to be a world class center for education, biomedical research, and innovative clinical care has had widespread discussion and is now being translated into a range of activities that support this mission in the context of a challenging economic environment.

The School's goal of attracting and retaining the highest quality faculty requires investment in faculty leadership and development of competitive compensation structures. In 1996/97, the School completed the recruitment and appointment of chairs in the Departments of Developmental Biology, Medicine, and Molecular Pharmacology. Next year, the School expects to recruit new chairs for the Departments of Surgery, Pathology, and Neurology and Neurological Sciences. The School has also been successful in recruiting outstanding faculty in child psychiatry and structural nuclear magnetic resonance spectroscopy who will act as focal points in building those programs.

The goals of exploring fundamental discoveries in biology and the biological sciences and focusing on translating discoveries into diagnostic and therapeutic applications have led the School to encourage clinical research and collaborative research activities and to invest in facilities to provide much needed space. The planning for the Center for Clinical Sciences Research (CCSR) building is on schedule, with occupancy projected for the fall of 1999.

The School's performance in the research arena has been strong in 1996/97. Faculty members have been successful in obtaining more grant support than in recent years, which leads to expectations for strong research expenditures in 1997/98. Interdisciplinary research programs are being developed in cancer studies, applied human genetics, immunology, and translational medicine, which are the themes for the CCSR. The School is now recruiting faculty with the expectation that they will be able to build out their programs in the CCSR.

Preparing medical students, graduate students, and postdoctoral trainees for leadership careers is a key goal for the School. Changing government regulations have had a significant impact on the ability of departments to fund graduate student stipends and tuition. The School has estimated almost \$2.4 million in shortfall related to changes in funding approaches that will be implemented next year, and the 1997/98 budget plan commits approximately \$1.4 million to support graduate students.

Support for the use of animals in research continues to be a challenge that must be met to facilitate basic and translational research activities. Many of the developing programs in applied human genetics and clinical immunology require the use of substantial numbers of animals over long periods of time. Government rules regulating the funding of service centers that house and care for research animals are complex and changing. The School is currently studying the costs of providing this crucial resource and the 1997/98 budget plan allocates funds for increased subsidies to maintain a competitive pricing structure.

The School is aggressively working to streamline its administrative infrastructure and to provide high quality services to faculty and students. Redesigned research management processes were piloted last year and additional processes will be redesigned in the next four years. This investment will require approximately \$1 million per year for several years, but the School expects to recover the investment within the next five years.

A strong clinical program is required to meet the School's goals in education and research. The development of an integrated health system with the University of California, San Francisco was a major initiative. The plan was approved in the autumn of 1996. UCSF/Stanford Health Care was formed in March 1997. The anticipated implementation date of the new non-profit corporation is late summer 1997. With the merger essentially assured, relationships are developing between the schools and faculty on many levels.

Children's health services have emerged as an important area for integration with UCSF, and the Lucile Salter Packard Children's Hospital (LPCCH) plays a key role in the development of those services. In January, 1997, LPCCH joined the Stanford Health Services. LPCCH will continue to function and be recognized as a separate hospital, but it will be managed by UCSF/Stanford Health Care. Concurrently, LPCCH is implementing a physician-hospital integration plan that will allow the development of fully integrated children's health services with pediatric subspecialists from many departments, faculty from the Department of Pediatrics, and both inpatient and outpatient clinical services.

Hoover Institution

After more than a decade of chronic budget deficits, the Hoover Institution will complete its second consecutive year with a balanced budget. This accomplishment was realized through significant revenue enhancement and expense reduction without compromising the Institution's research programs or library and archives acquisitions.

The Institution enters 1997/98 with a plan for modest growth. From 1989/90 to 1995/96, expenditures at Hoover grew by less than one-half percent per year, while gift giving grew by more than 15 percent per year. While this trend cannot continue, the Institution projects moderate growth in expenditures in 1997/98 that will be matched by increases in fundraising. Expenditure growth will be in three areas: research programs, communications and outreach, and library and archives acquisitions.

The Hoover Institution research programs will be enhanced by a newly established series of books and panels. The panels bring together small groups of specialists, Hoover scholars, and Stanford faculty to vet their theories, discuss data, and report on preliminary findings. The results of these symposia are published in a series of small books aimed at informed, yet not expert, citizenry. Topics from

Hoover's major programs (American Institutions and Economic Performance, International Rivalries and Global Cooperation, and Democracy and Free Markets) are all represented in this book series and they include such topics as the aging of the U.S. population, American federalism, Congressional elections, economic growth, the environment, and security in Europe.

The Hoover Institution is constantly working on new initiatives to elevate the level of dialog on public policy issues. In the last two years, the Institution embarked on two ambitious endeavors: a quarterly journal, the *Hoover Digest: Research and Opinion on Public Policy*, and a weekly television program, *Uncommon Knowledge*, which is broadcast over public television.

The *Hoover Digest* consists primarily of published articles by Hoover scholars, ranging from reprinted short articles to excerpts from longer essays and books. Also included are regular features developed and written exclusively for the *Hoover Digest*, transcripts of interviews from *Uncommon Knowledge* telecasts, and articles about the Hoover Institution Archives.

Uncommon Knowledge will enter its third season of production in 1997/98. The series features Hoover fellows, Stanford faculty, and other policy experts in informed discussion aimed at a knowledgeable audience. It will be distributed nationally by the American Program Service, the second largest distributor of programs to public television in the United States. National distribution demands a higher quality and more costly product as well as additional marketing costs. Hoover is committed to investing in this television series, which is viewed as a vehicle for information dissemination, and is exploring development and underwriting opportunities.

The Hoover Library and Archives will accelerate its collecting activities in three areas: China, the Middle East, and humanitarian relief. Funded with a restricted gift from an anonymous donor, these special targets of

opportunity will add considerable depth to Hoover's already significant holdings in these areas. The archives will continue to develop relationships with archival facilities in Russia, with leading government and political figures from the era of Russia's transition from Communism, and with the current Russian government. Additions in this area build on Hoover's Russian Archives Project, which has resulted in the collection of more than 8 million articles from the archives of the Communist Party of the Soviet Union since 1991.

Vice Provost and Dean of Research and Graduate Policy

The most exciting development overseen by this Office is the establishment of the Stanford Graduate Fellowship Fund. As announced by President Casper, "Our decision to seek a \$200 million endowment to fund 300 science and engineering fellowships is the single most tangible commitment to graduate education that Stanford has made in 25 years. This bold step will relieve the University's dependence on federal funding for Ph.D. training." The first Stanford Graduate Fellows will enroll in 1997/98.

Several research units are in transition. In 1997/98, the W. W. Hansen Experimental Laboratory and the Edward L. Ginzton Laboratory will begin to implement plans for faculty and program renewal after several years of stability. The McCullough Building, home of the Center for Materials Research, will undergo renovation in 1997/98, and several new faculty members will have laboratories in the new Annex building to be constructed beside McCullough. The Institute for Research on Women and Gender will have a new director and looks forward to enlarging its program on women's health policy.

The Institute for International Studies (IIS) is now a mature organization with well-established programs. Three new initiatives demonstrate its vitality: a Center for Global Transformation, Stanford's Pacific Initiative, and a new honors program in international security. Plans are

underway to make Encina Hall East and parts of Encina Hall Central a new home for all of IIS, which is currently in seven different campus locations.

The Center for Economic Policy Research (CEPR) has been given authority to make senior fellow appointments. These appointments, much like tenure-line faculty appointments, will provide CEPR with a larger group of senior scholars who will participate in new centers within CEPR or in CEPR's primary research programs. In 1996/97, the Center for Research on Economic Development and Policy Reform was created and the establishment of a parallel center on economic growth is under consideration.

The Center for the Study of Language and Information (CSLI) has expanded its activities to make use of its core program, basic interdisciplinary research in cognitive science, for applications and pre-competitive strategies that are valued by industry. Through its considerable outreach efforts in publications, consulting, licensing of Stanford-owned inventions and software, and interactions with industry, the CSLI has begun to influence the development of commercial products in a variety of areas, from software for children to Chinese-language Internet news services.

Finally, the Stanford Humanities Center (SHC) continues its vibrant growth. The demand for SHC's external fellowships has expanded markedly, and the new Graduate Research Workshops have been very successful. The Center hopes that new endowment funding will support the introduction of a modest post-doctoral fellowship program.

MAJOR ACADEMIC SUPPORT AREAS

Information Technology Initiatives

In June 1994, the Trustees approved the strategic directions for and an expected investment of \$60 million for the Administrative Information System (AIS) Plan. During the Fall of 1996, the

major components of the Administrative Information Systems plan were combined with other key campus-wide information technology projects to form a strategic plan for Information Technology Initiatives. This four year plan and its combined budget of \$78 million for fiscal years 1995-98 encompasses sixteen new administrative systems, a major upgrade to the campus network, significant investment in network security, new distributed computing services, migration to relational database technologies, academic building rewiring, and improvements to academic computing services. The information technology four year budget is summarized as follows:

Information Technology Initiatives 1995-1998
(in millions)

Administrative Information Systems Projects	\$ 38.0
Information Systems Infrastructure Projects	13.0
Academic Computing Infrastructure Projects	13.0
Incremental Base Budget Operating Support	6.0
New Technology Initiatives Delivery and Support Activities	5.0
Contingency for FY 97 & 98 projects	3.0
Total Four Year Budget	\$ 78.0

This budget is funded entirely from general funds from four sources: reallocations of staff and budgeted funds of business sponsors, reallocation of budgeted funds from Information Technology Systems & Services (ITSS), centrally allocated general funds, and capital budget funds.

Administrative Information Systems Projects: At the conclusion of 1996/97, nine of the sixteen administrative information systems projects will have been completed. In 1995/96, the Consolidated Budget, Financial Aid, Identification Card, Indirect Cost, Investment Accounting, and Vacancy-to-hire systems were completed. During 1996/97, newly implemented information systems and business processes will include Capital Asset Management, Development Office Fundraising and Gift Records, and

Departmental Expenditures Management.

The major administrative information systems scheduled for completion in 1997/98 include the Core Financial Systems, Environmental Health & Safety, Research Administration, and Desktop 2000 Phase I. The Core Financial Systems are the largest and most complex of the administrative information systems initiatives. The Core Financial Systems include General Ledger, Purchasing/Accounts Payable, Project Accounting, Revenue/Accounts Receivable, and the recently completed Capital Asset Management System. This integrated suite of applications accounts for \$23 million (67%) of the \$37 million budgeted for new administrative information systems in the four year plan.

Stanford is implementing these financial applications from Oracle Corporation to support the redesign of its accounting system. The specific project scope and implementation plan timeline are being finalized and will determine which Core Financial Systems modules will be completed during 1997/98 and which to defer until 1998/99. We must strike a balance between the need to close 1997/98 on the new general ledger and the risks of moving forward with additional system and process changes.

Redesigned business processes combined with new information systems will enable more timely, complete, and accessible financial information. By improving chart of accounts capabilities and replacing our general ledger, a financial foundation will be built to support future flexibility, enabling the University and its operating units to respond more quickly to internal and external reporting requirements as well as to organizational and technological changes. In addition, replacement of legacy financial systems will resolve most Year 2000 issues by moving to application software designed to handle date related processing.

The Capital Asset Management System (CAMS) project has replaced the legacy Equipment Inventory System and provides the University with an integrated property management and

asset accounting system fully compliant with both internal and external requirements.

Information Systems Infrastructure Projects:

A budget of \$13 million has been developed in the four year plan to modernize Stanford's technology infrastructure. This upgrade is necessary to support new marketplace applications being purchased and implemented to support business processes. These projects include developing common application services such as work flow and authority; migrating from a proprietary hierarchical database environment to a set of relational database products and services; establishing a highly reliable UNIX-based production server operations; defining and implementing a new information architecture and standards; and deploying tool sets and techniques for developing and assembling new applications.

Academic Computing Infrastructure Projects:

The top information technology priority continues to be support of academic programs through strategic, University-wide technology infrastructure services. Key academic computing related projects include upgrading Stanford's high speed network, enhancing Internet and intranet services, expanding e-mail support services, increasing distributed computing and file services, upgrading student computing clusters, strengthening network security, rewiring mission critical buildings, and providing video services for the university community. The investment of \$13 million in academic computing infrastructure combined with \$13 million for information systems infrastructure will provide an advanced technology foundation for key computing activities in Stanford's academic departments and research centers.

New Technology Initiatives Delivery and Support Activities: With new technology project expenditures exceeding \$78 million over a four-year period, there are important support activities which help ensure successful project planning and implementation. Change management support, information technology staff training, strategic planning, legal services, and quality

assurance activities are all integral to the work of applications and infrastructure project teams.

Stanford University Libraries and Academic Information Resources

In 1997/98, the Libraries will expand upon several initiatives in the following areas: print collections, physical space, processing efficiency, research services and instructional support.

The most critical element of the Library program is the acquisition of materials that support Stanford's research and teaching programs. Many university libraries around the country are experiencing difficulty in funding their collections budget even at a maintenance level in the face of severe price pressures in the publishing industry. With a general fund increase of \$315,000 (3%) in the 1997/98 budget, Stanford is making an effort to maintain a strong collection, but is falling well short of serials price increases of 14% and will suffer a loss of buying power.

The 1997/98 budget will require the Library and the faculty to work together to find ways to reduce costs in order to maintain the depth and breadth of the collection. This could include more effective cooperation with other institutions, elimination of duplicate holdings, greater reliance on document delivery, and serials cancellations.

The Library continues to search for new sources of revenue to support the collection. In 1997/98, the Library expects to expand its efforts to increase the \$22 million endowment currently supporting the collections, with the ultimate goal of doubling the endowment in real terms.

Construction continues on Green Library West, with completion scheduled for 1998/99. The Library Technical Services Building, a \$9 million processing facility, will be completed in 1998/99 and will be located next to the Auxiliary Library. The Library Technical Services Building will house Acquisitions, Cataloguing, Conservation, and Preservation and will release

central campus space for collection and public service uses. When both facilities are occupied, the released space will enable a series of relocations within the Library resulting in the evacuation of temporary structures built following the Loma Prieta earthquake.

The technical services division of the Library is entering a new phase of re-engineering with the installation of Unicorn software from the Sirsi Corporation. This is a new generation of software that permits great flexibility in interface and work flow design not only within the Library but also between the Library and its suppliers through electronic data interchange. The technology of the new system, which enables every access-related function from materials ordering through a web-based catalog, will be fully functional in 1997/98.

The Sirsi system will cost approximately \$6 million over the next five years. Half of the cost will be supported from existing Library budgets and one-fourth of the cost will be paid through the ITSS. One time general funds of \$281,000 in 1997/98 will also support the program.

The Provost authorized a one-time allocation of \$350,000 for upgrading the information delivery infrastructure of the Residential Computing

program, for which the Library may assume responsibility in 1997/98. Residential Computing provides students with access to computing services in or near student residences on campus. The reassignment of this program to the Library is based in part upon the close relationship to the instructional support program offered by the Academic Technology Support Services (ATSS).

ATSS has created on-line course templates and tools which allow faculty to prepare web-based course materials and enable distance learning. Faculty can prepare their own web pages with class syllabi and assignments, class news groups and distribution lists, and links to class materials in text or video. Students can share work-in-progress and final projects, including multi-media documents.

The Provost also authorized a one-year extension of funding at the level of \$400,000 for the Information Resource Specialist (IRS) program, which places highly-trained information professionals in academic departments to aid in the use of advanced information technology. The IRS program could be expanded to cover many more departments in a multi-year program.